A CULTURAL RESOURCES RECONNAISSANCE PLANNING STUDY OF THE PROPOSED RT. 13 RELIEF CORRIDOR NEW CASTLE AND KENT COUNTIES, DELAWARE

DELDOT ARCHAEOLOGY SERIES 30

by

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TEXT

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John T. Davis
Director
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ABSTRACT

This report is intended to provide planning information on cultural resources within the proposed Route 13, Relief Corridor. The existing data base consists of all sites listed in the files of the Delaware Bureau of Archaeology and Historic Preservation and these sites are listed in this report with a series of descriptive variables. Additional potential predicted prehistoric site locations were noted using quantitative correlations of known archaeological site locations and environmental variables. Mapping of culturally significant environmental variables was accomplished using LANDSAT-satellite data. Additional potential predicted historic site locations were noted using non-quantitative analyses of historic settlement pattern trends. Trends among known standing structure locations and data from historic atlases. Based on all these data sources, and potential site significance, the entire project area was categorized into management units based on varied cultural resource impact sensitivity. Maps of all predicted site locations, known site locations, and management units are included as eight attachments to this report.

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INTRODUCTION

The purpose of this report is to describe the results of a cultural resources planning study of the proposed Route 13 Relief Route (Figure 1). The study was under taken by the Center for Archaeological Research, Department of Anthropology, University of Delaware, under the direction of Jay F. Custer, Principal Investigator, and Patricia Jehle, Assistant Investigator. Archaeological research was requested by the Delaware Department of Transportation to provide project planning information. The specific goals of the project were to identify zones within the proposed 40 mile long by 7 mile wide corridor that were likely to contain significant prehistoric archaeological resources, historic archaeological resources, and historic standing structures. The project did not-seek to determine the significance of any individual site or structure. Rather, it sought to outline the potential cultural resources that may be encountered in various sections of the proposed project area. Further survey work will be necessary to determine the impact of proposed individual alignments on specific sites and to determine these sites' eligibility for listing on the National Register of Historic Places. No specific fieldwork was carried out as part of this study. Existing data listed by the Delaware Bureau of Archaeology and Historic Preservation were utilized along with a series of previously tested predictive models for archaeological site locations.

The report is organized into four sections. The first section provides a description of the study area and briefly reviews the regional prehistory and history. The second section presents the existing data base on archaeological site locations and standing structure inventories. Also, a discussion of the cultural context of the known sites and the quality of the existing data is provided. The third section describes the application of predictive models to planning studies, discusses the various predictive models used in this study, and presents the results

of their application to the project study area. Also, applications of LANSAT satellite data to the development of the prehistoric predictive model are discussed. The fourth and final section discusses the potential significance of the known sites in the project area and the potential significant sites that may yet be encountered based on the applications of the predictive models. A series of sensitivity zones based on potential occurrence of significant sites is also presented and described along with recommended cultural resource management strategies. The final three sections of this report also include a series of small scale maps showing locations of known sites, predicted site locations, and sensitivity zones.

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BACKGROUND INFORMATION

In order to understand the research methods utilized in this cultural resources planning study of the Route 13 relief route and its results, it is necessary to consider the environmental setting of the study area. Similarly, it is important to survey the general prehistory and history of Delaware's Coastal Plain.

Environmental Setting

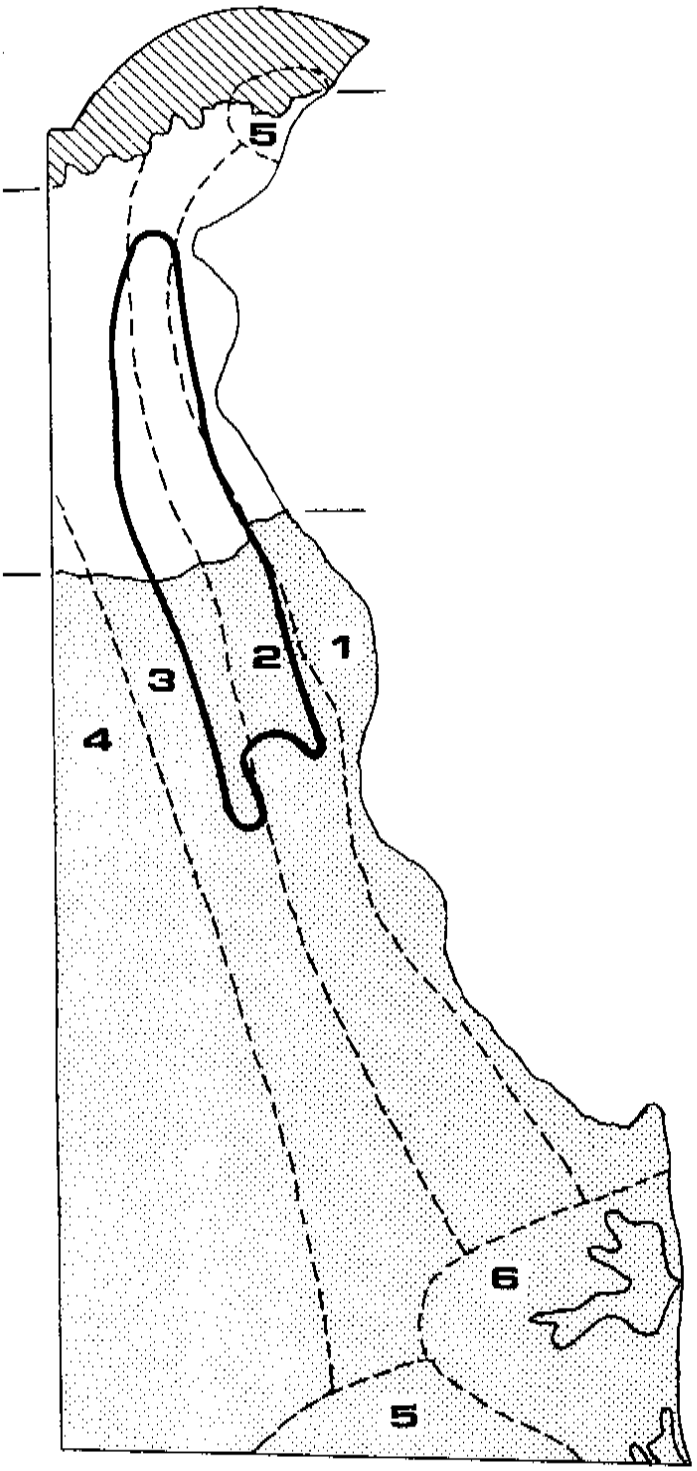
The study area for the Route 13 Relief Route Corridor is located in Delaware's Coastal Plain (Figure 1). For the study of the prehistoric and historic resources of the region, a number of varied environmental zones are recognized in the Coastal Plain (Figure 2). Each of these zones is described below and the descriptions are derived from the work of Custer (1983a, 1983b).

High Coastal Plain - Located between the Fall Line and the Smyrna River, the High Coastal Plain represents the southeastern extension of the coarse gravels of Pleistocene (Columbia) sediments in Delaware (Jordan 1964:40). A rolling topography is present and elevation differences range up to 16 meters (50 feet) from the headlands bordering high order streams and adjacent floodplain marshes. These differences are sufficient to cause differential distributions of plant and animal species (Braun 1967:246-247). Watercourses are deeply incised and are lined by a veneer of relatively recent sediments that is thin along the upper reaches of the drainages and thickens moving toward their mouths (Kraft et al. 1976:13). Most streams are not tidal and the freshwater/saltwater mix allows for a wide range of resources. Soils include a variety of well-drained and poorly drained settings that are distributed in a mosaic pattern across the region.

Low Coastal Plain - The Low Coastal Plain includes most of Kent County and most of the project area. It is underlain by the sands of the Columbia formation which have been extensively reworked to a very flat and relatively featureless landscape (Delaware Geological Survey 1976). Elevation differences range up to 10 meters

FIGURE 2

PHYSIOGRAPHIC ZONES



KEY:

- PIEDMONT AND FALL LINE
- UPPER COASTAL PLAIN
- LOWER COASTAL PLAIN
- PHYSIOGRAPHIC ZONE BOUNDARY LINES

1 - DELAWARE BAY SHORE

2 - MID-DRAINAGE

3 - INTERIOR

4 - MID-PENINSULAR DRAINAGE DIVIDE

5 - INTERIOR SWAMP

6 - ATLANTIC COAST/SMALL BAY

(30 feet) and these small differences are moderated by long and gradual slopes. River systems are tidal through most of their middle and lower reaches with extensive marshes found along the Delaware Bay. These riverine systems would combine a wide variety of environmental settings and resources and are especially attractive human habitation areas. Much of the area is well-drained; however, there are some extensive areas of poor drainage.

Although these two major physiographic zones provide one way of organizing a study of the Coastal Plain's cultural resources, they do obscure some additional significant environmental differences. These additional sources of environmental variability are generally distributed in broad belts parallel to the Delaware River and Bay shore. Each is described below and depicted in Figure 2.

Mid-Peninsular Drainage Divide - Representing the "spine" of the Del-Mar-Va Peninsula, this area is defined by the stretch of low, rolling topography that separates the headwaters of streams that drain into the Delaware River from streams that drain into the Chesapeake Bay. Elevation differences are slight and flowing surface water is restricted to the low order headwaters of the larger streams and rivers. Additional water sources of this zone include a number of swamps that have formed in areas of poorly drained soils surrounded by sand ridges. Bay/basin features, known locally as "whale-wallows", represent another water source in this area. Geomorphological evidence indicates that they were formed during the Pleistocene and many seem to have held water, at least seasonally, ever since (Rasmussen 1958:82). The combination of headwater drainages, swampy areas, and bay/basin features with interspersed well-drained areas creates a mosaic of edaphic settings. Only a small section of the project area, between Pine Tree Corners and Flemings Landing, falls within this zone.

Delaware Shore - Included in the Delaware Shore zone are the remnant terraces of the Delaware River as well as the various tidal marshes that fringe the Delaware

River and the Delaware Bay. These marshes are found throughout the area and often extend well up the drainages from the river and bay shore. Soils in the area are generally poorly drained; however, pockets of well-drained soils in the areas of higher elevation may be found. Only the eastern edges of the project area are included in this zone.

Mid-Drainage - The Mid-Drainage zone is located between the Delaware Shore and Mid-Peninsular Drainage Divide zones and includes the majority of the study area. The modern tidal limit along the drainages marks the center of this zone and the major drainages and their tributaries are fresh throughout the inland portion of the zone. Some tidal marshes and poorly drained floodplains are found along the major drainages. Well-drained soils are found on upper terraces of the drainages and on isolated headlands between the major drainages and their tributaries. The extensive combination of brackish and freshwater resources makes this zone one of the richest in Delaware for hunters and gathereres.

It should be noted that the locations of these zones have not remained constant since the end of the Pleistocene because some zones have been subjected to extensive landscape modification. The most important factor in this landscape modification is post-Pleistocene sea level rise. Kraft et al. (1976) note that sea level has been rising along the Atlantic Coast for the past 12,000 years and this sea level rise has transformed the Delaware River of 10,000 B.C. into the current drowned estuary. Many old land surfaces have become submerged and the configuration of the Delaware River and Bay have changed dramatically. In terms of the study area, these effects would be most prevalent in the eastern half of the Mid-Drainage zone and the River Shore zone.

Regional Prehistory*

The prehistoric archaeological record of the Delaware Coastal Plain can be divided into four large blocks of time: The Paleo-Indian Period (ca 12,000 B.C. - 6500 B.C.), the Archaic Period (6500 B.C. - 3000 B.C.), the Woodland I Period (3000 B.C. - A.C. 1000), and the Woodland II Period (A.D. 1000 - A.D. 1650). A fifth time period, the Contact Period may also be considered and spans from A.D. 1650 to A.D. 1750, the approximate date of the final Indian habitation of Delaware in anything resembling their pre-European Contact form. Each of these periods is described below.

Paleo-Indian Period (12,000 B.C. - 6500 B.C.) - The Paleo-Indian Period encompasses the time period of the final retreat of Pleistocene glacial conditions from Eastern North America and establishment of more modern Holocene environments. The distinctive feature of the Paleo-Indian Period is an adaptation to the cold, and alternately wet and dry, conditions at the end of the Pleistocene and the beginning of the Holocene. This adaptation was primarily based on hunting and gathering with hunting providing a large portion of the diet. Hunted animals may have included now-extinct megafauna and moose. A mosaic of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for these game animals in central Delaware and watering areas would have been particularly good hunting settings.

Tool kits of the people who lived at this time were oriented toward the procurement and processing of hunted animal resources. A preference for high quality lithic materials is noted in the stone tool kits and careful resharpening and maintenance of tools is common. A mobile lifestyle moving among the game attractive environments is hypothesized with the social organizations being based upon single and multiple family bands. Throughout the 5500 year time span of the

*This summary of the regional prehistory is abstracted from Custer (1983a).

period, the basic adaptation remains relatively constant with some modifications being seen as Holocene environments appear at the end of the Paleo-Indian Period.

Numerous Paleo-Indian sites are noted for the Delaware Coastal Plain. Most of the sites are associated with poorly drained swampy areas and include the Hughes Paleo-Indian Complex near Felton. Although no clear-cut associations have yet been found, it is also hypothesized that bay/basin features may also be the loci of Paleo-Indian sites (Custer et al. 1983). Generally, the most likely locations for Paleo-Indian sites are not within the project area, except for the area of extensive bay/basin features between Pine Tree Corners and Flemings Landing.

Archaic Period (6500 B.C. - 3000 B.C.) - The Archaic Period is characterized by a series of adaptations to the newly emerged full Holocene environments. These environments differed from earlier ones and were dominated by mesic forests of oak and hemlock. A reduction in open grasslands in the face of warm and wet conditions caused the extinction of many of the grazing animals hunted during Paleo-Indian times; however, browsing species such as deer flourished. Sea level rise is also associated with the beginning of the Holocene in Delaware. The major effect of the sea level rise would have been to raise the local water table, which helped to create a number of large interior swamps. Adapations changed from the hunting focus of the Paleo-Indian to a more generalized foraging pattern in which plant food resources played a more important role. Large swamp settings apparently supported large base camps, but none are known from the study area. A number of small procurement sites in favorable hunting and gathering locals are known from Delaware's Coastal Plain.

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. Known sites include large base camps such as the Clyde Farm Site in northern Delaware and smaller processing sites located at a variety of locations and environmental settings.

Woodland I Period (3000 B.C. - A.D. 1000) - The Woodland I Period can be correlated with a dramatic change in local climates and environments that seem to be a part of events occurring throughout the Middle Atlantic region. A pronounced warm and dry period sets in and lasts from ca. 3000 B.C. to 1000 B.C. Mesic forests were replaced by xeric forests of oak and hickory and grasslands again became common. Some interior streams dried up; however, the overall effect of the environmental change is an alteration of the environment, not a degradation. Continued sea level rise and a reduction in its rate also made many areas of the Delaware River and Bay shore the sites of large brackish water marshes which are especially high in productivity. 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 with fairly large numbers of people are evident in many parts of the study area such as the Barker's Landing, Coverdale, Hell Island, and Robbins Farm sites. These sites seem to support many more people than previous base camp sites and may have been occupied on a year-round basis. The overall tendency is toward a more sedentary lifestyle.

The tool kits show some minor variations as well as some major additions from previous Archaic tool kits. Plant processing tools become increasingly common and seem to indicate an intensive harvesting of wild plant foods that may have approached the efficiency of agriculture by the end of the Woodland I Period. Chipped stone tools changed little from the preceeding Archaic Period; however, broad-blade, knife-like processing tools become more prevalent. The addition of

stone, and then ceramic, containers is also seen. These items allowed the more efficient cooking of certain types of food and may also have functioned for storage of certain surplus plant foods. Storage pits are also known for the Delaware Coastal Plan during this period from the numerous sites.

Social organizations also seem to undergo radical changes during this period. With the onset of relatively sedentary lifestyles and intensified food production, which might have produced occasional surpluses, incipient ranked societies began to develop as indicated by the presence of 1) extensive trade and exchange in lithic materials for tools as well as non-utilitarian artifacts, 2) caching of special artifact forms and utilization of artifacts manufactured from exotic materials (such as the Kiunk Ditch site), and 3) cemeteries that contain elaborate burials which often include grave goods manufactured from exotic raw materials. The data from cemeteries of the Delmarva Adena Complex (ca. 500 B.C. to A.D. 0), such as the Frederica site and the St. Jones site (Thomas 1976), indicate that certain individuals had special status in these societies and the existence of a simple ranked social organization is hypothesized. Similar data from the Island Field site show that these organizations lasted up until A.D. 1000, although they may not have always been present throughout all of the Woodland I Period. In any event, by the end of the Woodland I Period a relatively sedentary lifestyle is evident in Delaware's Coastal Plain. It should also be noted that the greatest number of archaeological sites in the project area date to the Woodland I Period and the Mid-Drainage zone is the focus of most of the important sites of this period.

Woodland II Period (A.D. 1000 - A.D. 1650) - In many areas of the Middle Atlantic, the Woodland II Period is marked by the appearance of agricultural food production systems; however, in the Delaware Coastal Plain there are no clear indications of such a shift. 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 plant utilization and hunting remained the major subsistence activities up to 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.

Contact Period (A.D. 1650 - A.D. 1750) - 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. The time period is enigmatic because no Native American archaeological sites that clearly date to this period have yet been discovered in Delaware. A number of sites from the Contact Period are known in surrounding areas such as southeastern Pennsylvania, nonetheless. It seems clear that Native American groups of Delaware did not participate in much interaction with Europeans and were under the virtual domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. 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*

The earliest colonial settlement in Delaware was the Dutch settlement of Zwaanendael which was established as a whaling colony near present-day Lewes in 1629. The settlement was short-lived as the early colonists were massacred by local Indians in 1632. It was not until 1661 when a Mennonite colony was formed that a permanent settlement was established at Lewes. Further north, the Swedes

* This overview is abstracted from Munroe (1978), Hoffecker (1973, 1977), Weslager (1961, 1967), Lemon (1972), Hancock (1932).

established Fort Christina in 1638 at the confluence of the Brandywine and Christina Rivers in what is now part of Wilmington. The small colony grew and within a few years a fort, church and small farming community appeared and formed the nucleus for the first permanent European settlement in Delaware. This community contested the earlier Dutch settlements further north in the Delaware Valley.

Dutch colonial interests continued and in 1651 Fort Casimir was established near modern New Castle. Conflicts between the Dutch and the Swedes escalated to military conflict, as both groups infringed on the colonial interests of the other. The Dutch were ascendent and they appropriated the Swedish colonies. Fort Casimir was renamed Fort Trinity, and New Amstel, a farming and trading settlement, arose nearby. The Dutch claims included all land from the Christina River to Bombay Hook by the early 1660's, including a portion of the study area.

British hegemony of the region began in 1664 when Sir Robert Carr seized the Dutch colonies and, assumed possession for James, Duke of York and Albany. Anglicizing the new colony was a slow and gradual process. The transfer of authority from Dutch to British hands was peaceful with existing land ownership, trading privileges and political structure maintained by the new leadership. The Swedish, Finnish, and Dutch colonists remained and new immigrants of those nationalities, as well as English and Scotch-Irish, supplemented the growing population to form a multi-ethnic community.

In 1682, William Penn was granted proprietary rights over Pennsylvania and the Lower Three Counties which included the city of New Castle, the land within a 12-mile radius of the New Castle courthouse, and the land on the west bank of the Delaware Bay (including all of modern Delaware). Conflicts soon developed between the pacifist Quakers of Pennsylvania and the colonists of the Three Lower Counties, and these led to the establishment of separate governmental bodies and

relative autonomy for the southern colonists. However, economic ties continued to link Penn's factionalized colony. The Penn family's claims to interest in the colony were finally relinquished just prior to the American Revolution.

The early Dutch and Swedish pattern of settlement with closely spaced villages along the Delaware River was gradually replaced by the English colonial settlement pattern of scattered farmsteads along emerging transpeninsular roads. This pattern of scattered settlement was encouraged by economic factors. For example, Philadelphia mercantile interests required increasing numbers of marketable foodstuffs for local and export markets and land speculators parceled huge tracts of productive farmland obtained from Penn. Philadelphia's emerging economic influence during the 18th century caused a shift in agricultural activities in Delaware from subsistence to market-oriented crops.

The waterways were important to transportation and commerce as early roads were limited in number and of 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. Some of these locations are included in the study area. The Delaware River - Delaware Bay served as a major focus of water transportation because the majority of Delaware's streams flow eastward to these bodies. 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 18th 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 18th century post road connecting Philadelphia-Wilmington-New Castle-Odessa-Middletown-Dover-Lewes with a western branch at Milford linking it to the Chesapeake Bay. Small secondary roads and paths interconnected the numerous villages and hamlets and are common within the study area.

By the middle of the 18th century population increases and commercial expansion stimulated the growth of towns and the development of transportation and industry. During the 1730's successful attempts were made to harness water-power on the Brandywine and Christina Rivers resulting in the establishment of Wilmington as the foremost milling and shipping center in Delaware. The availability of wheat from the central Mid-Atlantic region, easy and economical transportation, and the proximity of the Philadelphia and New York markets facilitated the commercial rise of the Brandywine mills. During the later part of the 18th century Wilmington's economy focused on shipbuilding, coopering, milling, and import-export trade.

The rise of commerce and industry in Wilmington produced significant effects on the rural areas of New Castle and Kent counties. The technologies utilized in the Brandywine Valley spread to these areas resulting in a extensive network of mills throughout the colony. Millworks in the agrarian areas were frequently multi-functional with water-powered grist, saw and (woolen cloth) fulling operations being performed at different seasons at the same location. The mills primarily produced goods for local markets. At this time, the agrarian Delmarva Peninsula was considered an area of portage between the Chesapeake Bay markets (Annapolis and Baltimore) and the Delaware River and Bay markets (Philadelphia and New York).

The early decades of the 19th century saw the beginning of an agricultural revolution throughout Delaware, most extensively in New Castle county. The first agricultural society in the United States was formed in New Castle county in 1804 with a strong focus on scientific agricultural practices. A number of factors worked in conjunction to establish New Castle county, and Delaware as a whole, as an important agricultural producer. The discovery of marl, a natural fertilizer, during the construction of the Chesapeake and Delaware Canal in the 1820's

enhanced the productivity of Delaware agriculture while the opening of the canal encouraged the production of market-oriented crops because produce could be quickly and cheaply transported to markets.

The opening of the Philadelphia, Wilmington and Baltimore Railroad in 1839 provided transportation of northern Delaware produce to the growing eastern markets. The extensive production of market-bound crops developed later in Kent and Sussex counties due to a lack of interior transportation facilities, although produce did move by water from seaport towns. When the Delaware Line extended rail service to Dover and later Seaford in the 1850's, a vast agricultural hinterland was opened and agricultural production for markets increased significantly.

Prior to 1832 Delaware's agricultural products were primarily 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 location near large markets made peach production a lucrative enterprise. Delaware City with its canal location led Delaware and New Castle county in production until the peach blight of the 1850's. The peach industry was hindered in Kent and Sussex counties until the 1850's due to transportation limitations. Early attempts there failed because producers could not move fruit to market economically. Rail service into the area and the absence of the peach blight in the southern counties made the peach industry economical in the 1850's.

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 "peach houses" of the Italianate architectural style accompanied the influx of money which resulted from the growth of the peach industry and peach houses are common in the study area.

Through the 19th century, and into the 20th century, Delaware's agricultural production continued to focus on the perishable products with a decrease in staples. There has been marked increase in milk and poultry production while the levels of fruit and vegetable production were maintained. Cash crops such as tobacco, have been of importance on a small scale in Kent and Sussex counties.

Throughout Delaware's agricultural history farm labor has been a valued commodity. In the colonial period blacks in slavery and white indentured servants were the primary farm laborers. By the mid-18th 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 18th 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. Agricultural factors, as well, reduced the profitability of slaveholding and thus a combination of ethical and economic factors were responsible for the increase in the free black population in the state prior to Emancipation and the Civil War.

The patterning and density of settlement in Delaware, and the study area specifically, have been strongly influenced by several factors throughout its history. These are: 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 20th 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 1920's linked the northern and southern sections of the state and shifted the agrarian focus of the southern counties permanently toward non-local markets.

EXISTING DATA BASE

The purpose of this section is to present the existing data base on archaeological site locations, both prehistoric and historic, and standing structures. The cultural context of these sites will also be evaluated in light of the general prehistory and history of the region.

Prehistoric Archaeological Sites

The existing data base on prehistoric archaeological site locations within the proposed project area is the file of all archaeological sites recorded in Delaware that is maintained by the Bureau of Archaeology and Historic Preservation, Delaware Division of Historical and Cultural Affairs. These site files were searched as a part of this project and all known site locations were recorded on United States Geological Survey (USGS) 7.5' quadrangle maps. Relevant information was also recorded from the individual site forms. Appendix I lists the known archaeological sites by USGS map, and Attachment I to this report shows the locations of these sites. The information listed in Appendix I includes:

1) Archaeological survey site designation.

2) Delaware Cultural Resource Survey (CRS) Number.

3) Functional site type. The site types recognized are based on descriptive types developed by Gardner (1982) and applied to Delaware Coastal Plain sites by Custer (1983a, 1983b). The basic types include procurement sites (limited function sites occupied only for a short time for specialized resource procurement and processing activities), micro-band base camps (habitation sites for small social units), and macro-

band base camps (habitation sites utilized by large social units for relatively long periods of time).

4) Time period of occupation. The general time period during which the site was occupied is noted. The time periods are taken from the time periods discussed in the general prehistory section (see Table 1).

5) Components present. Components are specific cultural-temporal complexes that represent common adaptations to environments at a single place and time. The components noted are taken from the Delaware state plan for the management of archaeological resources (Custer 1983b). Table 1 provides a listing of the time/space characteristics of the culture complexes and Table 2 lists the diagnostic artifacts associated with each complex.

6) Comments. Special information or data are noted.

7) References. Any published and unpublished sources for the information on functional site types, time period of occupation, and cultural complexes present are noted. In some cases, artifact collections at the Island Field Museum were studied to check information on time period of occupation and cultural complexes. These sites are noted.

With regard to references, a brief comment on previous studies in the area should be made. A number of large-scale studies of archaeological site distributions have been made within the region of the project area (Figure 3). These studies include an archaeological survey of Lums Pond State Park (Wise 1983), a survey of the dualization of Route 113 in Dover (Cunningham et al. 1980), a sewer line survey of the north bank of the Appoquinimink River between Middletown and Odessa (Gardner and Stewart 1978), a survey of Cultural Resources north of the St. Jones River (Griffith et al. 1979), a survey of portions of the Bombay Hook National Wildlife Refuge (Rappleye and Gardner 1980), a controlled sample survey of selected portions of the St. Jones and Murderkill drainages (Custer and Galasso 1983), and a survey of an early proposed alignment of a West Dover By-Pass (Griffith and Artusy 1976). Also, general summaries of site function and chronology of occupation provided by Custer (1983a: Appendix II) were available for use.

Historic Standing Structures and Associated Archaeological Remains

The existing data base of standing structures within the proposed project area was drawn from the files of the standing structures record in Delaware which are maintained by the Bureau of Archaeology and Historic Preservation, Delaware

FIGURE 3

PREVIOUS STUDIES

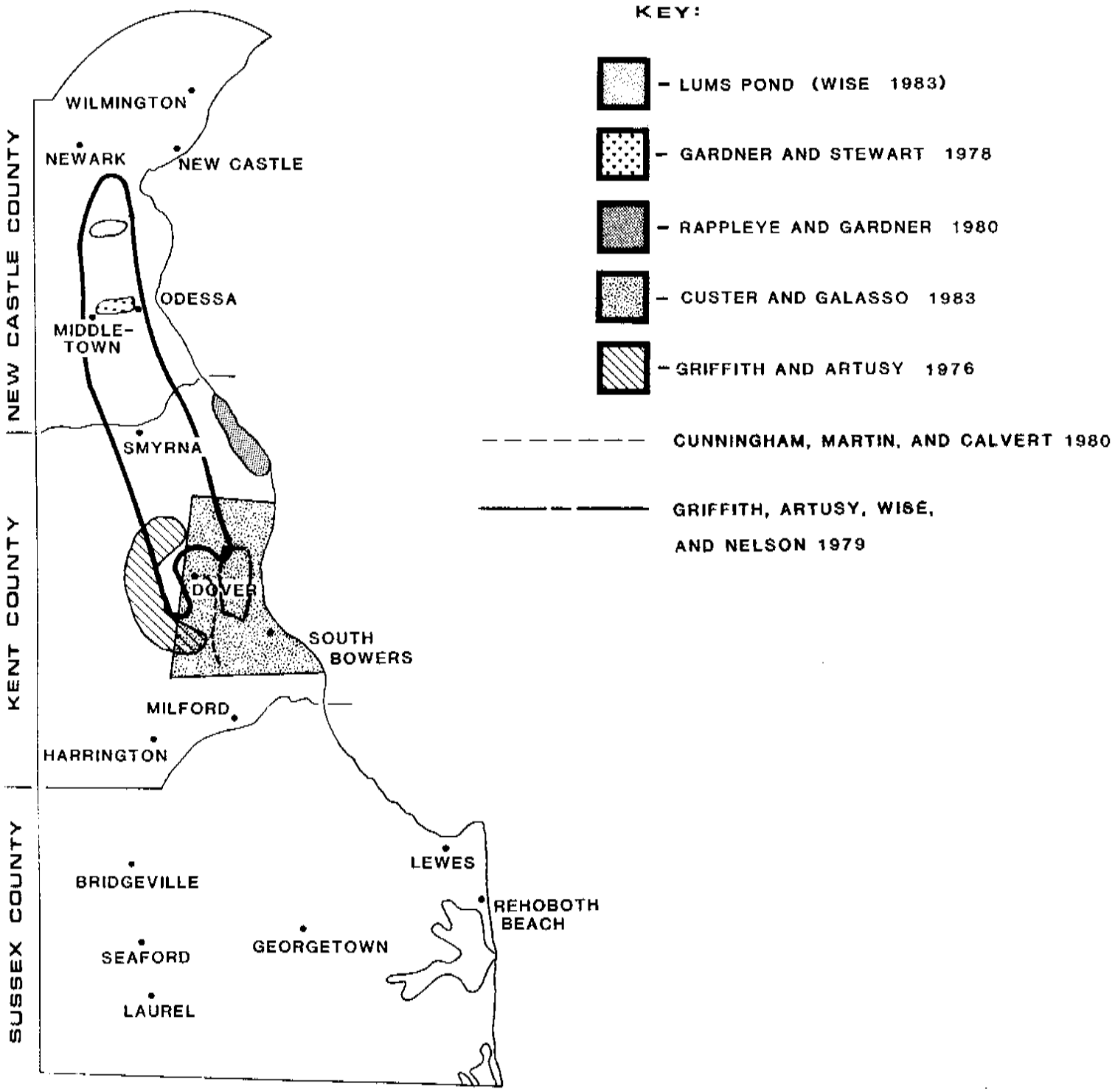


Table 1:
Culture Complexes of Delaware

Dates	Period	Low Coastal Plain	High Coastal Plain	Piedmont/Fall Line
AD 1600				
	Woodland II	Slaughter Creek Complex		Minguannan Complex
		Late Carey Complex	Webb Complex	Delaware Park Complex
AD 500				
			Carrey Complex	
AD 0	Woodland I			
		Wolfe Neck Complex	Delmarva Adens	Wolfe Neck Complex
500 BC				
		Clyde Farm Complex	Barker's Landing Complex	Clyde Farm Complex
3000 BC				
	Archaic	(No Special Complexes)		
6500 BC				
	Paleo-Indian	(No Special Complexes)		
12,000 BC				

Table 2

Woodland I Complexes and Diagnostic Artifacts

Late Carey Complex

Mockley/Claggett ceramics
Large triangular projectile points

Webb Complex, Delaware Park Complex

Hell Island ceramics
Misc. stemmed projectile points
Jacks Reef pentagonal projectile points (Webb Complex only)

Carey Complex

Mockley ceramics
Rossville stemmed projectile points
Fox Creek projectile points (southern Delaware only)

Wolfe Neck Complex

Wolfe Neck ceramics
Susquehanna Series ceramics (northern Delaware only)
Misc. stemmed projectile points

Delmarva Adena Complex

Adena side and corner notched projectile points
Coulbourn ceramics
Misc. stemmed projectile points

Clyde Farm Complex and Barker's Landing Complex

Bare Island/Lackawaxen projectile points
Broadspears
Fishtail projectile points
Marcey Creek and Daines Quarter ceramics
Steatite bowls
Long projectile points (Clyde Farm Complex, northern Delaware only)
Selden Island ceramics (Clyde Farm Complex, northern and central Delaware only)

Division of Historical and Cultural Affairs. The standing structure inventory files were examined to locate all known structures within the project area. Information relevant to the historical-architectural interpretation of the standing structures was recorded and is summarized in Appendix II. Appendix II also lists the known standing structures by Hundreds and assesses the archaeological potential and significance of associated archaeological remains. A map showing the boundaries of the New Castle county and Kent county hundreds is included in Appendix II. Locations of the standing structures were recorded on USGS 7.5' quadrangle maps and the individual standing structure locations are presented in Attachment II. The information contained in Appendix II is divided into two sections:

I. Standing Structures

1. CRS #: Delaware Cultural Resource Survey (CRS) Number

2. Quad: USGS 7.5' quadrangle map where structure is located.

3. NRL: Listed on the National Register of Historic Places.

4. Date: Date of initial construction or relative date of construction. Construction dates were obtained from the Bureau of Archaeology and Historic Preservation files or by consulting atlases and maps prepared by Baist (1893), Beers (1868), Price and Rea (1850), Rea and Price (1849), United States Geological Survey (1906), and Varle and Shallus (1802).

5. Cond: Condition of structure.

6. Material: Construction material of structure.

II. Associated Archaeological Remains

1. Function: The primary function of the structure and its associated outbuildings. Functional information was derived from BAHP, DHCA files and documentary research. Functional types are based on descriptive types developed by the BAHP.

A. Residential

1. Dwelling Complex
2. Peach House
3. Estate
4. Agricultural Tenant Dwelling/Farm
5. Industrial Tenant Dwelling
6. Slave Quarters

7. Tenant House
8. Migrant Worker House
9. Almshouse

B. Agricultural
1. Agricultural Complex
2. Agricultural Outbuilding
3. Agricultural/Mill Complex
4. Plantation
5. Peach Orchard

C. Industrial
1. Sawmill Complex
2. Gristmill Complex
3. Sorghum Mill Complex
4. Multiple Mill Complex
5. Manufactory
6. Blacksmith Shop
7. Workshop

D. Commercial
1. Tavern/Inn
2. Store
3. Bank
4. Doctor's Office/Pharmacy
5. Hotel
6. Warehouse
7. Service Station/Garage/Automobile

E. Religious
1. Church/Meetinghouse
2. Cemetary

F. Governmental/Educational
1. Judicial or Governmental Building
2. Post Office
3. School

G. Transportation
1. Bridge
2. Railroad-related Stucture
3. Railroad-railroad Bed
4. Railroad Station
5. Lighthouse
6. Vessel (sunken)
7. Landing Operations
8. Causeway
9. Stage Coach Station
10. Canal Company Building

H. Miscellaneous
1. Structure
2. Historical District
3. Race Track

2. NRE: Assessment of eligibility of associated archaeological remains for listing on the National Register of Historic Places.

3. Evaluation: Evaluation of the archaeological potential and significance of the associated archaeological remains.

4. Date: Date of the earliest archaeological component associated with the standing structure.

III. References: Published and unpublished sources providing information on function, age, history, or architecture of standing structures and associated archaeological remains.

The data base of historic archaeological sites within the proposed project area was obtained by consulting 19th century atlases and maps and identifying structures present at that time. The locations of the archaeological sites were plotted on USGS 7.5' quadrangle maps. These data supplement the BAHP inventory file data because they identify the locations of structures no longer extant but for which there is a potential for archaeological remains and they correct omissions in the BAHP standing structure files. Appendix III summarizes the historic and archaeological information available for these sites and assesses the potential and significance of the archaeological remains. The data are grouped by Hundreds. Attachment III to this reports shows the locations of the potential archaeological sites. The information in Appendix III includes:

1. Site Number.

2. Quad: USGS 7.5' quadrangle map where the archaeological site is located.

3. Date: Earliest documented use of the archaeological site obtained from historic atlases and maps. Dates are relative, eg., pre-1849. Occupation of the sites may be earlier in many cases.

4. Function: Primary function of the site based on interpretation of documentary evidence and site setting.

5. Potential: Evaluation of the potential of the archaeological remains.

6. Significance: Evaluation of the significance of the archaeological remains.

7. References: Published sources documenting the relative age of the site.

Cultural Context and Data Quality

The purpose of this section is to assess the quality of the data noted in Appendices I - III and to provide a brief discussion of the cultural context of the sites noted in the inventories. Specifically, the discussion of the cultural context will seek to relate the specific sites in the inventories to the general trends noted in the earlier discussion of the region's prehistory and history.

Prehistoric Sites - Table 3 provides a summary of the known prehistoric sites found within the project area. In general, a variety of sites of many different time periods are noted. However, before considering the cultural context of these sites, it is necessary to consider the quality of the data base of known prehistoric sites.

Table 3

Summary of Known Prehistoric Archaeological Sites

Quad	# of sites	Components			Functional Types		
		A	WI	WII	macro.	micro.	procurement
Clayton	10	3	5	4	1	3	2
Dover	19	1	11	1	1	6	4
Frederica	19	0	14	5	2	9	4
Kenton	1	0	0	0	0	0	0
Little Creek	12	3	7	7	4	3	0
Middletown	34	0	18	7	2	10	7
St. Georges	29	4	8	3	0	3	3
Smyrna	7	2	5	3	0	2	0
Wyoming	19	1	5	1	1	3	4
TOTAL	**150**	**14**	**73**	**31**	**11**	**39**	**24**

NOTE: No Paleo-Indian sites encountered

The state site files, from which the inventory in Appendix I was generated, record only the sites located in place where people have looked for archaeological sites. Although a few large research-oriented projects generated some of the data found in the site files (Figure 3) for the most part these files provide a very biased sample of the possible site locations within the project area. The presence or absence of certain types of sites from varied time periods, and the relative abundance of sites of any function of age, cannot be used for anything other than an initial approximation of the total range of prehistoric cultural resources that may be found in the area. Nevertheless, the data from these site files can be used to develop initial impressions, and testable hypotheses about prehistoric site locations (for example see Custer, Cavallo, and Stewart 1983; Custer and Wallace 1982). It should also be noted that in the southern portion of the study area (from Little Creek south) there is a controlled sample of site data available (Custer and Galasso 1983). With these limitations of the data in mind, the cultural context of the known sites can be evaluated and patterns of site locations can be tentatively noted.

No sites dating to the Paleo-Indian Period are noted in the site files for the study area. Although this finding does not mean that the area was without Paleo-Indian occupation, it can be looked upon as an indication that population densities in this area were probably low. Paleo-Indian settlement pattern models from the Middle Atlantic Coastal Plain (Custer, Cavallo, and Stewart 1983) and summaries of fluted point data from the Delmarva Peninsula (Custer 1983a: Chapter 3) note that there are two concentrations of fluted point finds in Delaware. One is in the northern part of the state between Newark, Delaware, and Elkton, Maryland, and is associated with outcrops of high quality cryptocrystalline lithic materials (Custer and Galasso 1980). Another is along the poorly drained mid-peninsular drainage divide (see Figure 2) where there are good data indicating the presence of

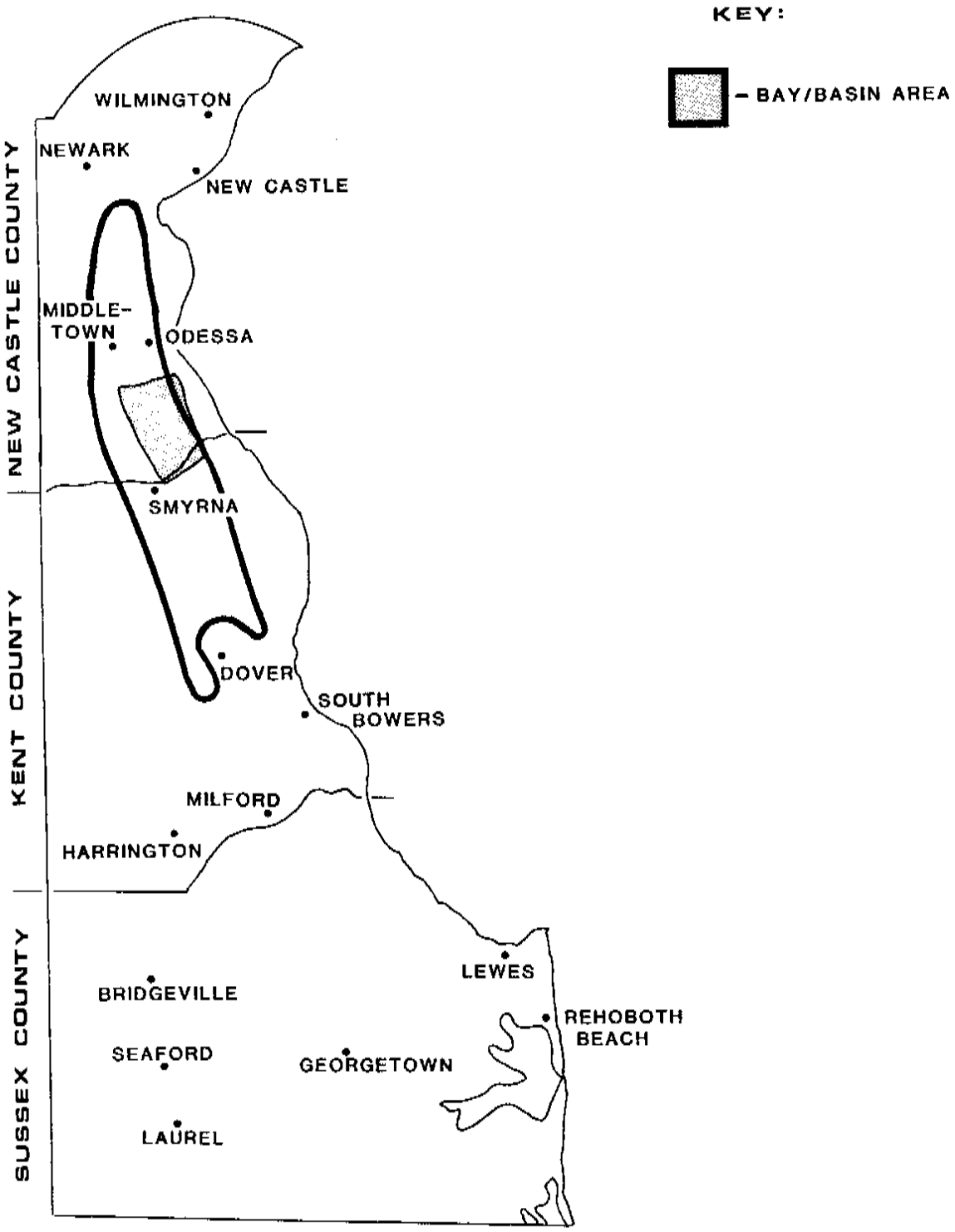
numerous game-attractive swamps and bogs during Later Pleistocene and early Holocene times. The general tendency is for Paleo-Indian sites to be located in association with high quality lithic outcrops, good hunting locations, or both (Gardner 1977).

The majority of the study area lacks either one of these features during the Paleo-Indian periods. Large Pleistocene gravel beds of the Columbia Formation are present in the study area; however, they seem to lack the high frequency of high quality secondary lithic materials that are found in larger gravel beds elsewhere on the Delmarva Peninsula (Custer and Galasso 1980; Jordan 1964). Therefore, it is likely that Paleo-Indian use of the environmental settings within the study area were not as frequent as other parts of Delaware. However, dicussing the potential for Paleo-Indian sites within the study area in relation to lithic resources, it should be noted that it is possible that Paleo-Indian resources may be underestimated in these regions because the use of cobble resources within a "serial lithic resource utilization pattern" (Custer, Cavallo, and Stewart 1983:Figure 4) would not produce assemblages of tools and diagnostic artifacts that resemble other "typical" Paleo-Indian assemblages. The tool assemblages recovered from the Turkey Swamp site in New Jersey's Coastal Plain (Cavallo 1982) may be looked upon as an example of these "atypical" Paleo-Indian assemblages. Therefore, further survey research in the study area should be sensitive to the identification of Paleo-Indian assemblages manufactured from cobbles.

In all but one section of the study area, bogs and swamps of Pleistocene age are infrequent. Therefore, it is likely that hunting sites from the Paleo-Indian Period are infrequent as well. The one portion of the study area that is an exception is the area north of Flemings Landing and south of Pine Tree Corners (Figure 4). This area has numerous bay/basin features (Plate 1) and although no

FIGURE 4

BAY/BASIN LOCALES



KEY to PLATES 1 thru 7

—— A ——-PROJECTED ADENA MORTUARY/EXCHANGE SITE

—— H ——-HIGH PROBABILITY ZONE

—— M ——-MEDIUM PROBABILITY ZONE

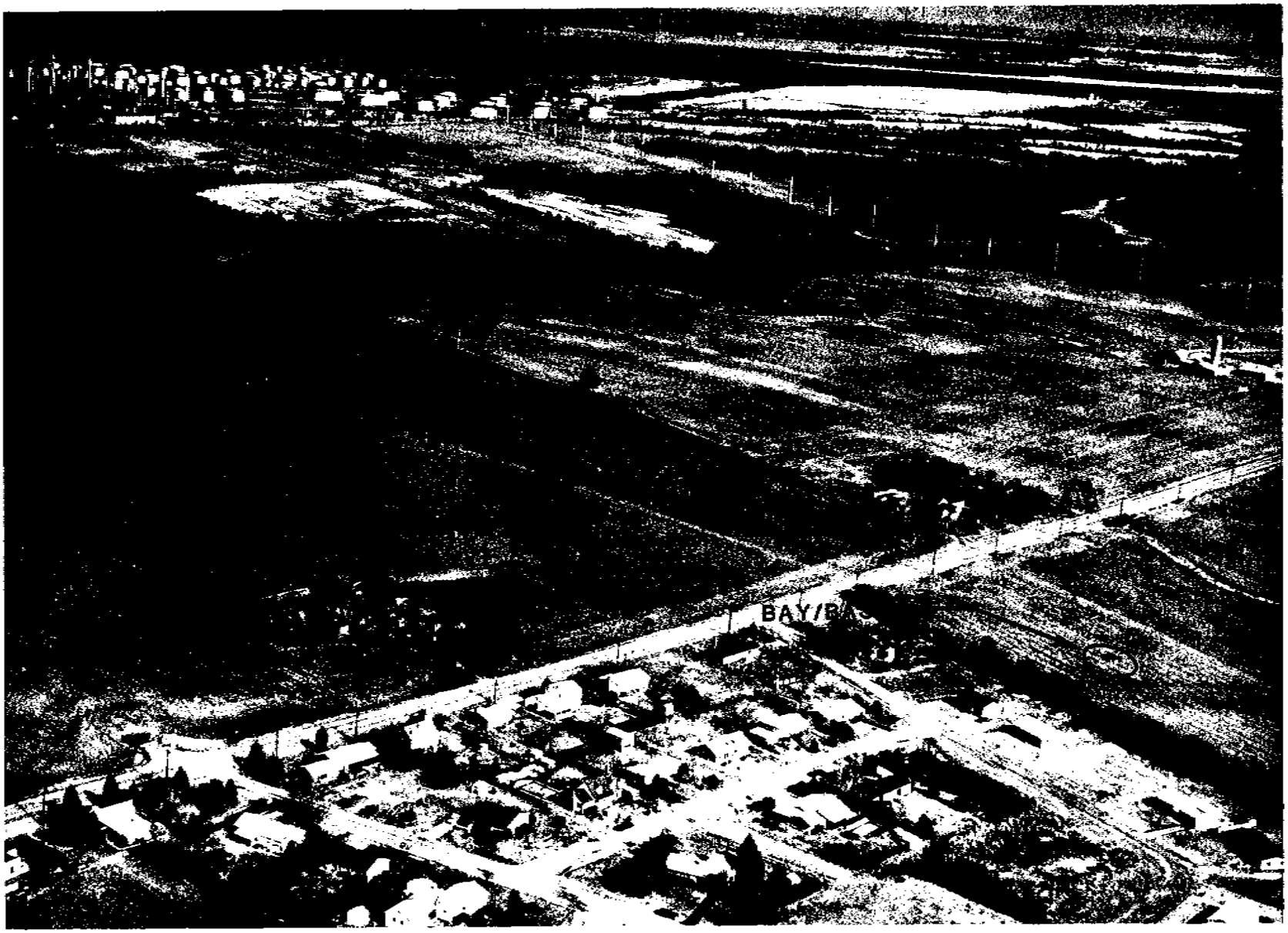
—— W ——-PROJECTED WEBB COMPLEX MORTUARY/EXCHANGE SITE

-KNOWN SITE

00-0-00-SITE NUMBER

PLATE 1

TYPICAL BAY/BASIN FEATURES



radiocarbon dates are available from these features, pollen assemblages from sediments within them indicate that they were open bogs, or swamps with standing water, at least as early as 9,000 B.C. (Rasmussen 1958; Custer 1983a:Chapter 2). Also, in southern New Jersey these features are the focus of Paleo-Indian settlement patterns (Bonfiglio and Cresson 1978).

A total of fourteen Archaic sites are noted in the state files for the study area. Of these, two are macro-band base camps, six are micro-band base camps, and four are procurement sites. Two sites have insufficient data to ascribe a function. The macro-band base camps are located in the large stream floodplains and their location matches with predictions of settlement models developed in other studies (Custer 1983b). Site 7K-D-69, located during a survey of central Kent County (Custer and Galasso 1983), is an especially good example of this site type. The six micro-band base camps are located in similar settings and are more numerous in the Coastal Plain than previously thought (see discussion in Wise 1983). Of the four procurement sites, two are located in association with bay/basin features, underscoring the importance of these locations discussed earlier.

Sites of the Woodland I period represent the greatest portion of the recorded prehistoric sites in the proposed highway corridor. Of the 73 sites with identifiable Woodland I components, 61 could be classified into one of the three functional categories. Table 4 summarizes the distribution of different functional site types and the components present at each functional site type. Macro-band base camps are located primarily along the floodplains of the major drainages and have the highest proportion of multi-component sites. Three of these macro-band base camps are of special significance. The Robbins Farm site (7K-F-12) is a large site on the Murderkill River near Frederica that contains many artifacts manufactured from non-local rhyolites, argillites, and steatites (Griffith and Artusy n.d.; Custer and Galasso 1983) and was occupied primarily during Woodland I times. The

Hughes-Willis site (7K-D-21) is a large macro-band base camp located on the St. Jones River north of Dover. The site contained numerous storage features and was occupied primarily during the later portion of the Woodland I period (Griffith 1974). Also occupied during the later portion of the Woodland I period, the Hell Island site (7NC-F-7) is located on the Appoquinimink River near Odessa (Plate 2) and contained numerous artifacts that link it in time with the Island Field cemetary site (Thomas 1966; Wright 1962). Both the Hell Island site and the Hughes-Willis site are listed on the National Register of Historic Places.

Table 4

Woodland I Site Summary

Site Type	Sites	Component-Cultural Complexes					
		Clyde Farm	Barkers Landing	Wolfe Neck	Delmarva Adena	Carey	Webb
Macro-Band base camp	11	2	6	3	2	3	4
Micro-band base camp	34	8	13	9	8	12	16
Procurement site	16	3	2	0	0	0	2
TOTAL	**61**	**13**	**21**	**12**	**10**	**15**	**22**

Micro-band base camps are located in a variety of locations on both major and minor drainages and outnumber all other types of Woodland I sites (84 total). Many of these sites are multi-component, but there are fewer components per site among micro-band base camps than was the case for macro-band base camps. Of the 16 Woodland I procurement sites, only a few had identifiable components at the culture complex level. Most of these sites are in good hunting and gathering locations, such as sand ridges adjacent to poorly drained marsh or swamp areas. However, a few (eg.,7K-C-90) are located adjacent to cobble outcrops and may represent lithic reduction sites.

PLATE 2

HELL ISLAND NATIONAL REGISTER SITE

Generally, all of the various Woodland I culture complexes are represented among the recorded Woodland I base camp sites. However, Barker's Landing Complex, Carey Complex, and Webb Complex components are among the most common among the sites recorded in the study area. In sum, the entire range of Woodland I functional site types, except for specialized mortuary sites, and the entire range of Woodland I culture complexes are present in the study area.

Thirty-one Woodland II sites were noted in the state files for the study area. Table 5 provides a summary of the site distributions by functional type and culture complex. There are more Slaughter Creek Complex sites (14) than Minguannan (8), but Minguannan Complex sites are still well represented in the southern New Castle County and northern Kent County area. This finding is especially interesting and would seem to contradict statements by some researchers which refer to this area as an unpopulated "buffer zone" during Woodland II times (eg., Wilkins 1976). These sites were recognized during the present study by the presence of Minguannan ceramics in the collections at the Island Field Museum and this ceramic type was not recognized as indicative of Woodland II cultures in the northern portion of Delaware until recently (Griffith and Custer n.d.; Custer 1983a: Chapt. 5). Therefore, the "buffer zone" concept is a result of the fact that previous researchers had no basis upon which to identify Woodland II sites in southern New Castle County and northern Kent County. The data presented here clearly show that this "buffer zone" did not exist.

Table 5

Woodland II Site Summary

Functional Type	Minguannan Complex	Slaughter Creek Complex	?	TOTAL
macro-band base camp	1	8	0	9
micro-band base camp	7	6	2	15
procurement site	0	0	3	3
TOTAL	**8**	**14**	**5**	**27**

It can be noted that most of the Minguannan Complex sites are micro-band base camps while the Slaughter Creek Complex sites include slightly more macro-band base camps than micro-band base camps. Included among the Slaughter Creek Complex macro-band base camps is the Hughes-Willis site which probably represents a summer-fall nut processing camp and which is listed on the National Register of Historic Places (Thomas et al.1975). Whether they are macro-band or micro-band base camps, most of the Woodland II base camps are multi-component and have evidence of earlier Woodland I occupations. This continuity of base camp locations has been viewed as indicative of continuities in adaptations between the Woodland I and II periods in north central Delaware (Stewart et al.1983; Griffith 1983; Custer 1983a: Chapt. 5). Little or no information is available on Woodland II procurement sites. No Contact Period sites were noted for the study area in the state site files.

Historic Sites Tables 6 and 7 present a summary of the historic sites identified in the project area. The majority of sites are early and mid-19th century farmsteads (agricultural complexes, plantations, estates) reflecting the strong agrarian orientation and the period of major settlement expansion of the region. In

TABLE 6: SUMMARY OF KNOWN HISTORIC ARCHAEOLOGICAL SITES IN NEW CASTLE COUNTY - LISTED BY HUNDREDS

		DWCX	PEACH	EST	AGTEN	INDTEN	SLAVQ	TENANT	MWHSE	ALMHSE	AGCX	AGBLD	AGMCX	SMCX	GMCX	SOMCX	MMCX	MANUFY	BSSH	WKSH	TAV	STO	BANK	PHYS/ DWCX	HOT	WARE	SERVSTA	CHUR
Appoquinimink 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	1	0	0	0	0	0	0	4	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	1803-1868	15	0	1	56	2	0	1	0	0	81	1	0	0	1	0	0	3	0	4	0	4	0	0	0	0	0	1
	1869-1910	16	1	0	5	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	1911-1950	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Blackbird 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	1	0	2	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0
	1803-1868	4	2	1	37	1	0	1	0	0	111	0	0	1	1	0	0	2	0	0	0	3	0	0	1	0	0	1
	1869-1910	4	0	0	6	2	0	1	0	0	18	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Georges 100	1638-1681	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	16	13	7	85	4	2	3	0	0	124	0	0	0	2	0	0	0	2	1	2	6	0	2	0	0	0	0
	1869-1910	3	0	1	17	0	0	1	0	0	4	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
	1911-1950	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Red Lion 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	19	1	4	31	0	0	0	0	1	38	0	0	0	0	0	0	0	2	0	0	5	0	0	2	0	0	3
	1869-1910	7	0	1	3	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	1911-1950	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CEM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
CHUR: CEM	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	0	1	2	0
GOVBLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRSTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCBLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VESSEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAUWY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCOSTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCBLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STRU	0	0	0	1	2	0	0	0	5	2	0	0	0	1	2	0	0	0	0	0
HLSTD	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BSSH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LMKILN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
LTHSE	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
STO/PO	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
WKDW	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
PLANT	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
UNKNOWN	4					35					4					5				

CONTINUATION OF TABLE 6

		DWCX	PEACH	EST	AGTEN	INDTEN	SLAVQ	TENANT	MWHSE	ALMHSE	AGCX	AGBLG	AGMCX	SMCX	GMCX	SOMCX	MMCX	MANUFY	BSSH	WKHS	TAV	STO	BANK	PHYS	HOT	WARE	SERVSTA	CHUR
Pencader 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	3	0	2	7	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0
	1869-1910	5	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Castle 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	1	0	0	9	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	1869-1910	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Castle County	1638-1681	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	1	0	6	0	0	0	0	0	0	15	0	2	1	5	0	0	1	0	0	0	1	0	0	1	1	0	0
	1803-1868	58	16	15	225	7	2	5	0	1	365	1	0	1	4	0	0	5	4	5	2	23	0	2	6	0	0	6
	1869-1910	40	1	3	32	2	0	4	0	0	37	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1
	1911-1950	14	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

0	1	2	0	0						0	0	0	0	0	0	0	0	0	0	CEM
0	0	5	3	3						0	0	0	0	0	0	0	0	0	0	CHUR/ CEM
0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	GOUBLD
0	1	0	0	0						0	0	0	0	0	0	0	0	0	0	PO
1	2	19	0	0						0	0	1	0	0	0	0	1	0	0	SCH
1	0	2	0	0						1	0	0	0	0	0	0	0	0	0	BRID
0	0	2	0	0						0	0	0	0	0	0	0	0	0	0	RRR
0	0	1	0	0						0	0	0	0	0	0	0	0	0	0	RR
0	1	4	0	0						0	0	0	0	0	0	0	0	0	0	RRSTA
0	0	3	0	0						0	0	0	0	0	0	0	0	0	0	CCBLD
0	0	4	0	0						0	0	0	0	0	0	0	0	0	0	VESSEL
0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	LANOP
0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	CAUWY
0	0	1	0	0						0	0	0	0	0	0	0	0	0	0	SCOSTA
0	14	11	2	0						0	2	0	0	0	0	1	0	0	0	STRUC
0	0	1	0	0						0	0	0	0	0	0	0	0	0	0	HISTD
0	0	1	0	0						0	0	0	0	0	0	0	0	0	0	BSSH
0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	WKSH
0	0	3	0	0						0	0	0	0	0	0	0	0	0	0	LMKILN
0	1	0	0	0						0	0	0	0	0	0	0	0	0	0	COMM
0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	LTHSE
0	0	2	0	0						0	0	0	0	0	0	0	0	0	0	STO/PO
0	1	1	0	0						0	0	0	0	0	0	0	0	0	0	WKDW
0	0	2	0	0						0	0	0	0	0	0	0	0	0	0	PLANT
50										1					1					UNKNOWN

TABLE 7: SUMMARY OF KNOWN HISTORIC ARCHAEOLOGICAL SITES IN KENT COUNTY - LISTED BY HUNDREDS

		DWCX	PEACH	EST	AGTEN	INDTEN	SLAVQ	TENANT	MWHSE	ALMHSE	AGCX	AGBLD	AGMCX	SMCX	GMCX	SOMCX	MMCX	MANUFY	BSSH	WKSH	TAV	STO	BANK	PHYS	HOT	WARE	SERVSTA	CHUR
Little Creek 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	3	0	1	30	2	0	2	0	0	62	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	3
	1869-1910	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Kenton 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	1	0	0	0	0	0	0	8	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
	1803-1868	4	0	5	37	6	0	0	0	0	60	0	2	2	3	0	1	0	0	0	0	2	0	0	0	1	0	0
	1869-1910	4	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	1911-1950	5	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Duck Creek 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	3	0	4	0	0	0	0	0	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	10	1	0	42	3	0	0	0	0	46	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7	0	0
	1869-1910	9	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	1911-1950	12	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
orth Murderkill 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1689-1802	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	1	1	0	4	0	0	0	0	3	49	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1869-1910	13	0	0	0	0	0	0	0	0	14	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	9	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	CEM
0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	1	0	CHUR/ CEM
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	GOUBLD
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PO
0	0	1	0	0	0	0	3	0	0	1	1	5	0	0	0	0	4	0	0	SCH
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	BRID
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	RRR
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	RR
0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	RRSTA
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	VESSEL
0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	LANOP
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CAUWY
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SCOSTA
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CCBLD
0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	STRUC
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	HISTD
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LMKILN
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COMM
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LTHSE
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	STO/PO
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	WKDW
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PLANT
5					5					5					10				0	UNKNOWN

CONTINUATION OF TABLE 7

		DWCX	PEACH	EST	AGTEN	INDTEN	SLAVQ	TENANT	MWHSE	ALMHSE	AGCX	AGBLDG	AGMCX	SMCX	GMCX	SOMCX	MMCX	MANUFY	BSSH	WKSH	TAV	STO	BANK	PHYS	HOT	WARE	SERVSTA	CHUR
South Murderkill 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1681-1802	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	1	0	0	3	0	0	0	0	0	27	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
	1869-1910	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Dover 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	3	0	0	13	3	0	0	0	0	50	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1869-1910	3	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Dover 100	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1869-1910	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kent County	1638-1681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1682-1802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1803-1868	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1869-1910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1911-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	CEM
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CHUR/ CEM
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	GOVBLG
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PO
0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	SCH
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	BRID
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	RRR
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	RR
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	RRSTA
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	VESSEL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LANOP
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CAUWY
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SCOSTA
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CCBLG
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	STRUC
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	HISTD
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LMKILN
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COMM
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LTHSE
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	STO/PO
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	WKDW
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PLANT
										2					3					UNKNOWN

addition, sites representing a broad range of functions from many time periods are recorded. It should be recognized, however, that the quality of the data base varies for each time period and between New Castle county and Kent county.

There is a heavy bias toward early and mid-19th century sites because the majority of the sites were identified using the Beers (1868), Price and Rea (1850), and Rea and Price (1849) atlases. Sites dating to the 17th and 18th century are under represented in the historic site inventory. The majority of the sites of this age no longer possess extant standing structures and would not have been recorded in the Bureau of Archaeology and Historic Preservation standing structure inventory files. Furthermore, many structures of this age had most likely been destroyed or were deteriorated when mid-19th century atlases were prepared, and thus would not have been recorded. Documented sites of the late 17th and 18th centuries will reflect a more permanent and prosperous phase of settlement because less substantial structures dating to initial settlement or associated with lower socio-economic groups would have deteriorated. The broader variety of documentary and archival sources available for the 19th century also provides a more complete data base for this period than for earlier periods. Twentieth century sites may also be under represented because 20th century maps were not consulted consistently and the Bureau of Archaeology and Historic Preservation standing structure inventory files are not complete for this period.

The full range of functional types of historic sites has not been identified because data on this subject are fragmentary. Historical sources frequently provide only partial lists of the activities occurring at a site or they list none at all. Thus, statements about historic site function are often limited. The cultural biases of mid-19th century reporters should also be considered in evaluating the data base. Mid-19th century atlases were most useful to governmental bodies, commercial and industrial concerns, and upper socio-economic stratum groups. For

this reason compilers of these works would be more likely to omit data detailing lower socio-economic stratum lifeways. Therefore, an under representation of particular functional site types is inferred. For example, slave quarters, farm and industrial laborer dwellings, and tenant farms are not identified. Information on ethnic communities, including remnant Indian communities and black populations is often conspicuously missing. In addition, part-time and full-time occupational specializations are difficult to ascertain from the documentary evidence consulted. Therefore, sites which were the loci of craftsmen's workshops, doctor's offices, and seasonal activities are not always identifiable.

Omissions and errors in the mid-19th century atlases, while certainly unavoidable, also impose limitations. And finally, the availability of additional historical sources for New Castle county (Rea and Price 1849; Baist 1893) provides a more complete and more thoroughly dated data base for that county than is available for Kent county. In Kent county the basic documentary sources are the Bureau of Archaeology and Historic Preservation standing structure inventory files and Beer's Atlas (1868). With these limitations taken into consideration, the documented sites have been evaluated within the cultural context of the project area and shifts in settlement, technological, agricultural, industrial, and commercial patterns are identified.

A five-stage temporal framework is presented to order the historic archaeological sites: 1) Colonial Settlement Period (1638-1681); 2) Initial Agrarian Settlement Period (1682-1802); 3) Full Agrarian Expansion Period (1802-1869); 4) Settlement Stabilization and Agrarian Maintenance Period (1869-1910); 5) Modern Period (1911-1950). This framework is in part a reflection of the restrictive nature of the primary documents used to date sites, but more importantly it corresponds to the major trends in Delaware history (Weslager 1961, 1967; Hoffecker 1973, 1977; Munroe 1978) and serves to demarcate shifts in the settlement patterning and economic orientation of a primarily agrarian region.

The Colonial Settlement Period (1638-1681) is represented by only three sites: a causeway/bridge of Dutch construction (N-1309); a landing operation (N-3908); and an early farmstead (N-3909) which are all in the Saint Georges Hundred. Colonial populations during this period were low and settlements were concentrated in the area to the north of the project area. The economy of the early colonies was focused on the export of raw materials to European markets. Furs, timber, naval stores and the only true cash crop, tobacco, were the primary exports and their distribution was dependent on access to water transportation.

The known sites support the pattern of subsistence agriculture and the water orientation of the early colonists. Other site types dating to this period expected within the project area would reflect the extractive focus of the economy: for example, fur trade posts and rudimentary sawmill operations. Sites will be located on the Delaware River-Delaware Bay shore or on the major navigable streams in close proximity to these bodies. In general, the number of early period sites will be few due to low population densities and the small number of settlements. Identification of these sites will be difficult due to the impermanent nature of the early structures, abandonment, and subsequent deterioration by natural processes.

The assumption of proprietary rights by Penn in 1682 over the "three colonies on the Delaware" commences the Initial Settlement Period (1682-1802). While the American Revolution effected political changes in Delaware, the economic and social focus of its inhabitants changed little. For this reason, no temporal break is marked at Independence. Under Penn's proprietorship settlement was strongly encouraged through the granting of land patents. The subsequent speculation in land as the patents were divided resulted in the settlement of all available productive agricultural lands by the mid-18th century (Hoffecker 1977). Dispersed farmsteads on prime agricultural land along navigable streams and early cart roads leading to landings and villages are noted on the Varlle and Shallus map (1802).

Fifty late 18th century farmsteads are located in the study along the lower reaches of Red Lion Creek, Drawyers Creek, Blackbird Creek, Appoquinimink Creek, Leipsic River, and Smyrna River. A 1690 settler's farmstead (N-3902) in the Appoquinimink Hundred illustrates this pattern.

The earlier pattern of extracting and exporting raw materials continued into the Initial Settlement Period. Agricultural production was predominately for local consumption; however, a shift toward market-oriented crops was established by the end of the period. Wheat, became a major cash crop and was transported unprocessed or as flour to growing domestic and foreign markets. Water-powered mills were established on navigable streams to process timber, lumber and wheat for export. Thirteen sawmill and/or gristmill sites were established during this period, including a tidal gristmill (N-5215) located on Appoquinimink Creek in the tidal marsh zone.

Increasing pressure for productive agricultural land with access to water transport led to the draining and utilization of the marsh zones along the major streams during the 1750's (Hoffecker 1977). A number of sites in the study area may have been part of this short-lived expansion (N-5177, N-1502, N-5873, N-214, N-5872, Sites 257, 264, 266 and 595). The marshlands along Drawyers Creek, Appoquinimink Creek, and the Leipsic River hold the highest potential for containing unrecorded sites of this type.

Churches and meetinghouses accompanied the establishment of early settlements and by the Revolution all the major faiths present in Delaware today had built houses of worship (Munroe 1978; Hoffecker 1977). Seven sites (N-124, N-154, N-233, N-5041, K-103, Sites 209 and 651) evidence the early churching of the project area.

During the Initial Settlement Period slavery was established on plantations. The only slave quarters identified are N-117.1 and N-5129 in Saint Georges

Hundred, although all plantation sites of the period have the potential for producing slave-related components. No tenant dwellings or farms, or indentured servant quarters have been identified for this period, however, they are expected to be associated with the plantations and large farmsteads that have been recorded.

The Full Agrarian Expansion Period (1803-1968) is marked by a tremendous settlement expansion. Three major factors are responsible for the shift: 1) the lack of available prime agricultural land with ready access to water transport; 2) the increasing demand of large, domestic markets for the agricultural products of the hinterland; and 3) the establishment of reliable transportation facilities which provided an economical alternative to water transport, including the construction of turnpikes, cartroads and more importantly the canal and railroad lines.

The pattern of dispersed farmsteads persisted, but extensive local road systems connected farmsteads to transport facilities and towns. Wheat and peaches were the market-oriented crops and a total of 675 farmsteads have been recorded. Many of these represent the massive holdings of gentlemen farmers. Agricultural tenancy increased as wealthy landowners amassed acreage and the pool of agricultural laborers, frequently free blacks, grew in size (Bausman 1929). The large number of agricultural tenant sites (371) demonstrates the strength of this trend.

Nineteen sites associated with peach production have been located within the project area. N-107, N-109, N-110, N-116, N-117, N-118, and N-119, the residences and plantations of Delaware's large peach producers, evidence the prosperity which the "peach boom" brought to a segment of the population. Not all peach growers or individuals engaged in related industries, however, achieved the wealth of the major producers. N-143, a modest version of the "peach house", affords the opportunity to examine the lifeways of the middle income peach

grower. Peach production was heaviest in New Castle county and 90% of the sites associated with the "peach boom" are located there.

The establishment of canal and rail transport was directly related to the expansion of agricultural production into the unsettled, forested areas. In addition to agricultural expansion, the canal and railroads stimulated the growth of hamlets into towns and the establishment of new towns. Saint Georges became an important distribution center due to its canal location. Middletown, Odessa, Clayton, Smyrna, Kirkwood, Brenford, Green Spring (formerly Sassafras Station), Mount Pleasant and Wyoming are among the towns which served as local commercial and industrial centers due to the proximity of the rail lines. The existing towns on navigable streams and the numerous landings maintained their importance and served the growing steamboat and schooner traffic.

Manufactories, for example, brickyards (Sites 421, 598 and NT5928), a tile factory (Site 255), a lime kiln (K-4025), a shipyard (Site 433), a vineyard (Site 925), and a tanyard (K-3960) were founded near the major transportation routes and the increasingly important service centers. Warehouses for the storage and redistribution of agricultural produce appeared in Smyrna Landing (Sites 434-440) and Brick Store Landing (N-135). Specialized workshops were located in or near the local service centers and provided blacksmith and whitesmith (tinsmith) services, brooms, baskets, and shoes.

The organization of public institutions accompanied the expansion of agricultural communities throughout the study area. In 1829 the Public School Act created Delaware's first public supported and organized school system, resulting in the ubiquitous one-room schoolhouse on the rural landscape. Black school-age children were excluded from the school system. Black education was dependent on support from the black community or churches. Public and church supported almshouses (K-320, Sites 17 and 738) were maintained to shelter the indigent and

mentally ill. The almshouse residents produced their own food and provided services for the larger community. Site 738 was a black almshouse (Beers 1868) and is one of the few known sites which could provide information on one segment of the black community.

Despite the growth of towns and their increasing commercial and industrial activities, the study area does not shift from its primarily agrarian character. Moreover, the towns functioned as service centers for the agrarian region rather than as commercial-industrial centers in their own right. The services and products of the towns were oriented to agricultural production.

The Settlement Stabilization and Agrarian Maintenance Period (1869-1910) is characterized by the continuation of settlement, economic and social patterns established earlier. The project area did not experience the population increases which occurred in the north. Agriculturally productive land was settled, and the small increase in the number of farmsteads most likely reflects the division of large estates and farmsteads. Documentary sources show shifts in landownership (Beers 1868; Baist 1893) which suggest both an increase in tenancy and the assumption of farm ownership by former tenant farmers.

Small increases in the number of town residences and businesses, such as, general merchandise stores, groceries, banks and hotels are noted, but these reflect the town pattern clearly established during the preceeding period. The commercial-industrial growth of towns leveled off. Substantial shifts in economic orientation and major population growth was limited primarily to urban centers such as Smyrna, Dover, and Clayton and northern Delaware which are not under consideration in this project.

The growth of a black community in the Point Breeze area north of Clayton is a notable addition to the historic site inventory (N-6212 through N-6235). Although additional black communities have not been identified, others are

expected on the rural landscape. Information on the lifeways of blacks in a still racially segregated society can be gained from the investigation of such communities.

The introduction of mass-produced goods which occurred during this time resulted in changes in home construction and decoration. Improvements in agricultural implements and machinery lessened the labor intensive nature of farming and permitted the cultivation of larger acreages. Amenities such as gas, electricity, central heat, and indoor plumbing became available. These changes will be reflected in the archaeological record as shifts in material culture, structural elements in buildings, discard patterns and rates of discard, for example. Sites of this age will furnish new data on the integration of the material products of the Industrial Revolution in a hinterland society. New information on the concomitant behavioral changes will allow the refinement of theories of cultural change.

The Modern Period (1911-1950) was characterized by an agricultural orientation. There were shifts in the agricultural products with a focus on perishables and chickens. Population growth was heaviest in the larger municipalities which are excluded from this study. In 1911 the construction of the Dupont Highway was authorized and subsequently the region was opened to automobile and truck traffic.

Several important patterns emerged in response to the increased mobility brought about by motorized transportation. The small, local service centers lost their economic importance as storage and redistribution facilities as businesses and service providers became concentrated in the major centers. New houses were constructed in once predominately rural areas and new commercial-industrial-service employers supplied jobs to the growing non-agricultural/suburban populations.

The revamping of the state's educational system led to the abandonment of the one-room schoolhouse. Centralized state agencies administering welfare and relief programs came into existence ending the almshouse system.

Mass-produced goods and household amenities introduced earlier became available to nearly all segments of the population by the end of the period. Lower socio-economic white and black communities, migrant worker dwellings, Mennonite farmsteads, and other ethnic enclaves are not expected to exhibit patterns seen in the larger community. For this reason, sites associated with these groups can provide information on the perpetuation of traditional behavior, technology, and social organization in modern society. The acceptance of selected modern elements by these communities could also be obtained by investigating these sites. One migrant worker dwelling (K-2065) has been identified in the project area.

PREDICTIVE MODELS

The previous section of this report presented the inventories of known, and previously recorded, prehistoric and historic archaeological sites. As was noted earlier, the sites recorded in the state records do not represent all the cultural resources in the study area, or even an unbiased sample. Consequently, it is necessary to use projections of potential archaeological site locations (predictive models) to make management and planning decisions about cultural resources. This section describes the uses of predictive models in prehistoric and historic archaeology and applies various predictive models to the study area.

Predictive Models and Prehistoric Archaeological Sites

Predictive models must be applied to the study of prehistoric archaeological resources for a number of reasons. First, a complete inventory of all prehistoric archaeological sites is not possible due to cost limitations. Also, archaeological

site discovery often entails at least partial site destruction. Thus, it is necessary to develop predictions of where various types of prehistoric archaeological sites of various ages are likely to be found.

Development of these predictions for prehistoric sites can be accomplished in a number of different ways. One method utilizes detailed analyses of modern resource distributions and studies of living hunter-gatherer populations to predict what sorts of places similar populations might have inhabited in the past (eg., Jochim 1976). Because of the detailed nature of the required resource distribution analyses and the limitations of the currently available paleoenvironmental data base, modern environments must be used to develop the models. While these models have been applied to, and work well for, late prehistoric groups (eg., Thomas et al. 1975), the projections of these models and their predictions into the more distant past, is risky, at best, as noted by Binford (1978). Also, the predictions generated from the application of these models in the Middle Altantic Coastal Plain (Cameron 1976) have been contradicted by empirical data from archaeological sites (Custer, Stiner and Watson 1983; McNamara 1982). Another method of generating predictive models uses samples of modern site distributions to develop quantitative assessments of densities of site per unit areas of various size and configuration (Wilke and Thompson 1977; Luckenbach and Clark 1982). These studies do not distinguish among the various classes of archaeological sites encountered and, therefore, such studies are not appropriate for all kinds of resource management because they ignore the cultural content of archaeological sites as well as the potential to yield useful data which establishes these sites' significance (Raab and Klinger 1977). Also, these studies do not link the site densities with locational data which allow the plotting of areas of differential site densities.

The alternative to the approaches noted above is the traditional approach to predictive modelling developed and utilized by William M. Gardner and his students at Catholic University. Gardner's (1978, 1982) studies consider the existing data on site locations for various classes of sites from different time periods. Correlations between site locations and environmental settings are then determined. If controlled samples are available, statistical analyses may be used (Custer 1980; Wells et al. 1981; Custer and Galasso 1983; Eveleigh et al. 1983); however, if uncontrolled samples are utilized the analyses are more impressionistic (Gardner 1978, 1982; Custer and Wallace 1982). Whatever the type of analysis, a series of descriptions of typical site locations are developed. These descriptions may be in the form of listings of significant variables (Gardner 1978, Cunningham 1983), narrative descriptions of typical site locations (Stewart 1981; Wall 1981; Tolley 1983), diagrams of site locations (Hoffman and Foss 1980; Custer and Wallace 1982; Custer 1983a, 1983b, 1983c), descriptions of site locations using quantitative data (Hughes and Weissman 1982), or quantitative projections of numbers and types of sites within varied environmental zones (Custer 1980; Custer and Galasso 1983). No matter what their form, these predictions can then be used for resource management and further research and testing. This approach will be used in this study and is preferable to the other approached for management purposes because it considers the cultural content of sites and specifically predicts their locations.

The approach to predictive model generation noted above can be applied to the study area at a variety of levels. The most general level is to use the initial predictive models developed for the Delaware plan for the management of prehistoric cultural resources (Custer 1983b) and a similar plan developed for the Upper Delmarva region of Maryland (Custer 1983c). In these management plans, a series of diagrams showing relationships among sites and typical site locations were formulated. Also, tabular summary descriptions of typical site locations were

prepared. These tabular summaries and diagrams were then combined to define study units for each of the major cultural periods. In order to apply these models to the present study, the proposed highway corridor was plotted in relation to the study areas from the state plan and the relevant diagrams and descriptions of typical locations noted. The relevant site models and study units are described below for each cultural period.

For the Paleo-Indian period, the entire project area falls within a study area that has a low data quality and a low probability for all types of Paleo-Indian sites (Custer 1983b). Figure 5 shows the typical environmental locations for Paleo-Indian sites that can be expected to occur in the study area. These sites include base camps (habitation sites) and hunting and maintenance sites where various resources were procured. Generally, this model would be most applicable in the bay/basin area noted in Figure 4, although similar patterns would be seen with a lower frequency throughout the project area. Figure 6 shows a "serial" model of group movements (Custer, Cavallo, and Stewart 1983) that would most likely have linked sets of the site locations noted in Figure 5. The serial model assumes that Paleo-Indian groups would move from base camp to base camp with movements dictated by resource availability. As groups moved, various hunting locales and lithic resources would be used on a serial basis. Application of the serial model is based on the fact that lithic resources within the project area are small, scattered, and numerous (Custer and Galasso 1980). Table 8 provides summary descriptions of typical Paleo-Indian site locations for the project area.

KEY TO SITE LOCATION MODELS

(B) – MACRO-BAND BASE CAMP

(b) – MICRO-BAND BASE CAMP

[p] – PROCUREMENT SITE

(H) – HUNTING SITE

[m] – BASE CAMP MAINTENANCE STATION

(Q) – QUARRY SITE

– CACHE – ISOLATED FIND

[M] – MINOR MORTUARY/EXCHANGE CENTER

[M] – MAJOR MORTUARY/EXCHANGE CENTER

[QB] – QUARRY RELATED BASE CAMP

[QR] – QUARRY REDUCTION SITE

FIGURE 5

PALEO-INDIAN SITE LOCATION MODEL

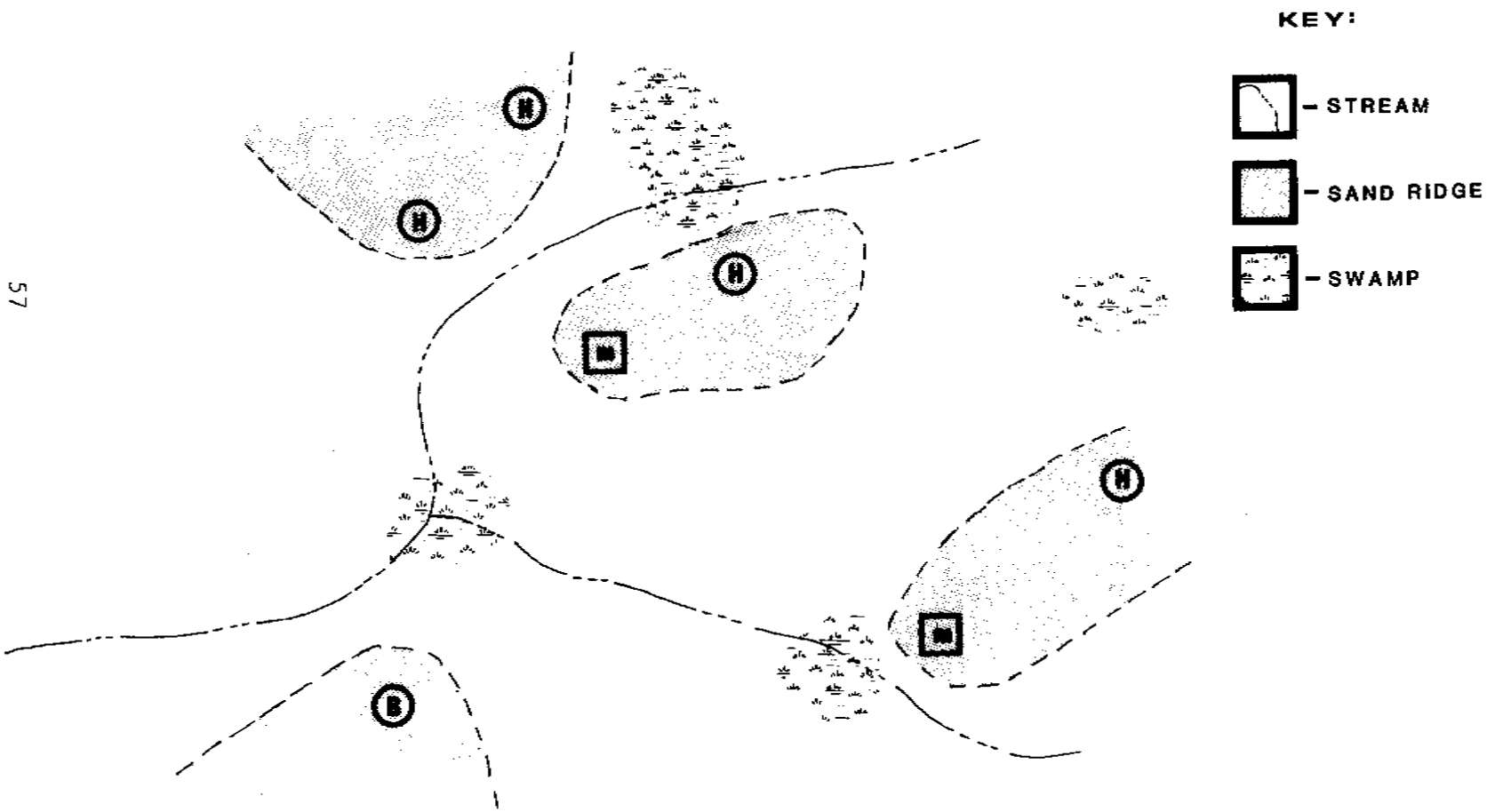


FIGURE 6

SERIAL SETTLEMENT/LITHIC UTILIZATION MODEL

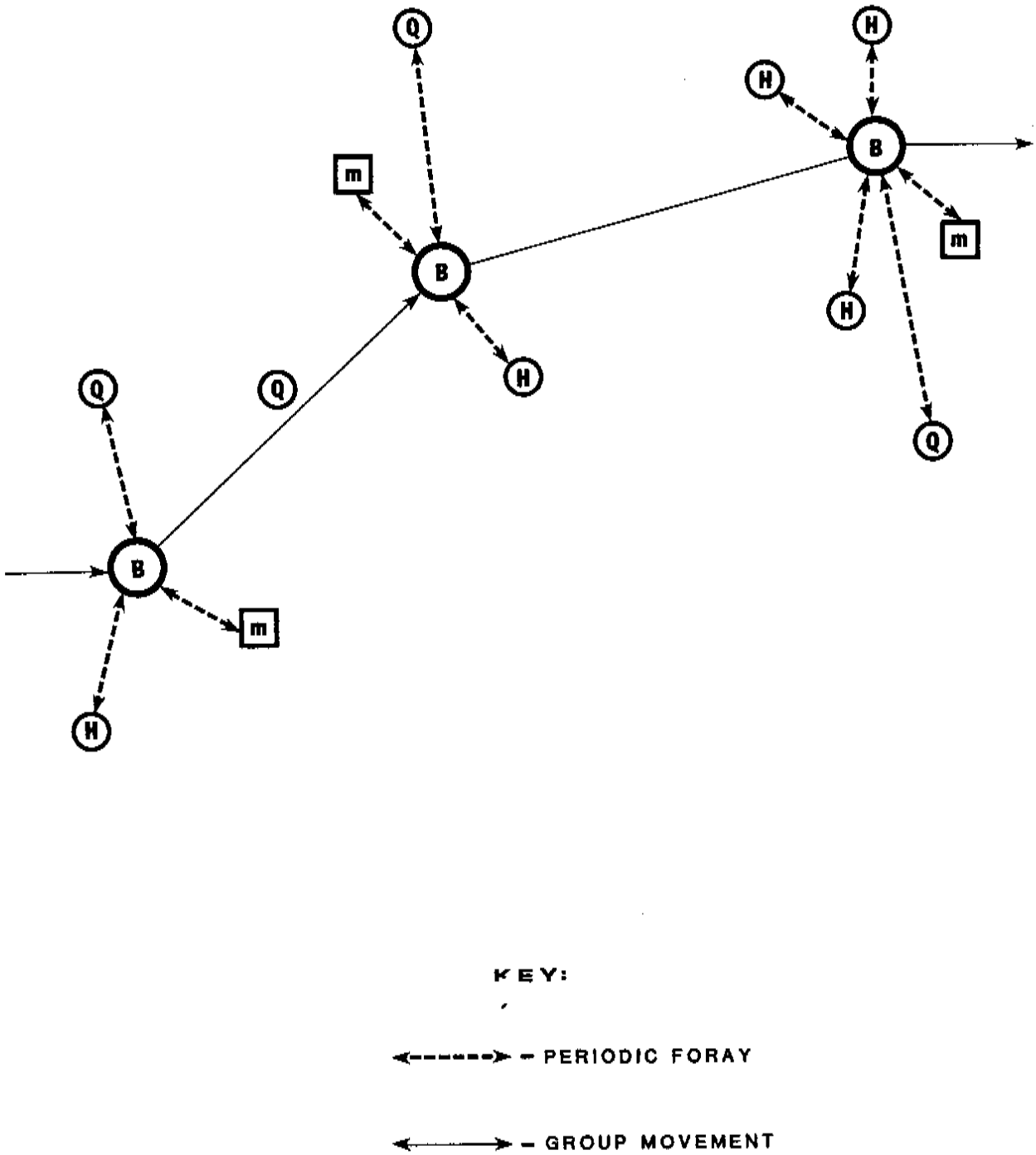


Table 8

Paleo-Indian Site Locations

Site Types	Locations
Base camp	well-drained ridge in areas of maximum habitat overlap
Base camp maintenance station	game attractive locale close to base camp (swamps, bay/basin)
Hunting site	game attractive locales away from base camp (swamps, bay/basin)

For the Archaic Period, the project area includes two study units (Custer 1983b). The study units are the Delaware River/Bay major drainage zone, which has relatively poor site distribution data, and an area with unknown Archaic site potential. Table 9 notes the study units, data quality, and typical site locations. The location of these study units in relation to the project area is shown in Figure 7. The general model of group movements and relationships among Archaic sites is shown in Figure 8. In this model, large social units (macro-bands) inhabit especially rich resource zones during seasons of highest environmental productivity. While living at these macro-band base camps, small work groups would make periodic forays to good hunting and gathering locales to procure resources. As local resources became depleted, either from seasonal factors or human exploitation, social groups would break into smaller units (micro-bands) and disperse to smaller base camps in other, less productive, environmental zones (Custer 1982a:Chapt. 3).

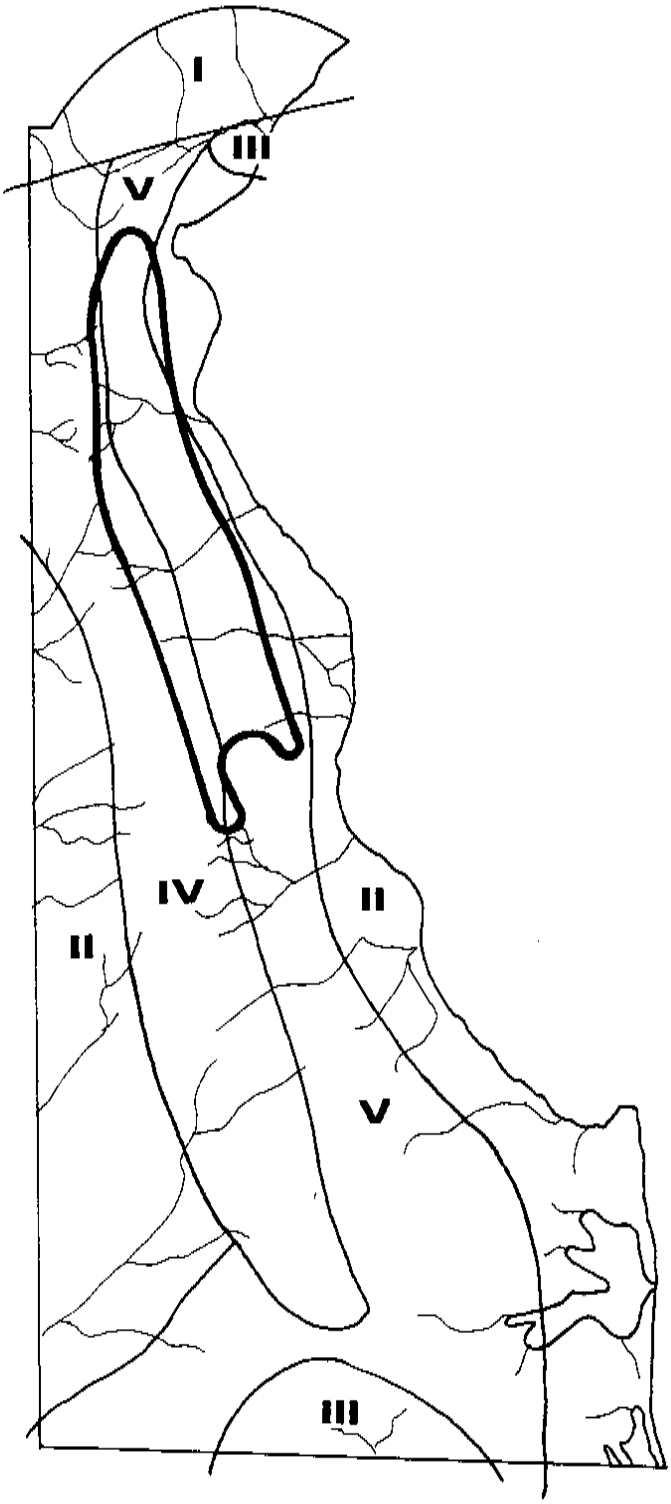
Table 9

Archaic Site Locations and Study Units

Study Units	Data Quality	Site Types	Locations
Major Drainage	poor	macro-band base camp	low terraces along major drainage, especially at vicinity or lower order confluences
		micro-band base camp	upper terraces of major drainage along lower order tributaries and at low order stream confluence up to 10 km from major drainage
		procurement site	swamp floodplains of major and minor drainages, alluvial fans associated with swamps, bogs, and lithic sources
All remaining areas of Delaware	poor	?	?

FIGURE 7

ARCHAIC STUDY UNITS AND PROJECT AREA



KEY:

I- PIEDMONT UPLANDS

II - MAJOR DRAINAGE

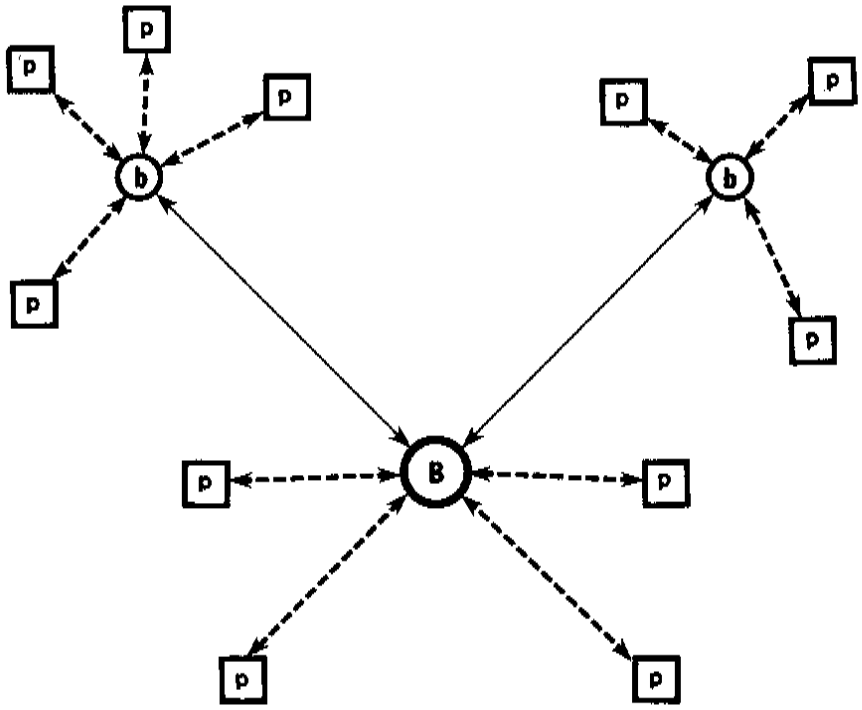
III - FRESH WATER SWAMP

IV - DRAINAGE DIVIDE

V - UNKNOWN

FIGURE 8

GENERAL ARCHAIC SITE MODEL



KEY:

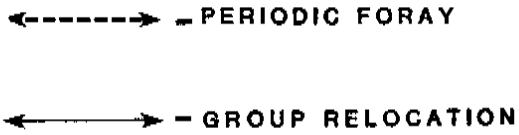


FIGURE 9

DELAWARE SHORE MODEL OF ARCHAIC SITE LOCATIONS

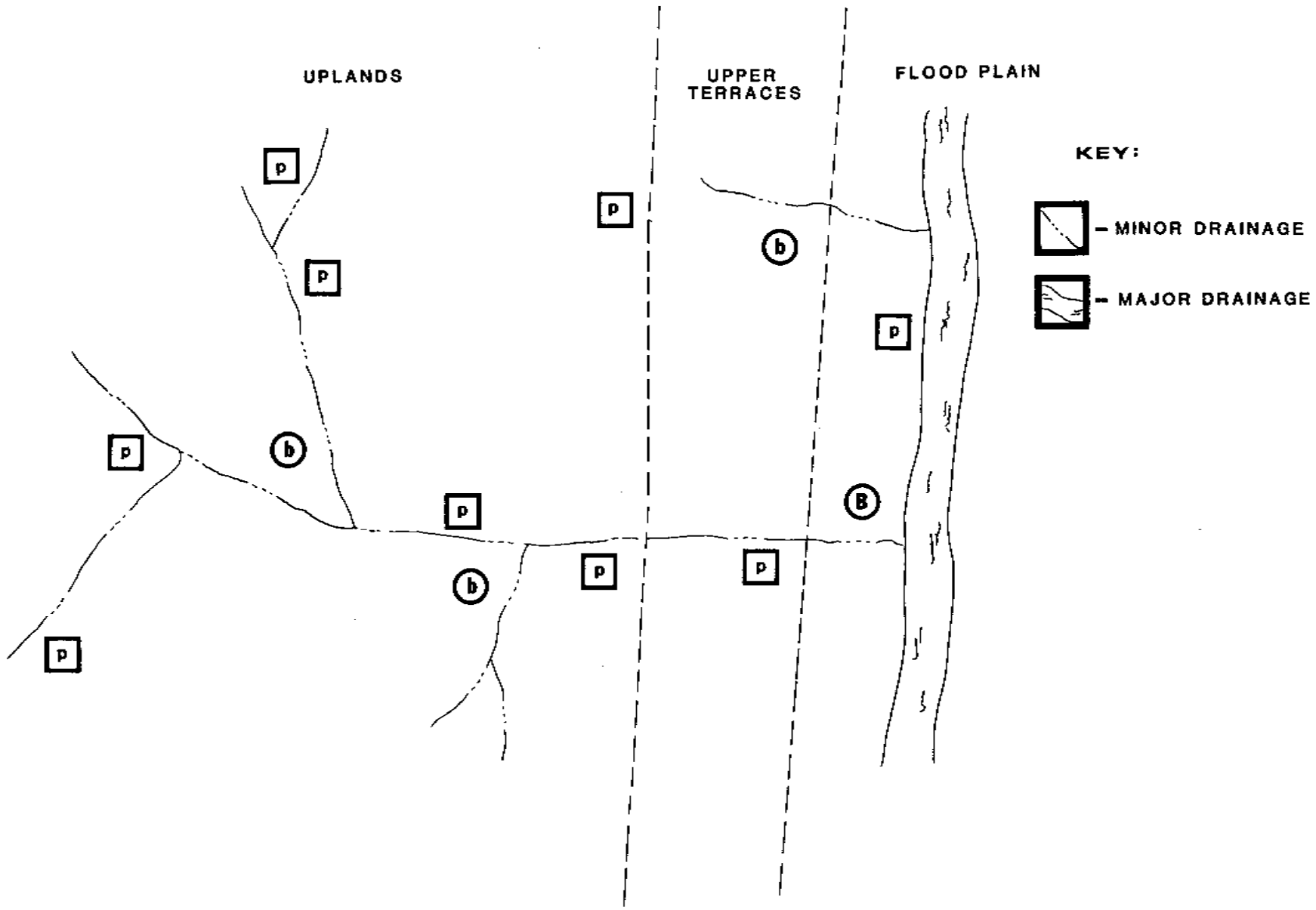


FIGURE 10

SWAMP/MARSH ZONE MODEL OF ARCHAIC SITE LOCATIONS

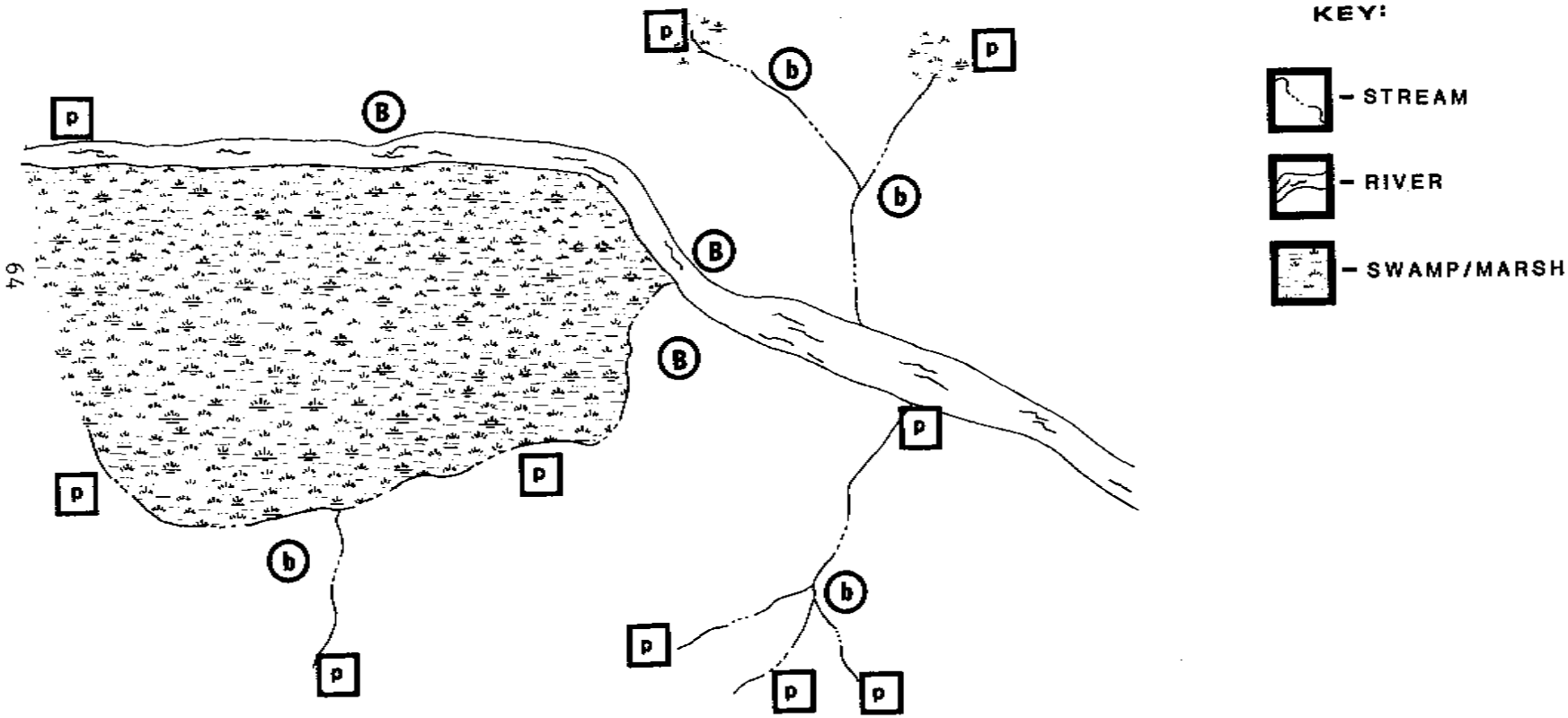
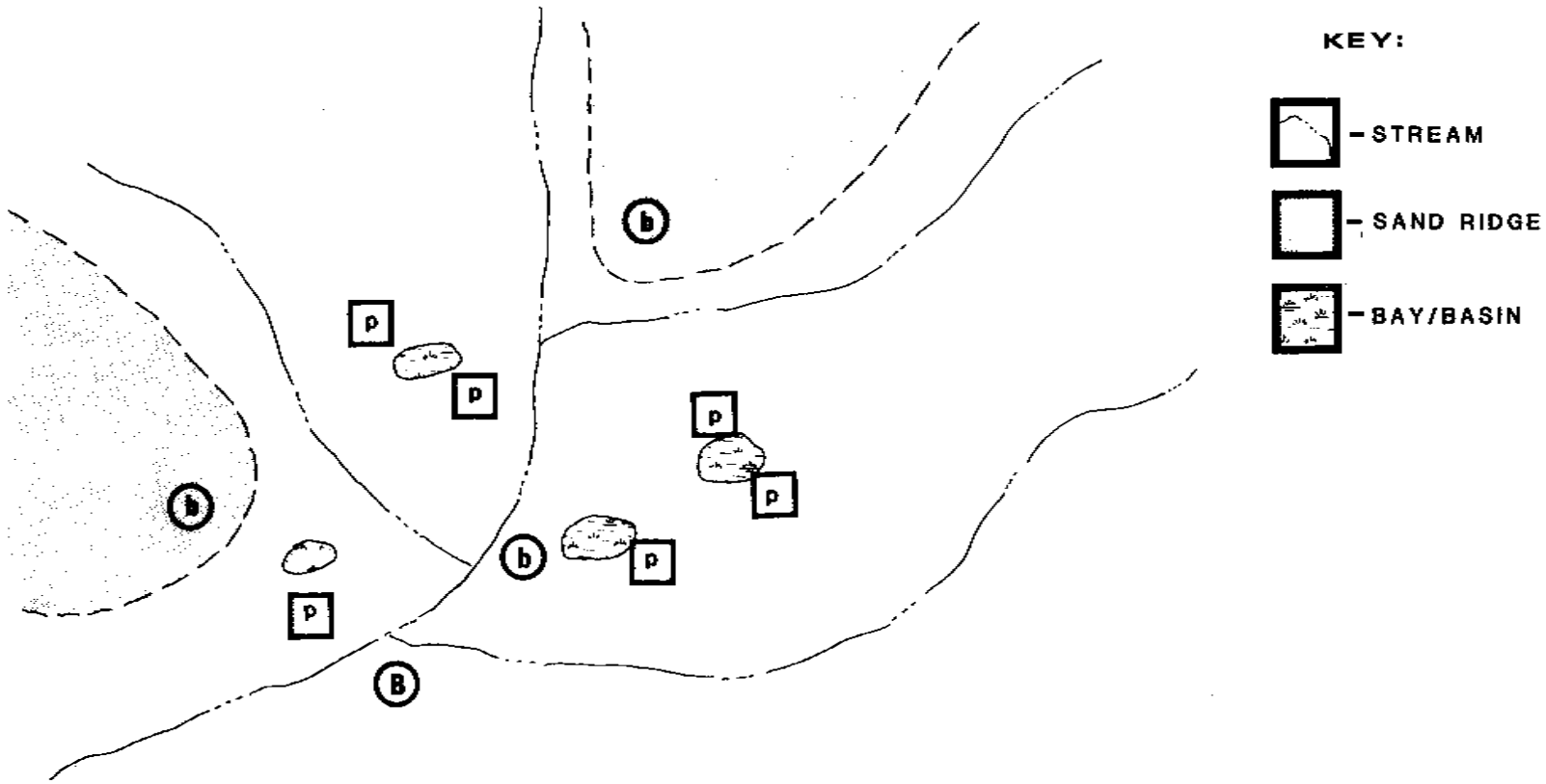


FIGURE 11

BAY/BASIN ZONE MODEL OF ARCHAIC SITE LOCATIONS

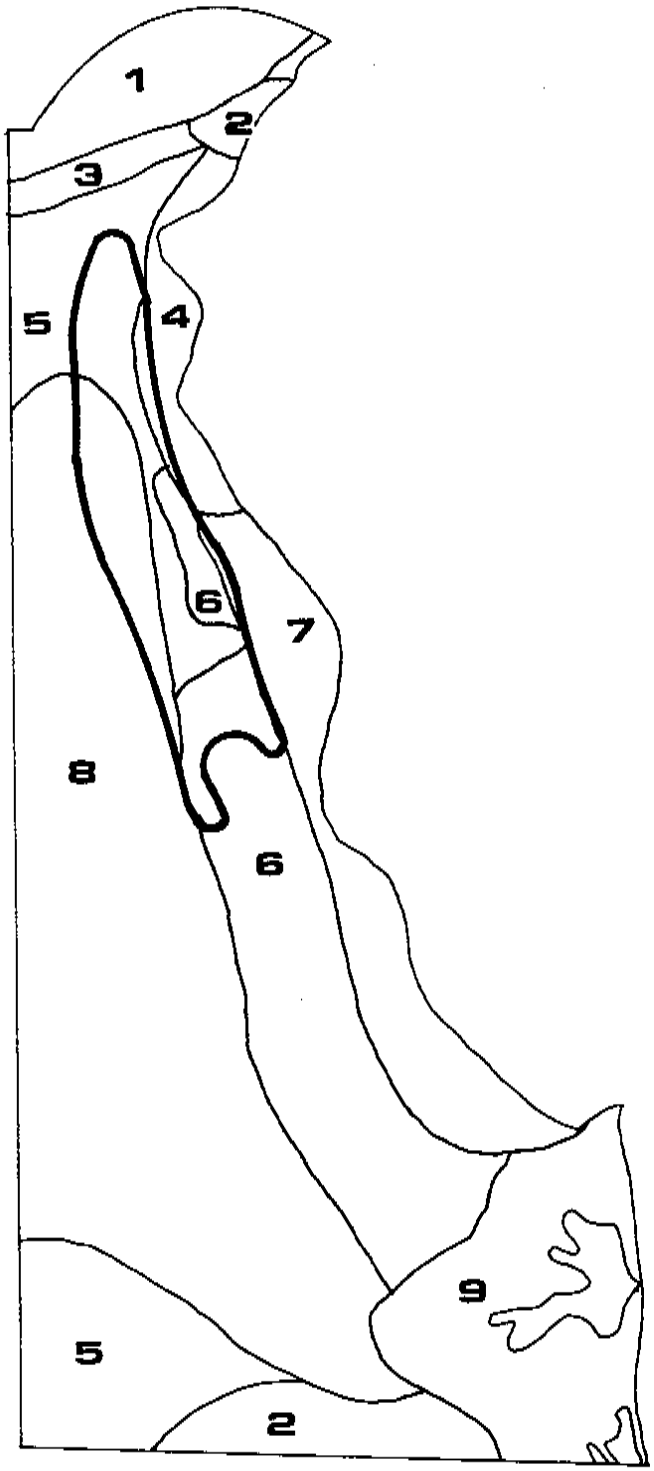


The Woodland I Period has a variety of study units and site locations that apply to the project area. The greater variety compared to earlier periods is due to increasing social complexity of the prehistoric groups and also to more complete, and specific, archaeological data. Figure 12 shows the study units in relation to the project area. Four separate study units are present. Table 10 lists the study units and their data quality, and describes typical site locations within each study unit. Figure 13 shows the general model of Woodland I site types and the possible groups movements among the site types. In general, the Woodland I model includes the same component site types as the Archaic model and has the same pattern of group movements. However, in the Woodland I model, the macro-band base camps are larger and inhabited for longer periods of time by larger social units and more people. Also, Woodland I base camp sites are likely to contain remains of house structures, storage/refuse pits, and middens (Custer 1982) not seen at Archaic macro-band camps. Typical locations of these site types for different environmental zones within the project area are noted in Figures 14-16.

An important class of Woodland I sites not noted in the models presented above includes the mortuary-exchange centers described in the regional prehistory for Barkers Landing, Delmarva Adena, and Webb complex times (Custer 1982:32-33). To a certain extent, Barkers Landing exchange centers are addressed in the models presented above because the exchange centers are located at the largest macro-band base camps (Custer 1983a: Chapt. 4). However, by Delmarva Adena Complex times, the mortuary/exchange sites are no longer directly associated with living sites (Custer 1982:34-36). Figure 17 shows the proposed model of Delmarva Adena Complex groups and the inferred social links among sites. During Webb Complex times a similar pattern is present and even more pronounced (Custer and Galasso 1983). Figure 18 shows the settlement pattern for Webb Complex societies.

FIGURE 12

WOODLAND I
STUDY UNITS AND PROJECT AREA



KEY:

1 - PIEDMONT UPLANDS

2 - INTERIOR SWAMPS

3 - FALL LINE

4 - DELAWARE RIVER SHORE

5 - INTERIOR

6 - MID-DRAINAGE ZONE

7 - BAY SHORE

8 - INTERIOR DRAINAGE DIVIDE

9 - EMBAYED DRAINAGES

Table 10

Woodland I Study Units and Site Locations

Study Units	Data Quality	Site Types	Locations
Delaware River Shore	poor	macro-band base camp	low terraces, especially at low order confluences
		micro-band base camp	upper terraces along low order tributaries and at low order stream confluences up to 10 km from major drainage
		procurement sites	swampy floodplains of major and minor drainages, alluvial fans associated with swamps, bogs, and lithic sources
Interior Zone	poor	micro-band base camp	well-drained knolls at springs and stream confluences
		procurement sites	well-drained knolls at swamp and springs
Mid-Drainage Zone	fair	macro-band base camp	low terraces of major drainages at stream confluences and at saltwater/ fresh water interface of the marsh.
		micro-band base camp	confluences of low order streams and tidal marshes
		procurement sites	along minor and ephemeral drainages adjacent to poorly drained woodlands and on small sand ridges and knolls
		major mortuary exchange center	along major drainages at central location to several macro-band base camps
		minor mortuary	associated with micro-band base exchange centercamps or along major drainage at central location to several micro-band base camps.
Bay Shore Zone	poor	micro-band base camp	upper terraces near freshwater sources and tidal marshes
		procurement sites	along tidal marshes and swampy low order floodplains
		mortuary sites	centralized locations to several micro-band base camps

FIGURE 13

GENERAL WOODLAND I SITE MODEL

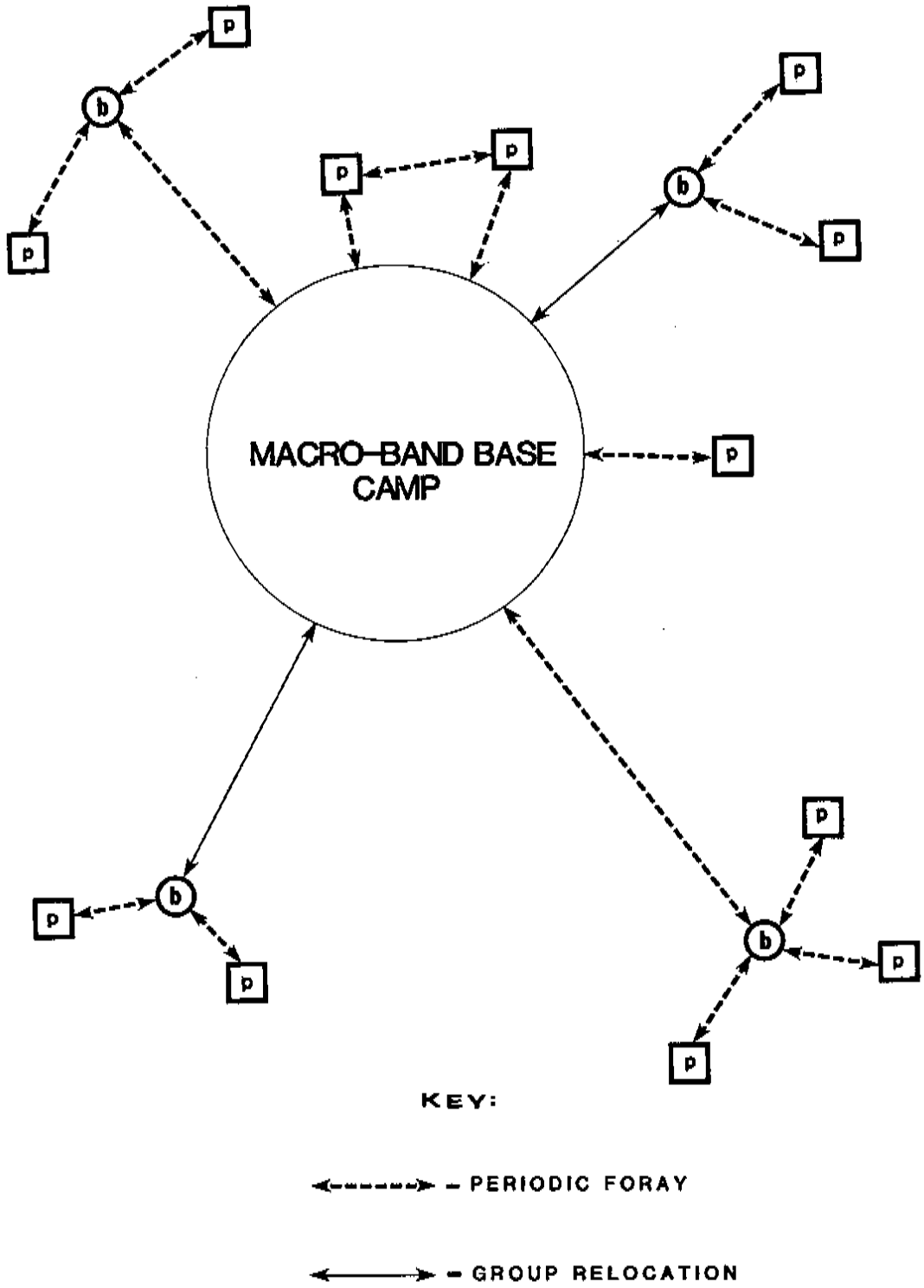


FIGURE 14

SWAMP/MARSH ZONE MODEL OF WOODLAND I SITE LOCATIONS

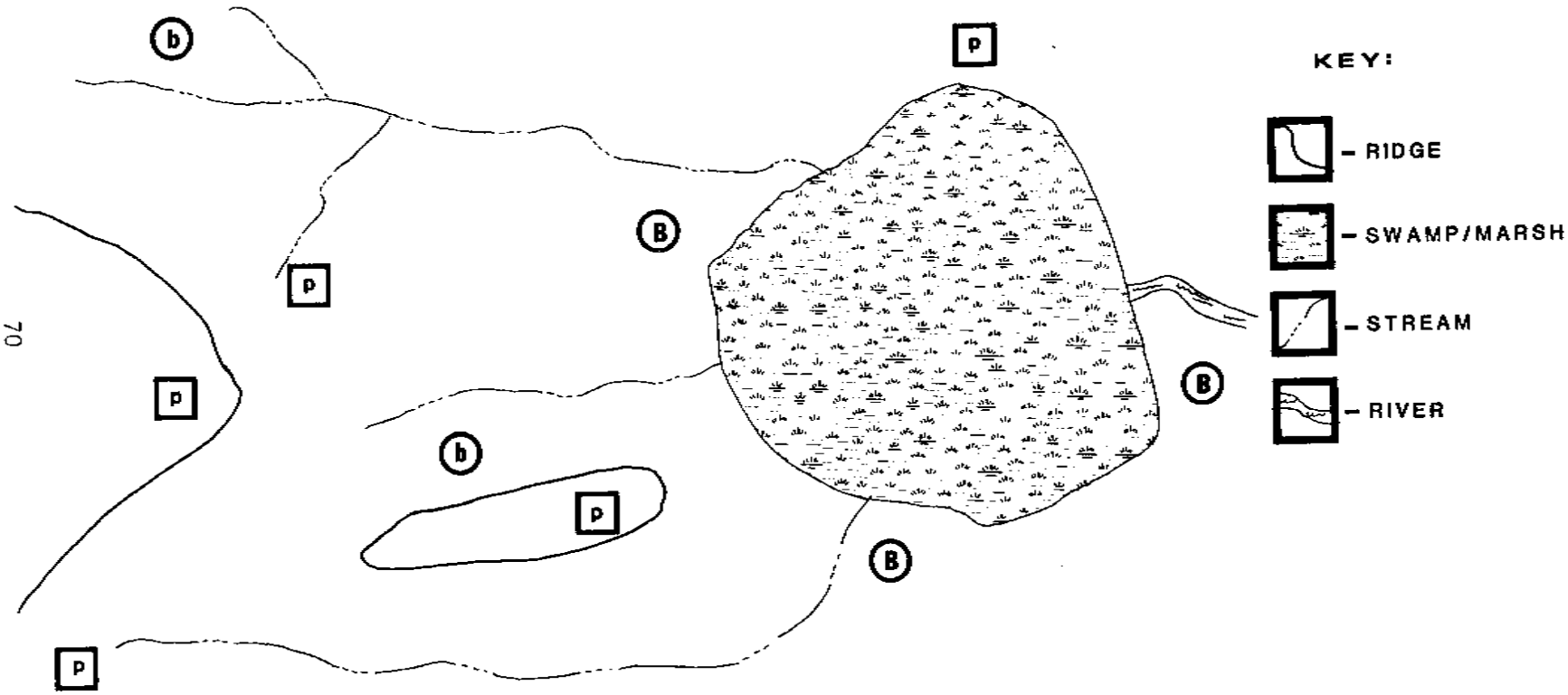


FIGURE 15

MAJOR DRAINAGE/MID-DRAINAGE ZONE MODEL OF WOODLAND I SITE LOCATIONS

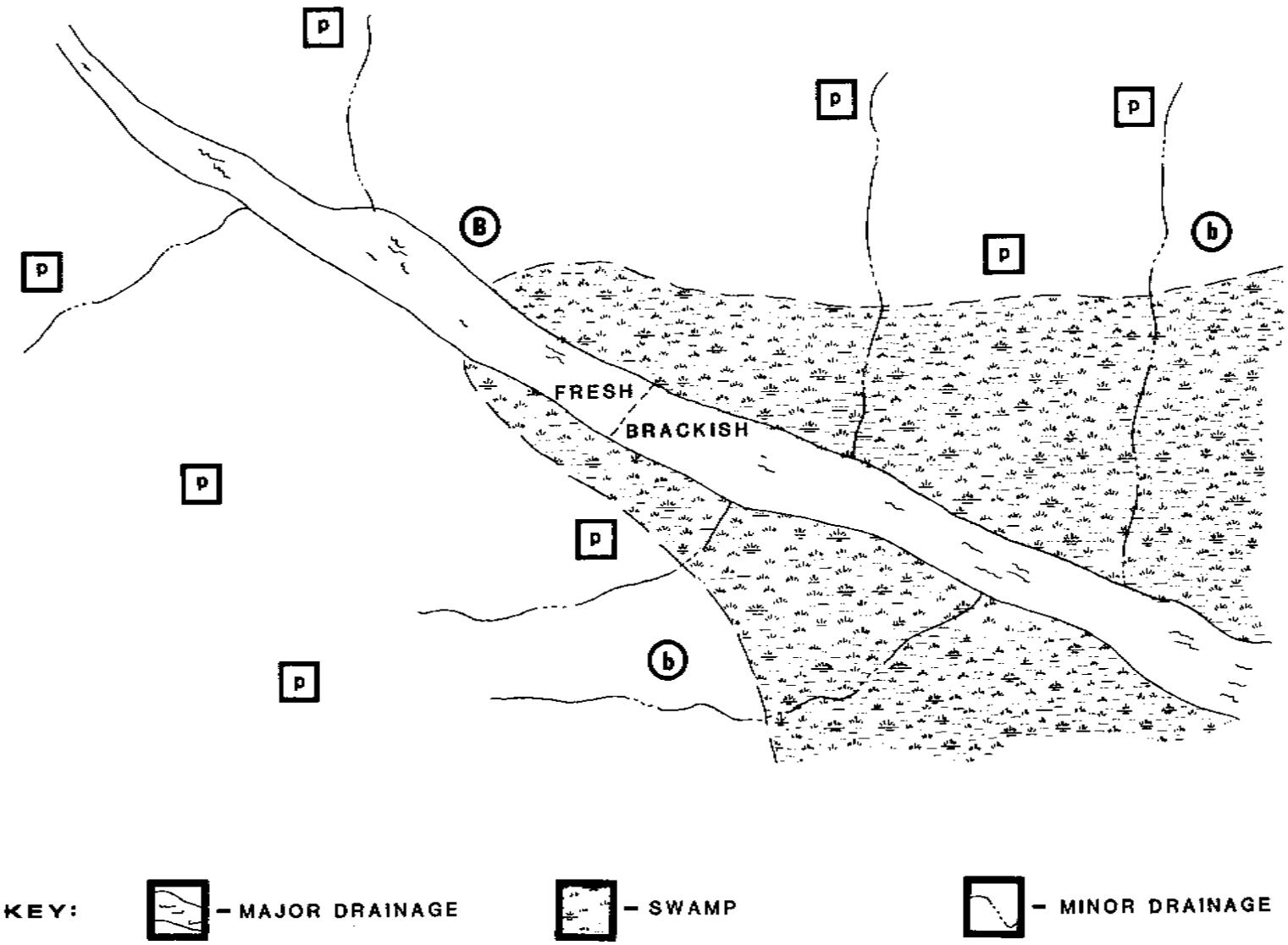


FIGURE 16

COASTAL ZONE MODEL OF WOODLAND I SITE MODELS

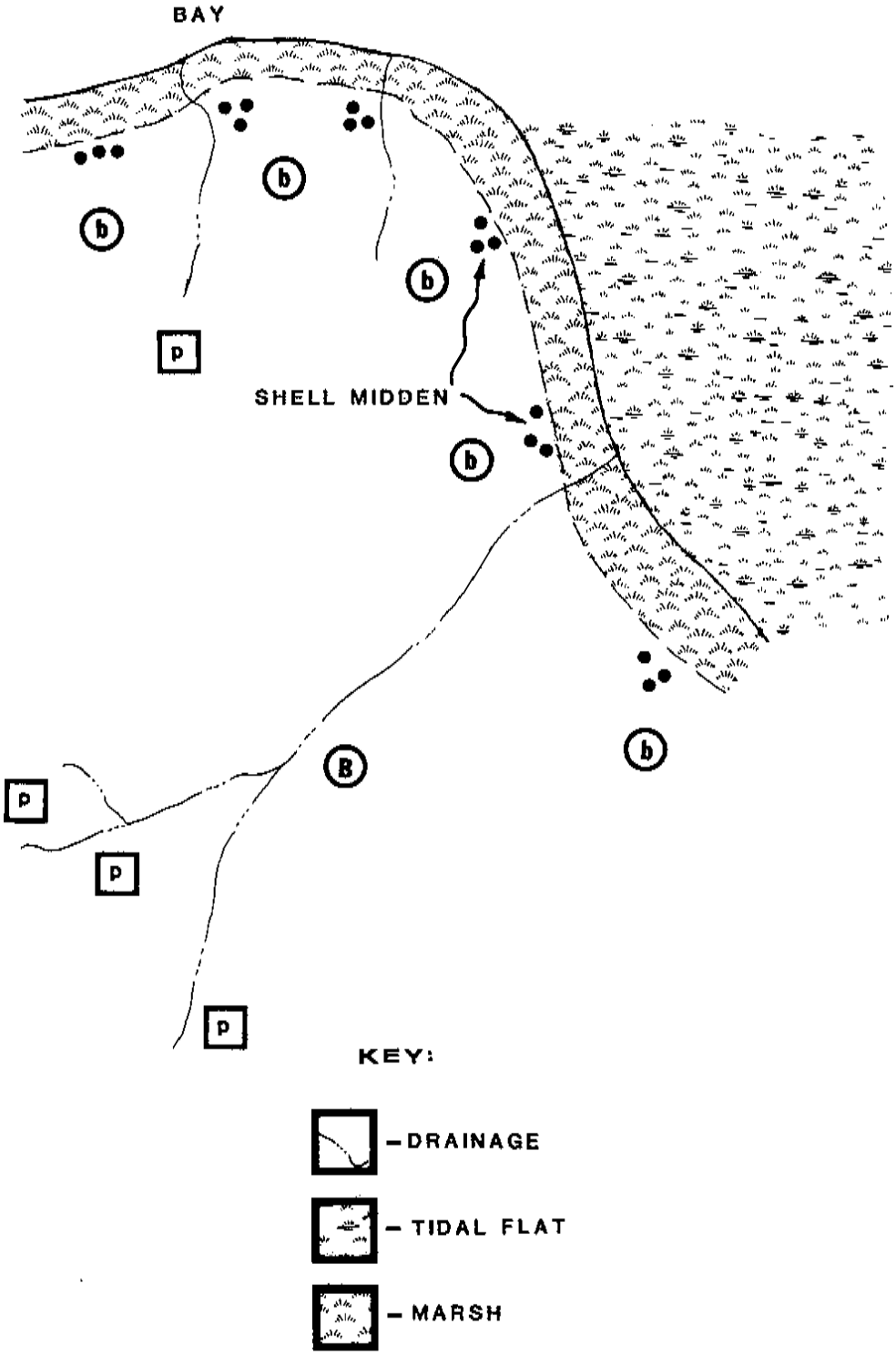
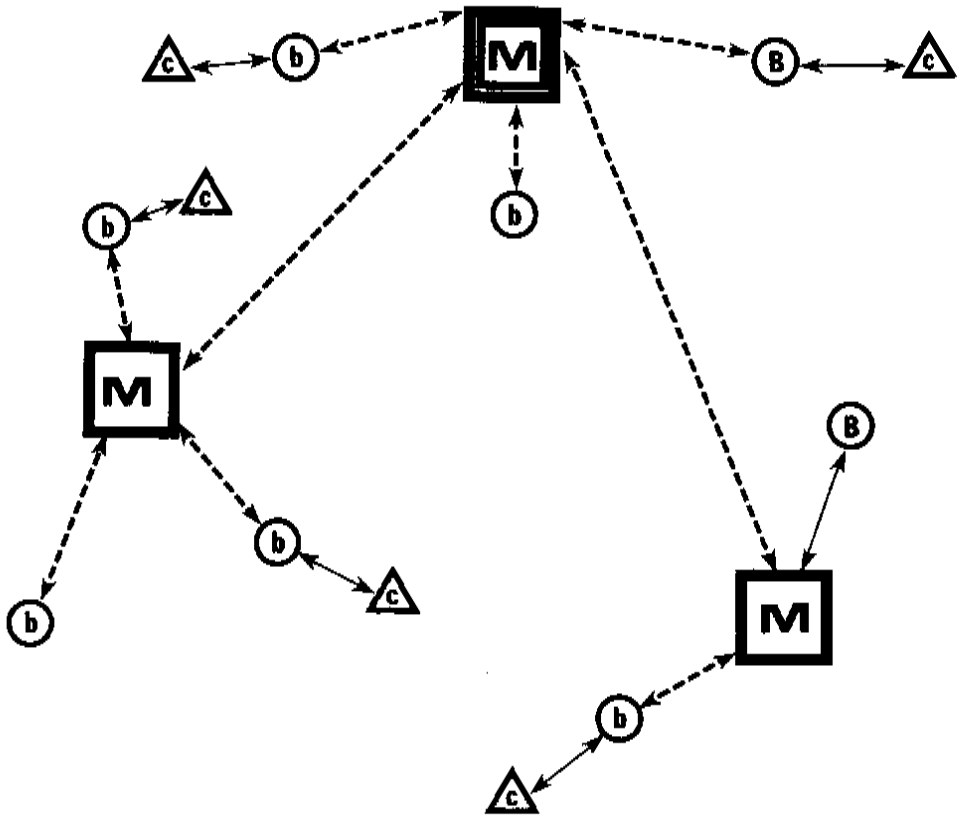


FIGURE 17

DELMARVA ADENA COMPLEX SETTLEMENT MODEL



KEY:

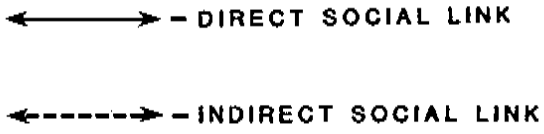
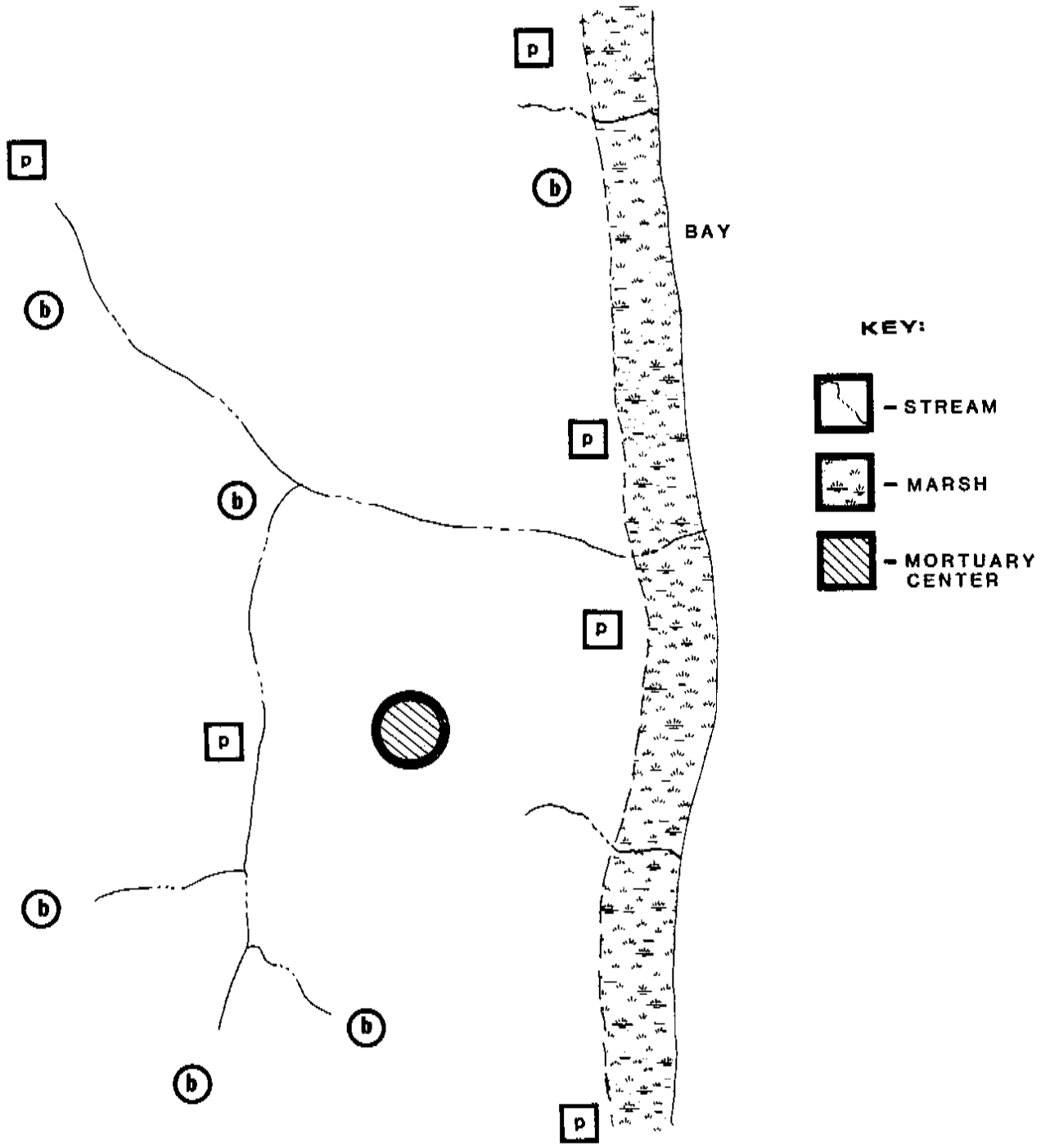


FIGURE 18

WEBB COMPLEX SETTLEMENT MODEL



The project area falls into four Woodland II study units as shown in Figure 19. Table 11 lists the study units and data quality and summarizes the site locations in each study unit. The site types recognized for the Woodland II Period are the same as those noted for the Woodland I and Archaic periods. For the Woodland II Period, the models developed by Thomas et al. (1975) can be used to describe typical site locations. Thomas et al. analyzed the food resource potential of various environmental zones on a seasonal basis and then generated a series of hypothetical site models. Each model assumed a variable degree of residential stability and each was compared to known site distributions to see which ones were the most accurate. The three most sedentary models all seemed to apply to Delaware Woodland II societies and Custer (1983a;n.d.) notes that varied models apply in different areas. Figure 20 shows the Woodland II model that applies to Slaughter Creek Complex sites on the major drainages of the southern portion of the project area and Figure 21 shows the Woodland II model that applies to Minguannan Complex sites.

Table 11

Woodland II Site Locations and Study Units

Study Unit	Data Quality	Site Types	Locations
Delaware Shore Zone	poor	macro-band base camp	low terraces, especially at low order confluences
		micro-band base camp	upper terraces along low order tributaries and at low order stream confluences up to 10 km from major drainage
		procurement sites	swampy floodplains of major and minor drainages
Interior Zone	poor	micro-band base camp	well-drained knolls at springs and stream confluences
		procurement sites	well-drained knolls at swamp and springs
Mid-Drainage Zone	fair	macro-band	low terraces of major drainages at

Table 11

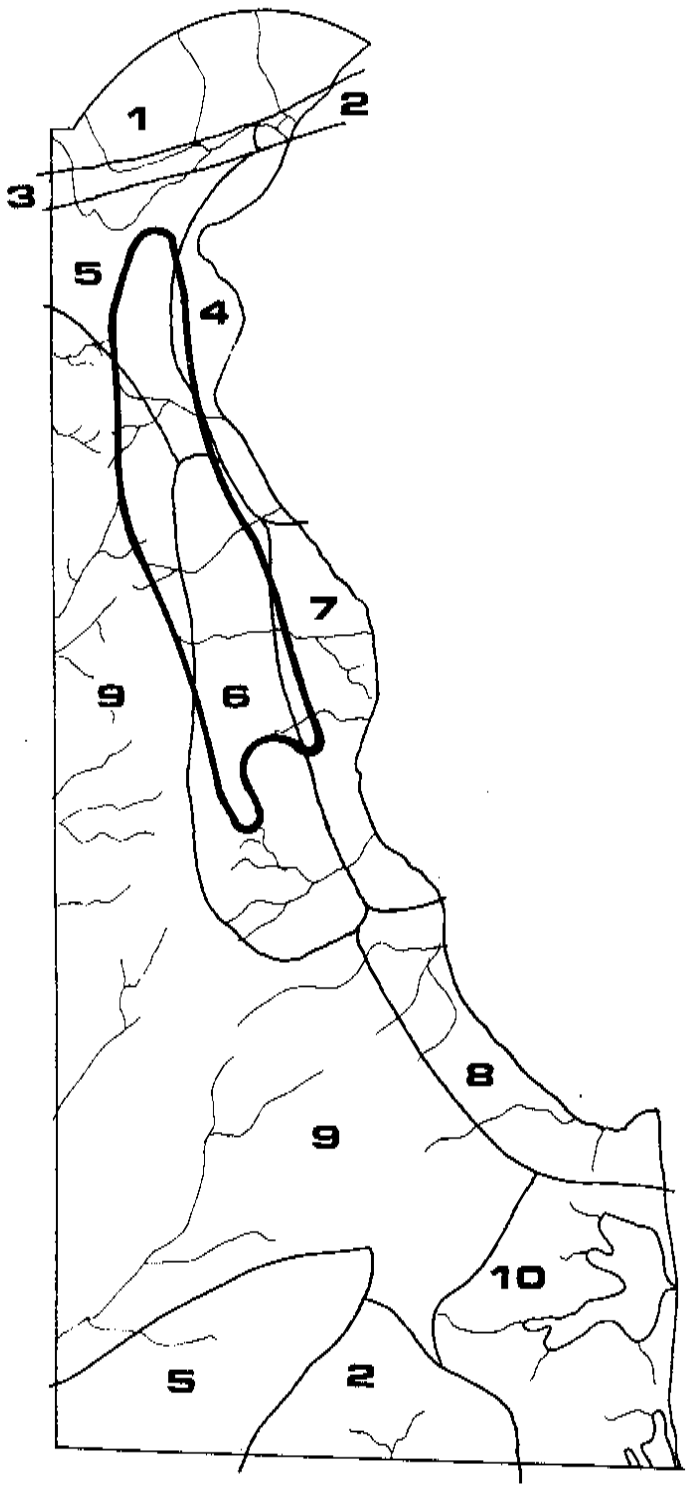
		base camp	stream confluences and at saltwater/ freshwater interface of the marsh.
		micro-band base camp	confluences of low order streams and tidal marshes
		procurement sites	minor and ephemeral drainages adjacent to poorly drained woodlands and on small sand ridges and knolls
Bay Shore Zone	fair	macro-band base camp	well-drained knolls with access to freshwater (springs and streams)
		micro-band base camp	confluences of minor drainages with marsh settings
		procurement sites	along tidal marshes and swampy low order floodplains

For the Contact Period, the project area falls within the zone that can be linked with the Lenape ethnic group (Goddard 1978: Map 2). There are few data on Contact archaeological sites throughout Delaware (Custer 1983a:Chapt. 6) and no site location models can be presented. However, it can be noted that Woodland II models are probably applicable up to the point in time when diseases introduced by Europeans caused depopulation, and other effects of Contact, including warfare and migration, caused population disruptions.

The models noted above provide a general guide to the types of locations where various types of prehistoric archaeological sites are likely to occur. However, the form in which they are presented above is not sufficient by itself for assessing the archaeological potential of a specific area, such as various portions of the project area. It is necessary to carry out additional analysis of the terrain of a given area and then compare the results of the analysis with the environmental settings depicted, or described in the models. Based on observed similarities, or differences, the archaeological potential of the area in question can be assessed. In most cases, the terrain analysis is carried out in a rather impressionistic way with no quantification of the degree of similarity between the ideal model and the

FIGURE 19

WOODLAND II
STUDY UNITS AND PROJECT AREA



KEY:

1- PIEDMONT UPLANDS

2- INTERIOR SWAMP/MARSH

3- FALL LINE

4- DELAWARE SHORE

5- INTERIOR

6 - MID-DRAINAGE ZONE

7 - NORTH BAY SHORE

8 - SOUTH BAY SHORE - CAPE HENLOPEN

9 - MID-PENINSULAR DRAINAGE DIVIDE

10 - EMBAYED DRAINAGES

FIGURE 20

WOODLAND II SETTLEMENT MODEL-SLAUGHTER CREEK COMPLEX

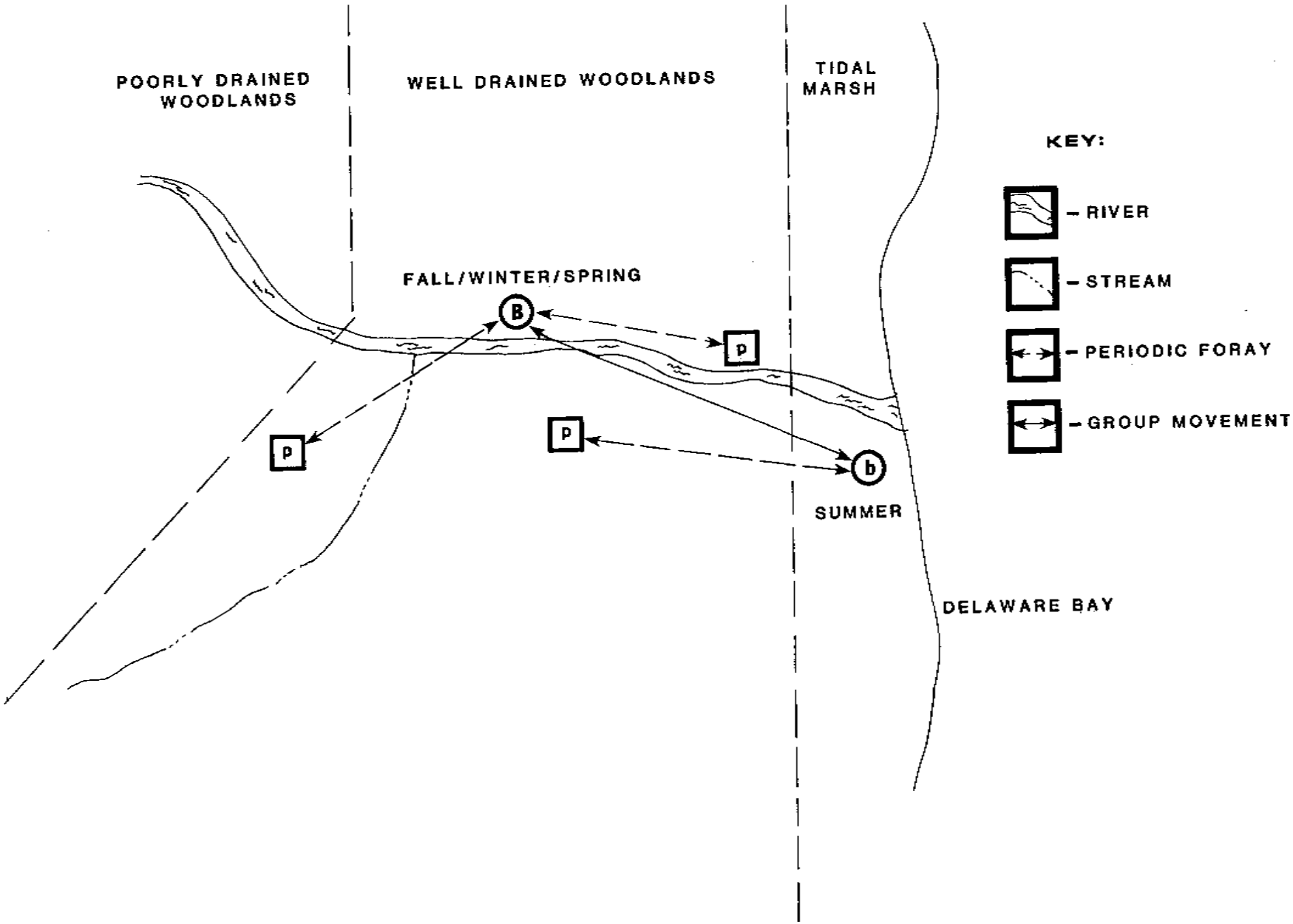
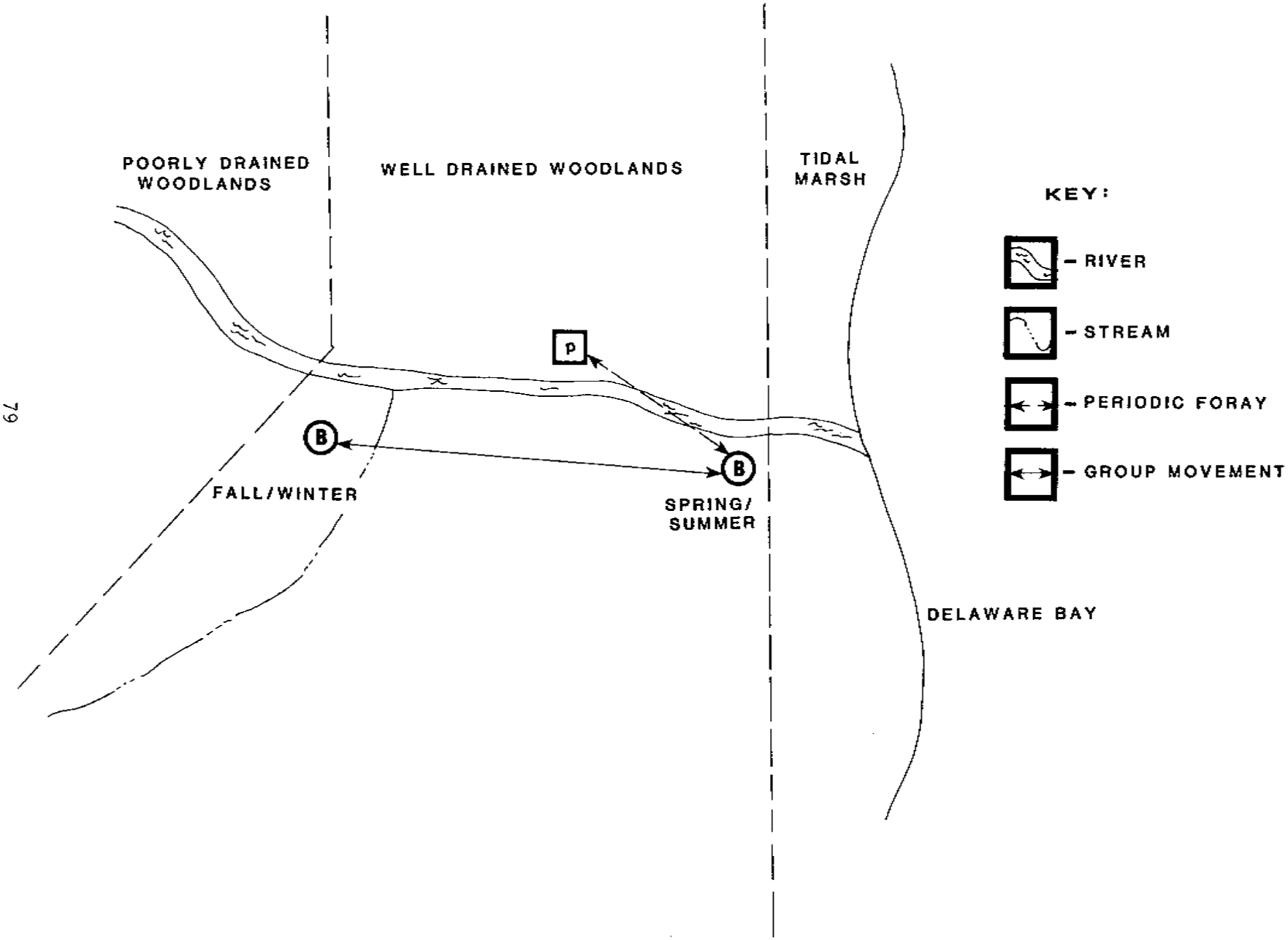


FIGURE 21

WOODLAND II SETTLEMENT MODEL-MINGUANNAN COMPLEX



actual terrain. However, newer techniques involving quantitative analysis have been developed by the Center for Archaeological Research and the Center for Remote Sensing of the University of Delaware. These techniques are described below and the description is taken from Eveleigh et al. (1983). It should also be noted that the model described below is directly derived from the more impressionistic models noted above.

The research by the University of Delaware has been oriented specifically towards the use of environmental data generated by the LANDSAT satellite. The LANDSAT satellite passes over the Delmarva Peninsula every eighteen days at an altitude of 920 km (Klemas 1977:387) and records four wave lengths of light using a multispectral scanner and a return beam vidicon. The data are recorded and transmitted in digital form and analysis is carried out using digital data. LANDSAT data can be used to classify and map various types of environmental zones by first identifying special categories of land classes on the ground. These areas called training sets can then be identified on the LANDSAT image and the special spectral characteristics of that area can be determined using a variety of statistical techniques (Klemas 1977). Once the special spectral characteristics have been identified, other elements of the LANDSAT image, called pixels, can be compared to the original training set and classified accordingly. Mapping of environmental zones using LANDSAT is quite accurate and comparative studies of remote sensing methods and ground truth data indicate that LANDSAT data produces accurate classifications 87% of the time in coastal environmental settings (Klemas 1977:387). Also, the resolution of the mapping is approximately 80 meters which can discriminate among closely spaced environmental zones. Probably the most important feature of LANDSAT mapping of environmental zones, however, is the fact that it can allow the mapping of large areas very quickly and inexpensively.

Several researchers have attempted to apply LANDSAT data to archaeological studies. In most cases LANDSAT data have been used to map out varied environmental zones that can be correlated in a general way with archaeological site distributions (Hamlin 1977; Schalk and Lyons 1976). However, none of these studies have been able to generate specific maps of zones likely to contain archaeological sites. The major difficulty in applying LANDSAT data has been that most archaeologists who work with remote sensing techniques have attempted to look for specific on-the-ground features, such as crop marks, shell scatters, or architectural features, to locate archaeological sites (Ebert and Lyons 1976). Because for resolution of the LANDSAT data is 80m it is generally unsuitable for the specific remote sensing of archaeological sites, although it should be noted that Quann and Bevan (1977) were able to recognize the shadow of the pyramids at Giza. Nevertheless, given the non-spectacular nature of the archaeological remains in the Middle Atlantic region, specific sensing of archaeological sites using LANDSAT is unlikely to succeed in all but a very few cases.

The work of Ian Wells (1981; Wells et al. 1981) provides an alternative approach to the application of LANDSAT data to archaeological modeling. Wells' work did not use LANDSAT data directly to generate an archaeological predictive model; however, he did use a geographic data base that was similar to those that can be generated from LANDSAT. Rather than look for specific variables that could be correlated with archaeological site locations, Wells considered combinations of environmental variables derived from the general models noted above that could be quantitatively correlated with known locations of archaeological sites such as distance to surface water of varying orders, distance to interfaces of well-drained and poorly drained soils, and the presence of special topographic features such as sinkholes, bay/basin features, or river levees (Wells

1981:41-46). This kind of synoptic analysis is different from specific analysis in that it considers regional combinations of variables relevant to archaeological site locations rather than indications of specific site locations. As such, it was able to take advantage of the best features of the LANDSAT data.

Wells used a statistical technique known as a logistical regression (Chung 1978) to analyze the relationship between locations of known archaeological sites, as well as locations known not to contain archaeological sites, and environmental variables. Although other statistical methods have been successfully used in similar analyses (eg., Kvamme 1981), the logistical regression model was used because it can be applied to gridded data bases, there are few restrictions on the distributions of independent variables, the dependent variable always lies between 0 and 1, and the algorithm is robust and can produce results even from noisy data (Wells 1981:23). The form of the logistic model, which estimates the probability that a certain cell contains at least one site is (Wells 1981:24):

$$\mathrm{PROB}(Y(i)=1) \quad = \quad E(Y(i)) = \frac{e^{X(i)'b}}{1+e^{E(i)'b}}$$

where

$$X(i)' = (1, X_{i1}, X_{12}, \ldots X_{ip})$$

is a vector of the p predictor variables at grid cell i and

$$b = (b_0, b_1, \ldots b_p)$$

is a vector of regression coefficients to be estimated. Y(i) is the independent variable between 0 and 1. The input to the logistical regression model consists of the Y(i) of known test sites (i.e., the probability value of 1 for locations known to contain archaeological sites and the probability value of 0 for locations known not to contain archaeological sites) and X(i), the observational values of the environmental variables.

A series of computer programs, called the ODESSA system, was developed by Wells to apply the logistical regression to an archaeological predictive problem. Simply stated, the ODESSA model first derived a logistical regression equation using the results of an archaeological survey of a section of the north bank of the Appoquinimink River in southern New Castle County (Gardner and Stewart 1978) as a training set. The environmental variables utilized were: distance to closest minor stream, distance to major stream or river (recognized in the data base as a dammed lake or reservior), distance to openland rated (well-drained) soil, local gradient, convexity of the landscape, and distance to present marsh (Wells 1982:41-46). All of these variables were recorded for the study area in a 500' grid cell data base AERIS system developed for planning purposes in New Castle county. The ODESSA equations derived from the training set were in a sense a linear series of coefficients such that if the observed distances and variables were multiplied by the distance and observations for the variables, a location known to contain a prehistoric archaeological site would generate a value for the equation of 1. Similarly, a site known not to contain a site would generate a value of 0. Using an analysis of variance, the equations developed by Wells accounted for 72% of the variation of site locations in the training set (Wells 1981:41).

After the equations were developed, the ODESSA system was applied to an area that previously had not been archaeologically surveyed. The environmental variables for each cell were input to the previously developed equation and each cell's variables produced a value between 0 and 1. This value is the probability that the unsurveyed cell will contain an archaeological site. Wells produced a map of the cells likely to contain sites (p .1) and field checks showed the predictions to be quite accurate (Wells 1981:49-54). In sum, Wells' use of the ODESSA model provides a way in which data similar to that gathered by LANDSAT can be quantitatively linked to archaeological site locations on a synoptic basis. Most

importantly, the ODESSA model produced probability maps for archaeological site locations. These probability maps can be applied to this corridor study for the Middletown and Saint Georges quadrangle maps and are noted in Attachment IV. However, the ODESSA system did not use LANDSAT data and it was somewhat limited in its applicability in that it used an area of relatively limited environmental diversity (a floodplain and adjacent headlands) as a training set.

A more recent study of the Kent County area (Eveleigh et al. 1983) took the ODESSA model, with its use of the logistical regression analysis, and directly applied it to a new training set from the Kent County area that included a grid cell data base of environmental variables developed directly from LANDSAT. A sample of site areas from the St. Jones/Murderkill drainage area was chosen as a training set because it was a controlled, stratified, random sample of a variety of environmental settings. Also, the Kent County area's general environmental structure was similar to the Appoquinimink area studied by Wells. Finally, the time range of the majority of sites discovered in both the Appoquinimink and St. Jones-Murderkill area was the same (ca. 3000 B.C. - A.D. 1000).

The analysis of LANDSAT data from the Kent County study area can be directly applied to the proposed DelDOT project area south of the Appoquinimink drainage. Development of an appropriate data base was essentially one of proper classification of a LANDSAT scene. The LANDSAT scene chosen for analysis was taken during March 1979 because it was clear, cloudless, and had very little banding. A March scene was especially useful for classification, based on the variables seen to be useful in Wells' study, because the overall vegetation productivity was low and, consequently, the near IR channel (Band 7) was not oversaturated. This means that on the LANDSAT scene trees stand out a dark purple, wetlands appear as a mottled mixture of pink and blue-grey, and agricultural fields with varied cover (based on drainage characteristics of the soil)

show up as reds and pinks of varying brightness. Drainage features appear as dendritic patterns varying from black to light blue depending on water turbidity.

After the scene was chosen a series of analyses were carried out to generate a useful classification. The first step was to download a small subset of data from two LANDSAT Computer Compatible Tapes (CCT) using the SUBSET program of the ORSER computer program package which is available from the Office for Remote Sensing of Earth Resources, University of Pennsylvania. This provided a subset of the original scene that was statistically debanded after one iteration of the NMAP program of the ORSER package. At this point classification could be carried out using other ORSER sub-routines; however, further analysis of the Murderkill area was carried out using the Earth Resources Data Analysis Systems (ERDAS) system owned by the Center for Remote Sensing, College of Marine Studies, University of Delaware.

Classification of the LANDSAT image was accomplished by applying a training program (FIELD). In this program the operator interactively picks a series of LANDSAT sensing units (pixels) that seem to have similar spectral characteristics and which seem to match with culturally significant (Chenhall 1975) environmental variables. The FIELD program reports on the spectral characteristics and purity of the series by displaying histograms of pixel brightness and a series of statistical indicators. As accurate and useful classifications are obtained, they are saved in a signature catalogue file. This type of classification is termed a supervised classification (Klemas 1977:389) and 16 specified signatures were generated for the Murderkill area. These signatures and their spatial distribution were then compared to infrared aerial photographs, color aerial photographs, and USGS topographic maps to insure their utility. Table 12 lists the variables that were utilized in the final classified scene.

After the LANDSAT image had been classified into useful variables, it was necessary to convert the image into a gridded data base. A series of programs was written to convert the classified LANDSAT data into a gridded data base and to add the data on the presence or absence of archaeological sites generated from the sample archaeological survey of the Kent County area (Eveleigh et al. 1983; Custer and Galasso 1983). In general, these programs created a gridded data base similar to the AERIS data base from a classified LANDSAT image.

The data base generated by the program contained a number of variables including percentages of ground truth grid cells that were classified into the variables listed in Table 12, and a series of minimum distance measures (converted to log distances) to a series of critical environmental variables (Table 12) similar to those shown to be important by Wells (1981:41-46). These variables formed the data base that was utilized in the ODESSA logistical regression model 12. The regression model was initially run using the variables listed in Table 1 and converged on a solution. The fact that the model converges on a solution implies that the variables selected do have some meaning for predicting locations. Unfortunately, there was an insufficient number of cases where no archaeological sites were located in the training set to carry out an analysis of variance for these runs of the regression models.

Table 12

Variables used in LANDSAT classification

Variable Label	Ground Description	Edaphic Factor
Deep Water	Bay and deeper parts of rivers	High order streams
Shallow, Turbid Water	Turbid sections of rivers	Moderate order streams
Shallow, Clear Water	Less turbid sections of rivers	Low order streams
Salt Marsh 1	Tidal wetland with low productivity	High salinity marshes
Salt Marsh 2	Tidal wetland with high productivity	Brackish and low salinity marshes
Trees	Wooded areas	Very poorly drained soils
Agricultural 1	High productivity farm land	Well-drained soils with some moisture retention
Agricultural 2	Low productivity farm land	Well-drained soils with little moisture retention
Bare Soil 1	Bare soils, dead grasses	Moderately drained soils
Bare Soil 2	Bare soil, dead grasses	Moderately drained soils

After the model had converged on a solution, the sections of the study area that had not been included as part of the 5% stratified, random sample were run through the regression equation and the probabilities for each cell were noted. Contour maps of the site probabilities are provided in Attachment IV (Plates 3 and 4).

It should be noted that an initial test of the model's predictions was provided by Eveleigh et al. (1983). In order to test the accuracy of the predictions of the logistical regression model, the predicted higher probability locations were compared to known archaeological site locations within the classified area. Although the best test would have been to stratify the area by the probability

PLATE 3

TYPICAL HIGH and MEDIUM PROBABILITY ZONES

LEIPSIC RIVER DRAINAGE

PLATE 4

TYPICAL HIGH and MEDIUM PROBABILTY ZONES

LEIPSIC RIVER DRAINAGE

values and then resurvey the area, this would have been prohibitively expensive. Fortunately, there was a high density of surveyed ares and known site locations within the Kent County survey area, and although these locations represent a biased sample, they do provide an initial test of the model's predictive accuracy.

In order to test the model's predictive accuracy, three probability classes (p .50, .50<p.<75, and p.>75) were mapped using the original survey grid. The test utilized known sites and previously surveyed areas that were not included in the training set of the model and focused on the two higher probability zones. Specifically, the test of the model's accuracy considered each grid unit that was predicted to have a high or medium probability of having a site and checked to see if a site was truly present. This approach to model testing is consistent with the procedures for using hidden data as described by Snee (1977). Table 12 lists the data quality for each of the probability classes tested. In the high probability zone, 47 (54%) of the 87 grid units had test data available. Of these units 45 (95%) contained prehistoric sites. In the medium probability zone, 34 (29%) units had test data available and 29 (85%) of these units contained sites. In each case these results provide an initial indication that locations predicted by the model to be very likely to contain sites do indeed contain archaeological sites. However, it should be noted that the test data are biased and the results should only be viewed as a preliminary successful test (Plate 5).

Table 13

Test Data in Varied Probability

Classes

Probability Class	No Data	Developed	Marsh	No Site	Site Present	TOTAL
p .75	30	3	7	2	45	87
.50 p .75	69	2	12	5	29	117

PLATE 5

KNOWN SITES and PROBABILITY ZONES

APPOQUINNIMINK RIVER DRAINAGE

An additional component of settlement models not completely addressed in the LANDSAT analysis above includes mortuary/exchange centers of the Delmarva Adena and Webb complexes. However, other models which use cultural factors can be applied based on the work of Custer (1981). A cultural model of Delmarva Adena mortuary/exchange can be based on Price's (1982;n.d.) analysis of the development of ranked societies. Price notes that early ranked societies tend to redistribute labor rather than goods themselves. This labor is manifest in surpluses which in turn can be "invested" in sumptuary goods. "Big-man" systems of the Southwest Pacific (Harris 1979), are seen as an ethnographic analogy and trade and exchange is seen as an avenue for the consumption of specialized sumptuary goods (Custer 1982, 1983a:Chapt. 4). Burial of special artifact forms represents the ultimate conspicuous consumption and is a symbol of the organizational talents of the "big-man". In developing ranked social systems, such as the Delmarva Adena example, there is usually an absense of specific centers of trade and exchange management within a region due to competition among site centers and individuals for the labor base upon which surpluses are built. Therefore, the mortuary centers are not established in conjunction with any special local group. The central Delmarva Peninsula is seen as such a case where the low level of development of the "big man" system and competition for labor keeps any single group, localized at a macro-band base camp, from attaining a distinct advantage and control over the exchange and ritual system. The mortuary sites are seen as areas where higher ranking individuals from a series of base camps are interred. In one sense they are "neutral ground" and correspond in structure to "disembodied capitals" (Blanton 1978, 1980). Consequently, their locations are difficult to predict unless large portions of the contemporary settlement system are available for study and a central place model can be applied.

The central Kent County data base is sufficient to provide the beginnings of the development of social models for the location of Delmarva Adena and Webb Complex exchange center/mortuary sites. Between 600 BC and 200 BC (Thomas 1977:53) there are three main exchange center/mortuary sites in central Kent County: St. Jones Adena Site, Frederica Adena Site and the Killens Pond Site (Thomas 1970; Cubbage 1941). Gardner (1982) has suggested that these sites represent a developing hierarchy of sites within a ranked society. The larger sites like St. Jones and Frederica represent the top of the hierarchy while Killens Pond represents an intermediate level. A third level of special sites could include the numerous biface caches found throughout Delaware. However, these sites are difficult to date. The lowest level of the hierarchy would be the macro-band and micro-band base camps that represented the habitation sites for the people who participated in the system. The presence of exotic materials such as Flint Ridge chalcedony at these sites, as documented at 7K-D-37,38 and 7S-K-21 shows the linking of these centers to the exchange and mortuary ceremonialism processes (Delaware Division of Historical and Cultural Affairs 1978). A similar pattern seems to operate during the Webb Complex; however, data for the different levels of the hierarchy is not complete. The Island Field Site (7K-F-17) (Thomas and Warren 1970) represents the top of the hierarchy and the Hell Island Site (Thomas 1966) represents the base camp end along with the Carey Cedar Creek Site (7S-C-17). Data on the intermediate levels is lacking. Figures 17 and 18 summarize this model of the site locations.

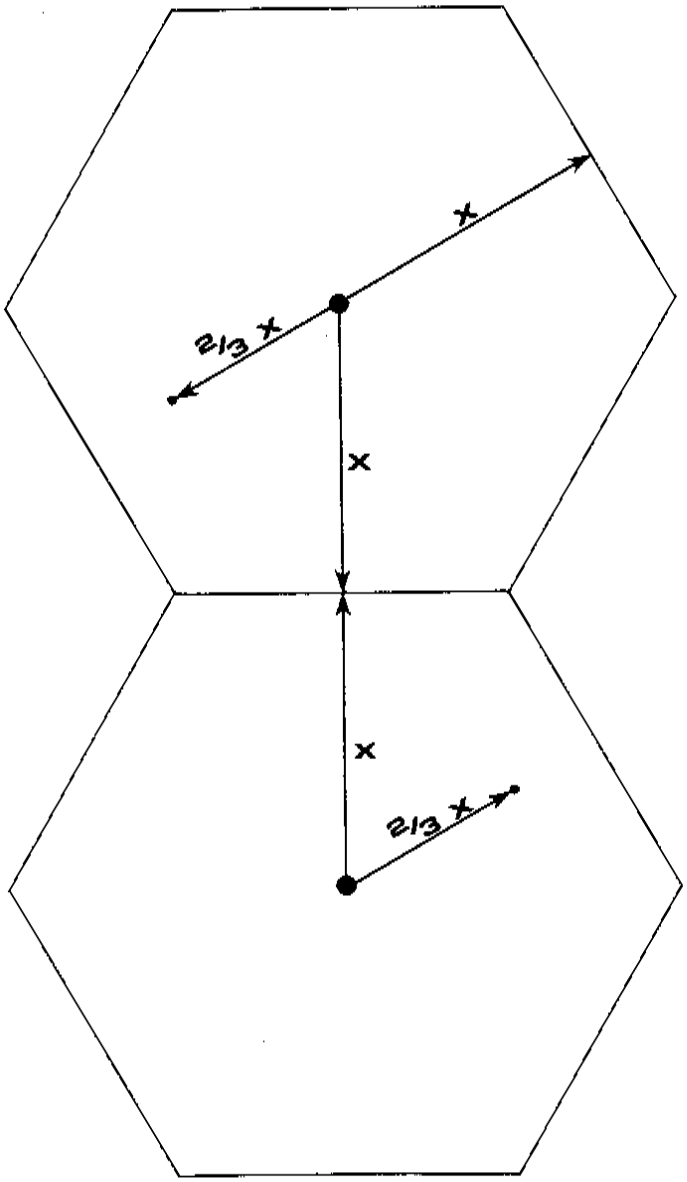
A consideration of the social settings of these sites and the use of models for similar societies in Mesoamerica allows the generation of a social model to predict the location of these special exchange center/mortuary complex sites. Earle (1976) has developed a locational model based on the analysis of Olmec ceremonial centers in southern Vera Cruz and Tabasco. The major centers of Laguna de los

Cerros, Tres Zapotes, San Lorenzo Tenochtitlan, and La Venta all appear to be regularly spaced. Price (n.d.) has noted that Olmec social organization is a prime example of labor redistributing complex chiefdoms and the regular placement of Olmec sites supports this contention. Earle (1976:219-221) also notes that territorial borders for the labor support zones associated with Olmec centers can be approximated by hexagons where the distance from the hexagon's central site to a side of the hexagon is equal to one half the distance between major site centers. Minor Olmec sites were also studied and were seen to fall within an area approximately two-thirds of the distance from the major center to a territorial border (Earle 1976:221). Figure 22 shows the relationship among the sites and this model can be applied to the Delmarva Adena Complex, and the Webb Complex, given the assumption that the basic pattern of socio-political organizations are similar to those of Olmec organizations. The similarity is seen in principle rather than scale. Both are seen here as ranked societies (Fried 1967) that redistribute labor. They differ in that much larger populations are included in the Olmec systems and more labor can be "invested" in social capital such as sumptuary goods and mortuary ceremonialism.

Application of the model to the Delmarva Adena data requires two assumptions. First, it is assumed that the St. Jones and Frederica sites were of a similar rank within the site hierarchy and were roughly contemporaneous. Thomas' (1970, 1975) data indicates that this is a reasonable assumption. Second, it is assumed that the Killens Pond site was at a lower level of the hierarchy and was part of the same network of sites. Based on these assumptions, the Frederica and St. Jones sites were viewed as a minimal pair of neighboring exchange center/mortuary complex sites. The distance between these two sites is 14 kilometers; therefore, hexagons with 7 kilometers from center to side would describe the territories associated with these major sites. Following Earle's model,

FIGURE 22

MORTUARY/EXCHANGE CENTER MODEL



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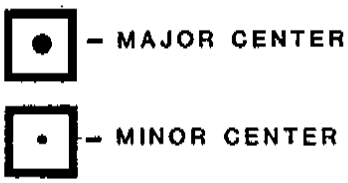


second level sites should be located two-thirds of the distance from the central site to the territorial border which in the Delaware case would be 4.6 kilometers from either the St. Jones or Frederica site. The Killens Pond site is located 4.8 kilometers from the Frederica site and therefore seems to confirm the initial application of Earle's model.

Application of the Mesoamerican model can be carried a step further and can be used to predict the locations of similar mortuary sites. With respect to the large primary mortuary sites, hexagons of the appropriate size (7 km from center to side) can be laid out for the Kent County area and locations of other hexagon centers predicted (Plate 6). These locations are noted on the maps in Attachment V. Using ecological factors that are associated with the known major sites it should be possible to pick out areas in the vicinity of the social predictions to look for major exchange center/mortuary ceremonial complex sites. When ecological factors are considered, a projected center near Leipsic, north of St. Jones, looks to be the most promising and is located close to the project area.

The social model can also be used to predict secondary site centers. Circles with a radius equal to two-thirds of the territory radius (4.8 km) can be plotted around the major centers, and projected major centers. The ecological settings of known secondary centers, such as Killens Pond, can then be used to pick areas along the circle that are most likely to be the sites of secondary ceremonial centers. The locations of these sites are also noted on the maps in Attachment IV.

A similar approach can be used to map out potential Webb Complex mortuary/exchange centers (Plate 7). Settlements pattern analyses presented by Eveleigh et al.(1983) and Wells et al.(1981) have shown that these special Webb Complex sites are located in lower probability zones ($p < .50$) that are either midway between combinations of high and medium probability zones (eg., Hell Island), or are encircled by a medium probability zone (eg., Island Field). Figure 23 shows the

PLATE 6

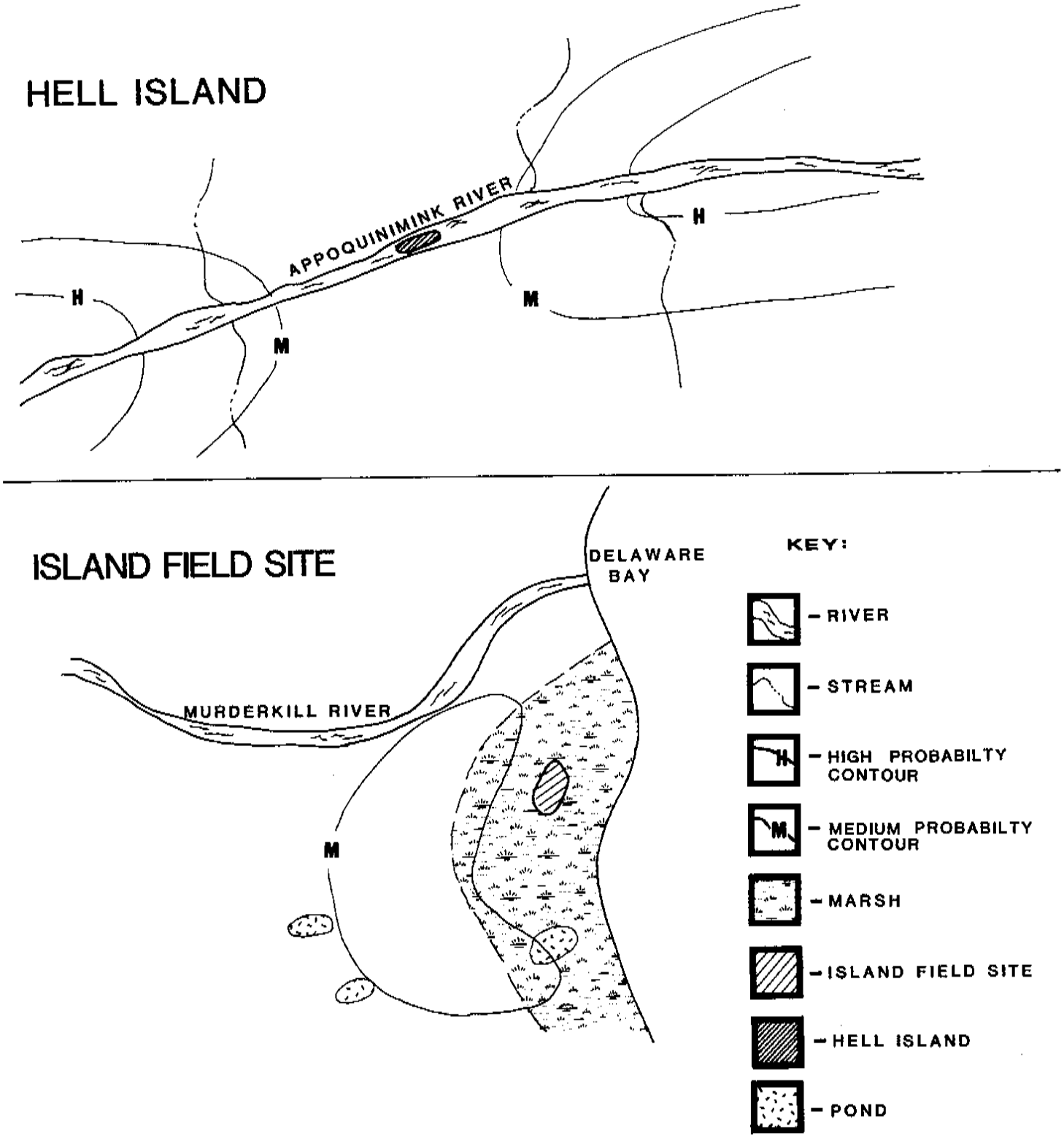
PROJECTED ADENA MORTUARY/EXCHANGE SITE

PLATE 7

PROJECTED WEBB COMPLEX MORTUARY/EXCHANGE SITE

FIGURE 23

WEBB COMPLEX MORTUARY/EXCHANGE CENTER MODEL



pattern observed for the Hell Island and Island Field sites. The location pattern is related to central placement of special function sites in relation to population concentrations which represent labor and support population pools as was the case for the Delmarva Adena model. All potential locations of Webb Complex mortuary/exchange sites are noted in Attachment V.

In sum, the maps included in Attachment V outline high, medium, and low probability zones for prehistoric archaeological sites. Potential locations of Woodland I mortuary/exchange centers are also noted based on a social predictive model. The basic methods utilized and their predictions have been tested (Eveleigh et al. 1983:29) and seen to be accurate based on data from the southern portion of the study area. Table 14 notes the distribution of various dated components and site functions by probability zones for the entire project area based on known sites. Decreasing numbers of components are noted moving from high to low probability zones among various time periods and shown the general accuracy of predictions. However, the data base is inadequate for a comprehensive test of the models/predictions. Such a test must include a stratified sampling scheme and awaits further fieldwork. It should be noted that the presence of some sites in low probability zones indicates that sites may be present in this zone. The fact that the probability is greater than 0 and less than .50 does mean that sites will still be present, but with a much lower frequency than that seen in other zones. This low probability values do not preclude the presence of sites.

Table 14

Summary of Prehistoric Components by Probability Zones

Site Types	Probabilty Zone	Probability Zone High	Medium	Low	Special
Archaic	macro-band	1	0	1	0
	micro-band	0	0	2	0
	procurement	1	1	0	0
Wood. I	macro-band	3	6	2	1
	micro-band	10	14	6	1
	procurement	4	9	3	1
Wood. II	macro-band	1	4	2	1
	micro-band	7	4	5	1
	procurement	1	1	0	1
Unknown		12	24	8	4
TOTAL		**40**	**63**	**29**	**10**

It should also be noted that the high probability zones will contain most of the macro-band base camps (Eveleigh et al. 1983:29-33) that have the greatest potential for being sufficiently significant to warrant nomination to the National Register of Historic Places. The potential mortuary/exchange sites are also all potentially eligible for nomination to the National Register. The medium probability zones contains mainly micro-band base camps (Eveleigh et al. 1983:29-33) which are also likely to be eligible for the National Register, but are smaller, and less expensive to study, than the sites in the high probability zones. The low probability zone contains mainly procurement sites which are much less significant, unlikely to be intact, and not likely candidates for the National Register. Even if they are deemed significant enough for listing on the register, they are the least expensive to mitigate. Thus, the probability zones shown in Attachment V are a guide to general locations of classes of sites of varying significance. Further discussion of management considerations is provided in the final section of this report.

The zones mapped in Attachment V can also be combined with the diagrams of typical site locations (Figures 5, 9-11, 14-18, 20-23) and lists of descriptions of typical locations (Tables 8-11) to note specific individual site locations within the study area. Appendix IV provides a listing of applicable models for each of the major high and medium probability zones on each map quad in Attachment V. Appendix V provides a technical discussion of the implications of the probability zones mapped in Attachment V.

Predictive Models and Historic Archaeological Sites

The main tools utilized in developing predictive models for historic sites included the inventories of standing structures contained in the BAHP files, which are listed in Appendix II and plotted in Attachment II, and the historic sites obtained from analyses of atlases, listed in Appendix III and plotted in Attachment III. Because the mapped sites represent the majority of the post-1802 historic settlement of the area, these maps can be used as a set of predictions of potential historic archaeological sites. The potential of each individual documented structure or site is assessed and listed in Appendices II and III. Attachment VII shows probability zones, included within contours, which contain concentrations of post-1802 historic sites. These mapped zones can be viewed as high probability zones. Areas not included in the zones can be viewed as low probability zones. No numerical values can be linked to these high probability assessments. Appendix VII provides a guide to the probability zones mapped in Attachment VII.

Unfortunately, few of the mapped standing structures that are noted in Attachment VII pre-date 1802. Therefore, it is necessary to develop a separate set of predictions based on the historic settlement pattern literature. An analysis of this literature is presented below. The discussion is divided between the Colonial Settlement Period (1638-1681) and the Initial Agrarian Settlement Period (1682-1802).

Settlement patterns in the project area from the Colonial Settlement Period (1638-1681) are extremely difficult to define because both archaeological investigation and documentary research for the period are in developmental stages. Wise (1978, 1979) has presented a preliminary model for settlement patterning in the early colonial period applicable to Dutch settlements in New Castle, Appoquinimink, St. Jones Neck, and Lewes. Research on the Chesapeake tidewater of Maryland and Virginia provides the most detailed data on early colonial settlement patterning in an area which shares environmental and economic similarities with Delaware (see Earle 1975; Kelly 1979; Custer 1983c; Wesler et al. 1981; Wesler 1982). The three sites in the Saint Georges Hundred identified in this report, and the studies noted above provide a limited basis for defining early colonial settlement patterning and plotting potential site locations.

Dispersed plantations and farmsteads close to the tidewater shoreline and water transport facilities were the predominant settlement types (Wise 1979; Earle 1975; Kelly 1979; Middleton 1953). The study area sites are located at the first extensive area of well-drained land along the Appoquinimink River-Drawyers Creek drainage system. The pattern of locating houses on well-drained soils within 300 feet of a drainage bank has also been identified by Wise (1978, 1979) in the St. Jones Neck area. The long-lot system of settlement, or variations on it, is seen on these early historic sites, in tidewater Delaware, Maryland and Virginia (Wise 1978, 1979; Earle 1975; Kelly 1979; Division of Historic and Cultural Affairs 1976:15), and would apply to sites in the project area. The long-lot system established linear land units extending from a shoreline or stream bank toward the drainage divide. Dwellings were constructed near the shore with agricultural lands behind. Distances ranging from one-quarter to one and one-half miles separated dwellings and resulted in a dispersed settlement pattern (Earle 1975). This system provided accessibility to the major water transportation routes for all landowners,

demonstrating the strong water-orientation in communities where overland transportation networks were in initial developmental stages (Middleton 1953).

Structures present at early colonial agricultural complexes would have included small, wood frame dwellings and a wide variety of outbuildings: kitchens, meat houses, hen houses, milk houses, stables, bake houses, and grain and tobacco sheds (Earle 1975). Occupational specialists were limited in number and variety (Earle 1975), most likely because the early agricultural complexes maintained self-sufficiency by retaining part-time specialists thereby creating a limited demand for services. Docks and warehouses, and perhaps merchant offices and dwellings, are expected at the landing operations situated along the major streams and coastal zone.

Given the characteristics of settlement in the colonial period it is predicted that sites of this period will be uncommon within the proposed project area. Most sites will be located north and east of the project area. The Appoquinimink River-Drawyers Creek drainage area holds the highest potential for containing sites. In order to delineate actual settlement locations it will be necessary to research land grants, land patents and property deeds for specific localities. Kelly (1979) cautions that land patents are more likely to indicate actual settlement than are land grants and land sale records.

Settlement remained water-oriented during the Initial Agrarian Settlement Period (1682-1802) with settlements expanding up the navigable streams into headwater areas. A number of distinct settlement patterns are noted which reflect environmental and economic contraints, ports, landings, and agricultural complexes were established where well-drained land was available on the Delaware River-Delaware Bay shore. Port Penn, on the Delaware River, became a major redistribution-shipping center for central Delaware. Kitts Hummock, St. Augustine Creek Landing, and Bowers Beach were port settlements located at the mouths of major streams.

The presence of extensive marshland at the mouths of streams and along their lower reaches resulted in the establishment of inland landings and agricultural complexes. These settlement types were situated on the first available expanses of well-drained soils. All the inland settlements and landings established during this period in the proximity of the project area exhibit this pattern. They are: Red Lion on Red Lion Creek; Saint Georges on Saint Georges Creek; Cantwell's Bridge (now Odessa) on the Appoquinimink River; Taylors Bridge Landing and Blackbird Landing on Blackbird Creek; Flemings Landing, Brick-store Landing, Smyrna Landing, and Smyrna on the Smyrna River; Whitehall Landing, Fast Landing, and Leipsic on the Leipsic River; Little Creek Landing on the Little River; Dover on the St. Jones River; and Frederica on the Murderkill River.

The western limits of settlement were the headwater areas of the navigable streams and their major tributaries. Very little settlement occurred in the extensive areas along drainage divides between watersheds. Instead settlement was restricted to land in close proximity to major waterways. Water routes were the keystone of the transportation system, although overland travel was increasing as a far-ranging network of roadways developed (see Varlle and Shallus 1802). Indeed, a regional road network existed by the 1720's between the Dover area, the northern part of the colony, and Maryland's Eastern Shore and some settlement may be expected along these roads. However, without a doubt, the major focus of early settlement during this period remained along the major drainages.

Commercial transportation was tied to water routes because they provided a more economical mode than overland transport of bulky agricultural products (Middleton 1953). However, the movement of goods over short distances to processing and redistribution centers was often overland; especially in the inland hinterland. Intra-regional passenger travel between commercial centers and towns was facilitated by the development of the Philadelphia-Lewes postroad. While road

travel was difficult and time-consuming, it often offered more direct routes than the waterways, which were oriented toward the Delaware River-Delaware Bay and better suited to transport market-oriented produce. Earle (1975) has identified a similar pattern of road development and use in tidewater Maryland.

Agrarian settlement was predominant, however. During the 1720s towns were established at the junction of major transportation routes and many of the towns grew from landings and hamlets. The site locational data collected for this project indicate three factors were important in the siting of early towns: 1) the availability of extensive areas of well-drained land; 2) proximity to a navigable stream; and 3) proximity to the Philadelphia-Lewes postroad (now Route 13/113), the Cheapeake Bay spur (now Route 301), or other road networks. These factors have also been noted by Wise (1979). The towns of Red Lion, Saint Georges, Mt. Pleasant, Cantwell's Bridge (Odessa), Leipsic, Smyrna, Dover, Frederica, Canterbury, and Camden, all early 18th century towns, possess these locational characteristics. Locational data also indicate that the early towns were situated at mid-drainage or further upstream settings (see Wise 1979). This pattern suggests that town sites were chosen near the heads of navigation of major streams and tributaries. The routing of the Philadelphia-Lewes postroad through the towns and the heads of navigation facilitated inland transportation and communication.

The siting of Middletown deviates from the patterns noted above because it is situated at the western edge of settlement on the drainage divide between the Appoquinimink River and Drawyers Creek watersheds. Its position on a major road to the eastern shore of Maryland, and at a terminous of numerous cartroads, encouraged its growth despite the absence of a navigable stream.

Towns were the loci of facilities for the storage and redistribution of agricultural surplus and processed goods. Population was concentrated in towns, although both population and town size was small. A traveller on the Philadelphia-

Lewes postroad in 1747 described Dover, a major center for the region, as a town of 20 houses (Wilkins and Quick 1976). Documentary research on the activities in early Delaware towns has been limited, although the distribution of settlement types within the project area and more detailed data available for adjacent areas allows the delineation of town patterning.

Mercantile concerns, shops, stores, and public offices represent the major services available to town residents and hinterland populations (Lemon 1972; Reps 1972; Earle 1975; Kelly 1979; Wise 1979). Craftsmen, mill complexes and manufactories were outside towns. Early towns have been described by some researchers as "cities" or "urban" in character because they served the function of urban centers for the agricultural hinterlands (Earle 1975; Kelly 1979; Wise 1979; Henry 1981). It is more likely that towns retained the characteristics of provincial towns well into the 19th century or later.

Farmsteads, plantations and estates were the predominant settlement type during this period. They were present within the limits of settlement discussed earlier in this section. Agricultural settlement was absent in the drainage divide areas. Because agricultural produce needed to be moved to processors or redistribution centers, agricultural settlements were 1) in close proximity to major streams and their tributaries or 2) along primary and secondary roads which linked the hinterland to landings and service centers. Landholdings were substantial in size and although extensive areas were settled, settlement density was low (see Varle and Shallus 1802; General Assembly of the State of Delaware 1899). Documentary research on landholdings in Maryland shows a mean plantation size of 430 acres (Kelly 1979). Kelly (1979) points out that land sales data suggest increases in settlement area and settlement density, when in fact, they reflect increases in individual landholdings as landowners' purchased adjacent tracts. Agricultural settlements contained a main house and a broad range of special

function outbuildings, as well as residential quarters for tenants, agricultural laborers, servants, and slaves. In the 1750s, draining of marshland opened new areas to agricultural use in the lower reaches of Drawyers Creek, Appoquinimink River, and Leipsic River.

Mill complexes and agricultural mill complexes were conspicuous features on the rural landscape. Their distribution was of course limited by the need for water; however, they were located consistently at mid-drainage or further upstream on major streams and their tributaries. It is likely these locations were chosen because they are at the heads of navigation. Mills generally were located outside town, but their stream settings offered access to transport facilities. Numerous secondary roads linked the processing centers to the agricultural hinterland. There was an absence of mills on the lower portions of the major drainages which suggests that agricultural products were shipped unprocessed to markets. Interior produce apparently was processed and later transported to market, or processed goods were consumed by local markets and unprocessed surplus was shipped to outside markets.

Data on the distribution patterns of manufactories, the workshops of occupational specialists and other types of sites are very limited for the study area. Only one manufactory was identified for this period, although it fits the pattern recognized by reasearchers working in other areas. Like mills, manufactories and workshops were situated within the agricultural hinterland in order to be accessible to the agricultural community requiring their services (see Lemon 1972; Earle 1975; Kelly 1979; Wise 1979; Bachman et al. 1983). Traverns were located along heavily travelled post and cart roads, most frequently at crossroads or junctions with landings and streams. The examination of 18th century maps will be necessary to more fully discern the distribution of taverns within the project area. Shifts in the usage of structures as residences and taverns

over time makes positive identification of taverns difficult. Generally taverns were spaced the distance an overland traveller could ride in one day, but often a traveller found shelter in a farmhouse along the route. Churches were located in towns and in rural settings. Rural churches were found on secondary roads accessible to the agricultural population.

A substantial number of sites of this period have been identified within the proposed project area. More sites conforming to the settlement patterns and settlement types presented above are expected. Attachment V maps out the probability zones for potential pre-1802 settlement based on the above settlement pattern analysis and also notes the few known pre-1802 sites. Appendix VI provides a guide to Attachment VI. Saint Georges and Mt. Pleasant are the only towns established in the early 18th century within the proposed project area. Many of the early 18th century ports, landing, plantations, and farmsteads lay outside the project area on the lower reaches of streams and on the Delaware River-Delaware Bay shore.

During the post-1802 period marked settlement pattern shifts can be noted within the project area and a description of these changes, based on an analysis of the predicted zones noted in Attachment VII is presented below. Appendix VII provides a guide to Attachment VII.

Major shifts in settlement patterning occurred within the project area during the full Agrarian Settlement Period (1803-1868) primarily in response to railroad and canal construction. Choices in settlement location were no longer constrained by water accessibility and major settlement expansion was felt in the upland zones between watersheds, especially on the high, well-drained soils along the drainage divide separating the Chesapeake Bay and Delaware River-Delaware Bay watersheds. This vast area contained agriculturally productive land, but the high cost of overland transportation had limited its value in earlier periods. In

previously settled areas, unoccupied land on the drainage divides came into agricultural production. There was a continuation of the water-oriented settlement patterns established earlier because they remained economically viable. New roads linked the older transportation system and the newly established canal and railroad routes. The construction of the railroad and the canal, however, was not the only factor in settlement expansion. Increasing population pressure in settled areas and the growing demand of the interregional markets for agricultural products made the construction of the new transportation routes economically feasible. The location of the railroad and canal had profound influence on the patterning of settlement into the 20th century.

Roads became more important as factors in settlement location at this period progressed. No longer were the major streams and primary roads the foci of settlement. An extensive network of roads was established in the newly settled agricultural hinterland and these roads linked farmsteads and agricultural hamlets to the redistribution centers and to the canal, rail lines, and streams. The railroad and the canal served to channel agricultural surplus from the hinterland to the large, domestic markets. Population growth and settlement density were highest between the Philadelphia-Lewes postroad and the railroad line which paralled it to the west. The major service centers within the study area were situated on one of these routes or on the canal.

The establishment of new towns and the growth of existing towns and hamlets was an important response to the new transportation corridors in that the new towns were not restricted by earlier environmental and economic constraints. Towns appear on the perimeters of watersheds and on drainage divides which were once obstacles to agricultural settlement and could never have supported town growth. Surrounding the new towns was a large agricultural hinterland occupying similarly situated land.

Saint Georges was already important as a local center due to its position at the junction of a major north-south road and Saint Georges Creek. The canal enabled Saint Georges to increase its influence as a redistribution center and command a larger share of the growing agricultural surpluse of the hinterland.

Dover, Smyrna and Cantwell's Bridge (Odessa) emerged as intra-regional centers because rail, road and water transportation routes converged in these already etablished centers. These towns controlled extensive hinterlands and they provided a wide range of business and commmercial services for the rural population. The broad range of services provided employment for the large, concentrated non-agricultural population. While these towns played increasingly important roles in the intra-regional economy, they were still subordinate to the inter-regional centers, Philadelphia, Baltimore, and Wilmington.

Local centers, such as Clayton, Townsend, Cheswold, Sassafras Station (Green Spring), Kenton, Wyoming, and Woodside, were established specifically to store and redistribute agricultural products. Middletown experienced heavy growth as a railroad town. Each of the towns exerted influence over a small rural hinterland and were also the loci of stores, banks, hotels, railroad stations, commercial offices, physicians' offices, and post offices. The new towns exhibited regularized street plans and clearly defined residential and commercial districts. These patterns are not seen in older communities which developed by accretion.

The improvement of roadways encouraged additional settlement throughout the region. A primarily agrarian pattern of settlement consisting of farmsteads, workshops, manufactories, processing facilities, crossroad towns, churches, and schools were scattered along the primary and secondary roadways. The farmsteads were involved in market crop production and farm products were transported to nearby centers.

The substantial number of agricultural tenant dwellings and farms in the region indicates the presence of a large body of landless agricultural laborers. The distributional pattern of agricultural tenant-related structures in rural areas indicated the majority were situated close to the roadways. Further research is required to verify this pattern and to explain the differences in the distribution of tenant-related structures and the residences of the landed population.

Hamlets and villages were established at the intersection of secondary roads which connected the hinterland to local and intra-regional centers and major transportation routes. The crossroad town provided the hinterland population with a restricted set of services, usually a general merchandise store and less frequently workshops. They also served as the loci of small population clusters. The ubiquitous "Corners" are found throughout the study area. Crossroad towns did not appear at the junction of all roads, but only at the junction of roads leading to larger centers or major transportation routes which exerted a "pull" on the hinterland products and the population requiring the services of the centers.

The majority of sites identified in the proposed project area date to this period. The settlement types discussed, excluding the intra-regional centers and most of the local centers, will be present in high numbers in the project area.

No major changes in the settlement patterns established during the preceeding period occurred during the Settlement Stabilization and Agrarian Maintenance Period (1869-1910). The hierarchical structure of settlement types described in the previous section presisted. New centers did not develop during this period because the economic and environmental constraints operative earlier resulted in the siting of centers in highly advantageous locations. Subsequent technological and transportation improvements served only to increase the agricultural productivity of the hinterland and the spheres of influence of the local and intra-regional centers.

Population increases were significant within centers, but these are all outside the proposed project area. Few sites dating from this period have been identified; however, many of the sites established earlier continue to serve the same functions within the same settlement conditions.

Motorized transportation and upgrading of roads for automobile traffic encouraged distinctive settlement shifts during the Modern Period (1911-1950). Urban population growth continued and the concentration of commerce and industry increased. A more important shift was the expansion of a non-agricultural population into rural areas. Primary and secondary roads became the foci of residential settlement and small parcels of land along the roads were carved from large farm properties for single family dwellings. The farmsteads generally remained behind the new residential front and the character of the region remained agrarian. New settlement types for this period are the non-agricultural residences and automobile-related facilities. The pattern of settlment is essentially a composite or mosaic of earlier patterns superimposed one upon the other.

MANAGEMENT CONSIDERATIONS

Up to this point, this report has focused on listing the known and potential cultural resources for the proposed project area. In this section, we will: 1) consider the known and potential significance of the resources; 2) note those sections of the project area which are the most "sensitive" in terms of cultural resources: and 3) make recommendations about the future stages of the cultural resources management process. Specifically, we will note the sections of the project area which will require intensive archaeological research efforts to mitigate the effects of the proposed highway development and also note potential research methods and mitigation costs.

General Site Significance Issues

Consideration of site significance is critical for a management study such as this one because the level of site significance determines the kinds of further work that may be required by Federal law. Specifically, the eligibility of a site for listing on the National Register of Historic Places, which is based on significance, needs to be addressed because this eligibility ultimately determines the needs for further work. Discussions of site significance, and potential eligibility for the National Register, are provided below for prehistoric and historic sites.

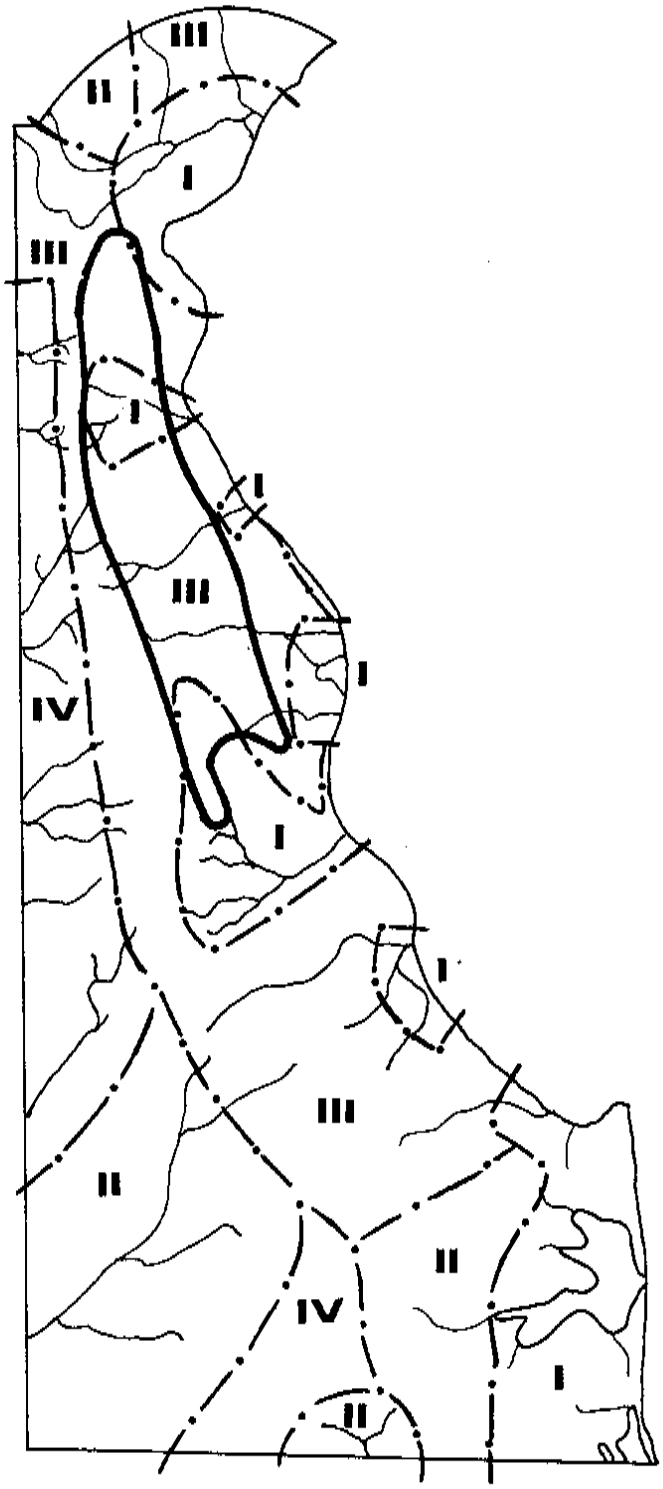
Prehistoric Site Significance

The management section of the Delaware State Plan for the Management of Prehistoric Archaeological Resources (Custer 1983b:Chapter 8) and similar plans for the upper and lower Eastern Shore of Maryland (Custer 1983c; Davidson 1982) provide the bases for assessing prehistoric site significance. The Delaware plan divides the state into various zones which have varying sensitivities for containing significant archaeological sites. Figure 24 shows the location of these zones in relation to the project area. It can be seen that much of the project area falls into the highest sensitivity zone while other portions have a lower sensitivity. Although this reveals something of the potential significance of project area sites, a more detailed consideration which addresses individual site types significance is needed.

One way to consider the potential significance of sites within the study area is to use the series of management zones noted in the state plan. Figure 25 shows the management zones and their relation to the study area while Table 15 identifies the management zones and Table 16 shows their relation to the sensitivity zones. Four management units, Interior, Mid-Peninsular Drainage Divide, Mid-Drainage, and Coastal, are included in the study area. Tables 17 - 20 list the various site types from different time periods and note their potential

FIGURE 24

DELAWARE PREHISTORIC COMPOSITE SENSITIVITY ZONES



KEY:

I - HIGH/MEDIUM SIGNIFICANT SITE POTENTIAL WITH DEVELOPMENT PRESSURE

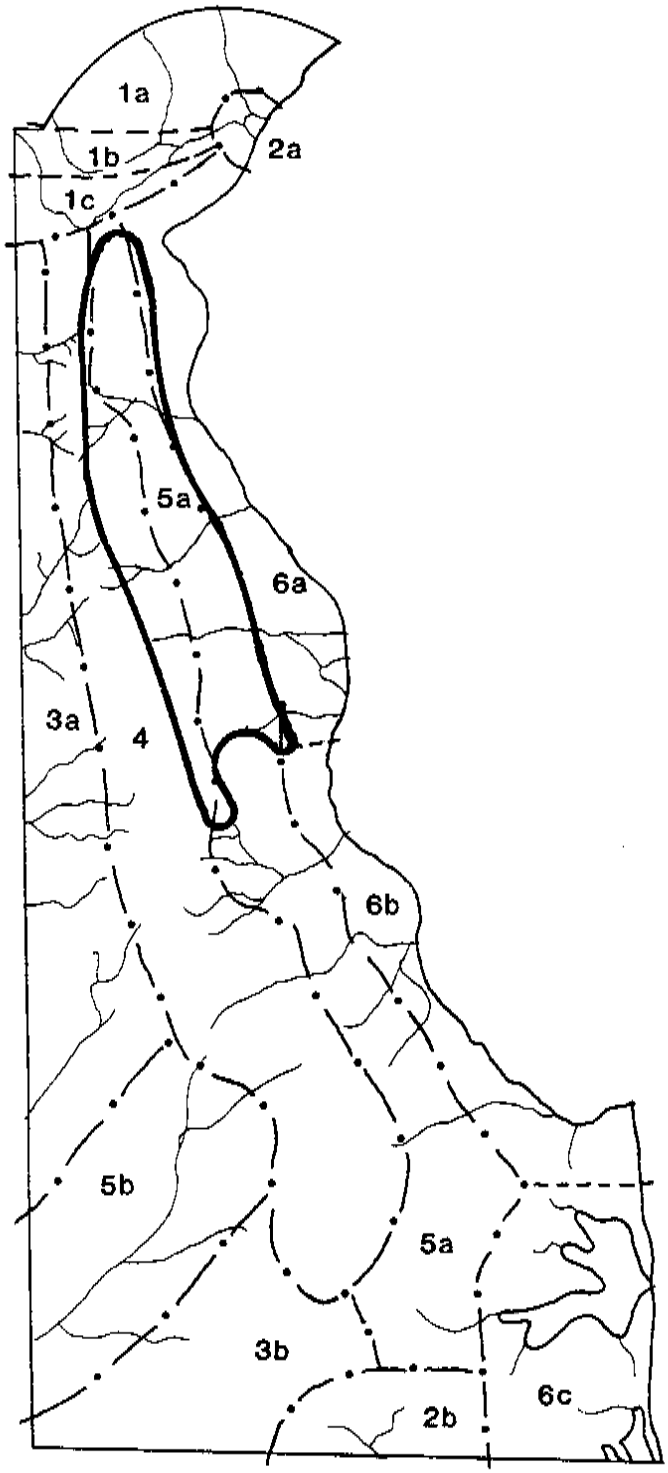
II - HIGH SIGNIFICANT SITE POTENTIAL WITH NO DEVELOPMENT PRESSURE

III - MEDIUM SIGNIFICANT SITE POTENTIAL WITH NO DEVELOPMENT PRESSURE

IV - LOW SIGNIFICANT SITE POTENTIAL WITH NO DEVELOPMENT PRESSURE

FIGURE 25

DELAWARE PREHISTORIC MANAGEMENT UNITS



KEY:

— IDENTIFIED IN TABLE 15

significance, the general probability of their occurrence, and the quality of the data relating to them. These listings generally indicate which types of sites are most likely to be significant within the study area.

Table 15

Delaware Management Units

1 - Northern Delaware Management Unit
  1a - Piedmont Uplands (Archaic - Woodland II)
  1b - Fall Line (Woodland I and II)
  1c - Delaware Chalcedony Complex (Paleo-Indian)

2 - Interior Swamp Management Unit
  2a - Churchmans Marsh - Includes New Castle Contact Study Unit
  2b - Upper Pocomoke

3 - Interior Management Unit
  3a - Northern Sub-Unit
  3b - Southern Sub-Unit

4 - Mid-Peninsular Drainage Divide Management Unit - Includes Mid-Peninsular Drainage Divide
  Non-Quarry Paleo-Indian Site Complexes

5 - Mid-Drainage Management Unit
  5a - Delaware Drainage
  5b - Nanticoke Drainage

6 - Coastal Management Unit
  6a - Northern Bay
  6b - Southern Bay
  6c - Atlantic Coast

Table 16

Management Priorities

Category I (more than 50% in Zone I)

Fall Line sub-unit of Northern Delaware Management Unit
Churchmans Marsh sub-unit of Interior Swamp Management Unit
Atlantic Coast sub-unit of Coastal Management Unit
South Bay sub-unit of Coastal Management Unit

Category II (more than 50% in Zones I and II)

Piedmont Uplands sub-unit of Northern Delaware Management Unit
Upper Pocomoke sub-unit of Interior Swamp Management Unit
Mid-Peninsular Drainage Divide Management Unit
Nanticoke sub-unit of Mid-Drainage Management Unit

Category III (more than 50% in Zone III)

Delaware Chalcedony Complex sub-unit of Northern Delaware Management Unit
Delaware sub-unit of Mid-Drainage Management Unit
North Bay sub-unit of Coastal Management Unit

Category IV (more than 50% in Zone IV)

Interior Management Unit

More specific significance data can be developed for specific sections of the project area by comparing the sites listed in Tables 17 - 20 with the probability zones mapped in Attachment V, and their descriptions listed in Appendix IV. The descriptions of typical locations and lists of site types included by time periods provide the best match of significant site types and probability zones. In order to determine the types of significant site types that might be contained within any probability zone, the numbered zone from the map in Attachment V can be compared to the listed description in Appendix IV. Then, the site types listed in Appendix IV can be compared to the significant site types listed in Tables 17 - 20.

A quick check of the major probability zones noted in Attachment V and Appendix IV shows that usually the largest high probability zones, especially those surrounded by larger medium probability zones, contain significant micro-band base camps and macro-band base camps.

Table 17

Site Probabilities and Data Quality - Interior Management Unit

Site Types	Site Probabilities	Data Quality
Paleo-Indian		
quarry	L	P
quarry reduction	L	P
quarry related base camp	L	P
base camp	L	P
base camp maintenance station	L	P
hunting sites	L-M	P
DATA QUALITY	P	
Archaic		
macro-band base camp	L	P
micro-band base camp	L	P
procurement site	L-M	P
DATA QUALITY	P	
Woodland I		
macro-band base camp	L	P
micro-band base camp	L	P
procurement site	L-M	P
DATA QUALITY	P	
Woodland II		
macro-band base camp	L	P
micro-band base camp	L	P
procurement site	L-M	P
DATA QUALITY	P	
Contact		
general Contact sites	L	P
DATA QUALITY	P	

Key

Site Probabilities
- L - low
- L-M - low to medium
- M - medium
- M-H - medium to high
- H - high

Data Quality
- P - poor
- P-F - poor to fair
- F - fair
- F-G - fair to good
- G - good

Table 18

Site Probabilities and Data Quality - Mid-Peninsular Drainage Divide Management Unit

Site Types	Site Probabilities	Data Quality
Paleo-Indian		
quarry	L	F
quarry reduction	L	F
quarry related base camp	L	F
*base camp	M-H	F
*base camp maintenance station	M-H	F
*hunting sites	H	F
DATA QUALITY	F	
Archaic		
macro-band base camp	L	P
*micro-band base camp	L-M	P
*procurement site	M	P
DATA QUALITY	P	
Woodland I		
macro-band base camp	L	P
micro-band base camp	L-M	P
*procurement site	M	P
DATA QUALITY	P	
Woodland II		
macro-band base camp	L	P
micro-band base camp	L-M	P
procurement site	M	P
DATA QUALITY	P	
Contact		
general Contact sites	L	P
DATA QUALITY	P	

*Sites likely to yield significant data.

Key

Site Probabilities
- L - low
- L-M - low to medium
- M - medium
- M-H - medium to high
- H - high

Data Quality
- P - poor
- P-F - poor to fair
- F - fair
- F-G - fair to good
- G - good

Table 19

Site Probabilities and Data Quality - Mid-Drainage Management Unit

Site Types	Site Probabilities by Sub-Units Delaware	DATA QUALITY
Paleo-Indian		
quarry	L	P
quarry reduction	L	P
quarry related base camp	L	P
base camp	L	P
base camp maintenance station	L	P
hunting sites	L-M	P
DATA QUALITY	P	
Archaic		
macro-band base camp	M	P
micro-band base camp	M	P
procurement site	M	P
DATA QUALITY	P	
Woodland I		
*macro-band base camp	H	F-G
*micro-band base camp	H	F-G
*procurement sites	H	F-G
*major mortuary/exchange sites	H	P-G
*minor moruary/exchange sites	H	P-F
DATA QUALITY	F-G	
Woodland II		
*macro-band base camp	M	P
*micro-band base camp	M	P
*procurement site	H	F-P
DATA QUALITY	P-F	
Contact		
general Contact site	L	P
DATA QUALITY	P	

*Sites likely to yield significant data.

Key

Site Probabilities
- L - low
- L-M - low to medium
- M - medium
- M-H - medium to high
- H - high

Data Quality
- P - poor
- P-F - poor to fair
- F - fair
- F-G - fair to good
- G - good

Table 20

Site Probabilities and Data Quality - Coastal Management Unit

Site Types	Site Probabilities by Sub-Units: North Bay	Site Probabilities by Sub-Units: South Bay	DATA QUALITY
Paleo-Indian			
quarry	L	L	P
quarry reduction	L	L	P
quarry related base camp	L	L	P
base camp	L	L	P
base camp maintenance station	L	L	P
hunting sites	M	M	P
DATA QUALITY	P	P	
Archaic			
macro-band base camp	L	L	P
micro-band base camp	L	L	P
procurement site	M	M	P
DATA QUALITY	P	P	
Woodland I			
*macro-band base camp	L	L	
*micro-band base camp	M-H	M-H	F-G
*procurement site	H	H	F-G
*mortuary site	L	H	P
DATA QUALITY	P	F-G	
Woodland II			
*macro-band base camp	M	H	F-G
*micro-band base camp	M	H	F-G
procurement site	H	H	F-G
DATA QUALITY	P	F-G	
Contact			
*general Contact site	L	L	P-F
DATA QUALITY	P	P	

*Sites likely to yield significant data.

Key

Site Probabilities
- L - low
- L-M - low to medium
- M - medium
- M-H - medium to high
- H - high

Data Quality
- P - poor
- P-F - poor to fair
- F - fair
- F-G - fair to good
- G - good

This observation corresponds with the findings presented by Eveleigh et al. (1983) for the southern portions of the study area. In most cases the high probability zones along the major drainages contain significant sites that are from the Archaic and later periods. Areas with potential Paleo-Indian sites, which would automatically be significant given their scarcity, as well as later sites are generally restricted to high probability zones that are associated with bay/basin features.

Medium probability zones along lower order interior drainages most likely will contain micro-band base camps post-dating the Archaic Period. If these sites have not been plowed, or otherwise destroyed, they are likely to be significant. Smaller procurement sites are also likely to be found in these isolated medium probability zones; however, their significance is not likely to be as great. At least, fewer are likely to be undisturbed and significant. Even if they are significant, the costs of their mitigation and excavation is much lower than the larger base camp sites. It should be noted that macro-band base camps may be present in these medium probability areas; however, they will be uncommon.

In the low probability zones, the frequency of any kind of base camps is expected to be quite low. Frequencies of procurement sites will be higher, but in general, the low probability zones are the least sensitive with respect to prehistoric cultural resources. Nonetheless, it is possible that a few significant sites will be found in the low probability zones.

One class of significant sites that is often found in the low probability zones includes the Webb Complex mortuary/exchange sites. Any, and all, of these sites are eligible for the National Register and may even be candidates for in-place preservation rather than mitigation through excavations and data recovery. Any Delmarva Adena mortuary/exchange centers would also fall into this category; however, these sites are more likely to be located in the high probability zones (see Eveleigh et al. 1983).

In sum, the probability zones can be used as a rough guide to potential site significance and sensitivity. The high probability zones have the greatest sensitivity and the greatest potential for significant sites. Medium probability zones have less potential and a lesser sensitivity and low probability zones have the lowest potential and are the least sensitive. Any mortuary/exchange centers are significant and may be found in any of the probability zones within the locations noted on Attachment V. Before leaving the discussion of prehistoric site significance it should also be noted that there are two sites within the project that already listed on the National Register of Historic Places: the Hughes-Willis site (7K-D-21), the Hell Island site (7NC-F-7). Other potential National Register eligible sites included within the known sites of the project area are listed in Table 21.

Table 21

Potential National Register Eligible Prehistoric Sites

Clayton Quad:	7K-A-1
Dover Quad:	7K-C-18, 7K-C-33, 7K-C-86
Frederica Quad:	7K-F-12, 7K-F-44, 7K-F-45, 7K-F-46, 7K-F-47, 7K-F-52, 7K-F-54, 7K-F-55, 7K-F-58, 7K-F-65
Kenton Quad:	none
Little Creek Quad:	7K-D-10, 7K-D-21, 7K-D-25, 7K-D-33, 7K-D-46, 7K-D-68, 7K-D-69
Middletown Quad:	7NC-F-8, 7NC-F-9, 7NC-F-10, 7NC-F-12, 7NC-F-13, 7NC-F-29, 7NC-G-5, 7NC-G-7, 7NC-G-10, 7NC-G-15, 7NC-G-27
Saint Georges Quad:	7NC-E-2, 7NC-E-11, 7NC-F-1
Smyrna Quad:	7K-A-14, 7K-A-15
Wyoming Quad:	7K-C-33, 7K-E-75, 7K-C-103, 7K-C-104

Historic Site Significance

In Appendices II and III the archaeological potential and the archaeological significance of all the historic resources identified within the proposed project area were assessed on a site-by-site basis. The archaeological potential in this context refers to a site's potential to contain undisturbed, archaeologically meaningful cultural remains. The issue of site integrity is incorporated in this definition. The archaeological potential of a site was evaluated on the basis of information obtained from the BAHP standing structure inventory files and through examination of current editions of USGS 7.5' maps. In Appendices II and III the potential of a site is categorized as: 1) (Y) yes, exhibits archaeological potential; (N) no, exhibits no archaeological potential due to severe disturbance or destruction of the site; and (U) unknown, there is no basis for making an evaluation of the archaeological potential of the site.

The evaluation of the archaeological significance of project sites is tentative and the evaluations are presented as a management tool. The preliminary character of the data base necessitates a qualifying statement; on the basis of the preliminary data gathered, the significance of the potential archaeological remains is evaluated. Five levels of significance are employed in the evaluation process: (H) high, (M) medium, (L) low, (N) no, and (U) unknown. The criteria applied in the evaluation integrated temporal, functional and social-historical data. Table 22 presents the criteria applied to the data base to determine the potential archaeological significance of historic resources (after Wall 1981:146-147; See Schiffer and Gumerman 1977:229). The criteria are not ranked and they are not meant to be all-inclusive. The evaluation of the historic resources according to the criteria was based on the available archaeological data. As further information is obtained more refined determinations of historic resource significance will be

possible. Each historic resource assessed is expected to provide additional information on criteria listed in the Significance column in Appendices II and III. All historic sites within the project area have been mapped according to their significance level on 7.5' USGS maps in Attachment IV. The predictive zones mapped in Attachments VI and VII and listed in Appendices VI and VII are drawn to include areas of similar site significance.

Management Units

The final step in developing a series of management guidelines for the proposed project area was to combine the spatial data on site significance and develop a series of management units that could be mapped for the entire project area. The term "management units" comes from a Federal guide to cultural resource management planning (Heritage Conservation Recreation Service 1980), and refers simply to spatial areas that exhibit similar distributions of cultural resources of similar types and significance. Management units are usually developed by overlaying maps of known and potential resources of various types, and potential significance. Areas with similar distributions of significant resources are then noted as individual study units. A similar method was utilized in the development of prehistoric management units in the Delaware State Plan for the Management of Prehistoric Archaeological Resources (Custer 1983b).

Table 22

Criteria for Evaluating the Archaeological Significance of Potential Historic Resources

1. Age: Sites providing information on early settlement, technology, commerce, industry, or lifeways are more significant.

2. Regional Interest: Sites which have impact on regional or local research problems are more significant.

3. National Interest: Sites which have impact on national or universal research problems are more significant.

4. Preservation: Sites containing well-preserved structural, faunal, floral, or skeletal remains are more significant.

5. Multi-function: Sites exhibiting a range of well-defined activity/functional loci are more significant.

6. Uniqueness: Sites containing rare or unique features (technological innovations, slave-related components) are more significant.

7. Previous Knowledge: Site types about which little is known are more significant and those which provide information on poorly understood social-historical contexts are more significant.

8. Public Significance: Sites which may easily be used in public education programs due to site contents and accessibility for public viewing are more significant.

9. Size and Density: Larger sites and those containing dense deposits of material culture are more significant.

10. Famous Events or Persons: Sites associated with a person or event of local, regional, or national interest are more significant.

11. Duration of Occupation: Sites exhibiting discrete temporal loci whether in the context of long-term or short-term occupations are more significant.

For this study, three maps were combined to develop management units including Attachment V (prehistoric predictions), Attachment VI (pre-1802 site predictions), and Attachment VII (post-1802 site distribution zones). Analysis of overlapping zones showed that there were six basic types of management units, each with a different combination of site types with varied significance. Table 23 lists each management unit and notes its contents. Attachment VIII and Figure 26

FIGURE 26

COMPOSITE OF CULTURAL RESOURCES

KEY:

H-HIGH, M-MEDIUM, L-LOW

SIGNIFICANT SITE POTENTIAL

ZONE	PREHISTORIC	PRE-1802	POST-1802
-I	H and M, or M	H	H
-II	L	H	H
-III	L	H	L
-IV	L	L	H
-V	M	L	H
-VI	L	L	L

show the distribution of the management zones on each USGS 7.5' map for the project area.

The management units noted above can also be viewed as sensitivity zones for cultural resources because, as has been noted previously in this section, the predictive zones mapped in Attachments V through VII are directly related to potential presence of significant sites. Also, the definitions of the management zones noted in Table 23 were developed based specifically on site significance. In general, the Management Units listed in Table 23 are ranked in terms of significance with Unit I having the highest potential for the most significant sites and Unit VI having the lowest.

Table 23

Management Zones

Zone	Significant Site Potential		
	Prehistoric	Pre-1802	Post-1802
I	H&M, or M	H	H
II	L	H	H
III	L	H	L
IV	L	L	H
V	M	L	H
VI	L	L	L

KEY: H=high, M=medium, L=low

An examination of the maps in Attachment VIII shows that most of the higher sensitivity zones are found adjacent to drainages and early road networks (Units I and II). Units with a more moderate significance (Units III - V) are mainly located near secondary roads and lower order watercourses and the units with the lowest sensitivity (Units V and VI) are located in interior regions.

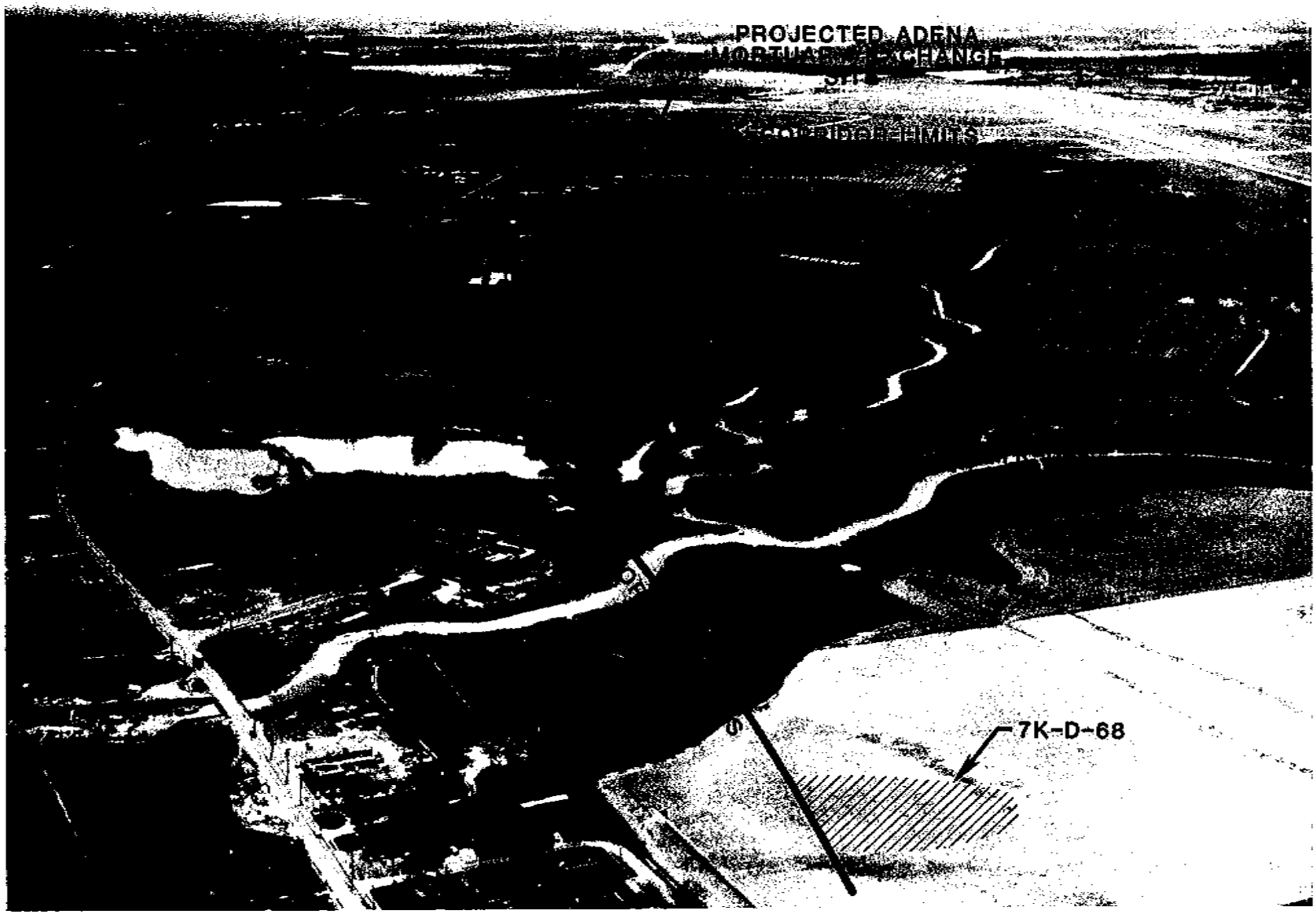
Management Strategies and Recommendations for Future Work

Before considering the possible uses of the data presented in this report, it is important to consider its limitations. Similarly, it is important to note inappropriate uses of the management data. As was noted in the introduction to this report, the data presented here should not be interpreted as a substitute for a cultural resources location and identification survey of any specific alignments within the project area that are chosen at a later date. Also, the assessments of potential National Register significance cannot be viewed as final determinations of eligiblity for any sites in the proposed project area. The only exception would be the few sites that are already listed on, or determined eligible for, the National Register. What the report does do is provide reliable and accurate estimates of expected site distributions in the study area and notes the potential significance of the expected sites. However, the delineation of potential site distributions should not be taken for final inventories of expected sites and alignment-specific inventories based on field survey will be a necessary part of future location/identification surveys.

With the limitations noted above in mind, it is possible to outline a number of possible applications of the management data presented in this report. These applications are listed below: 1) The management zones listed in Attachment VIII can be used as guides to the sections of the project area that will be potential "problems" during future phases of the project. Herein, "problems" refers to the existence of significant resources that will cost both time and money to mitigate potential adverse effects (Plates 8 & 9). Generally, these problem areas would include all areas classified as Zones I and II on the maps in Attachment VIII. 2) The data presented in this report can be used to develop plans and strategies to deal with the problem areas noted above. One simple strategy that could be developed would be to use the maps of management/sensitivity zones in Attachment VIII to

PLATE 8

STUDY CORRIDOR and KNOWN SITES



LITTLE CREEK AREA

PLATE 9

STUDY CORRIDOR and KNOWN SITES

FREDERICA AREA

delineate areas that could be avoided, if at all possible. In some cases this would be impossible, such as the section of the project area between Middletown, Odessa, and Clayton, and the section of the western option of the southern terminus between Dover and Frederica, which are all within Management Zone I (Plates 8 & 9). In these areas the maps of specific prehistoric site probability zones (Attachment V), pre-1802 historic sites (Attachment VI), and post-1802 historic (Attachment VII) could be used to avoid specific high probability, high significance zones. This level of site avoidance would be most applicable at the level of specific engineering and design, as opposed to general alignment selection. Avoidance of areas with high probabilities of significant sites is a preferred option both because the costs to the Delaware Department of Transportation for mitigation are minimized and because the impact on the cultural resource base is lessened.

If avoidance is not possible due to design or cost considerations, the data presented in this report can be used as a rough guide to potential fieldwork that might be required. In general, Phase I location/identification surveys will have to be done for most, if not all, of the proposed alignments areas. Also, Phase II excavations to determine the National Register eligibility of any prehistoric or historic sites discovered during the Phase I survey will be necessary. Thus, except in a few cases to be discussed later, once a final alignment is chosen, Phase I and II surveys will have to be carried out along its entire length. However, only certain sites will require Phase III data recovery excavations, or recordations in the case of standing structures. Such sites would be those determined eligible for the National Register of Historic Places and the present report will be useful both as a regional summary of known sites and research goals to help determine what sites are significant and as a guide to where significant sites may be located.

Table 24

Levels of Field Investigation by Prehistoric Site Types

Site Types		Levels of Investiation: Location and Identification	Phase II	Data Recovery
Paleo-Indian/Early Archaic				
quarry	(U)	X		
	(P)	X		
quarry reduction	(U)	X	X	
	(P)	X	X	
quarry-related base camp	(U)	X	X	X
	(P)	X	X	X
base camp	(U)	X	X	X
	(P)	X	X	X
base camp maintenance station	(U)	X	X	X
	(P)	X	X	X
hunting site	(U)	X	X	X
	(P)	X		
Middle Archaic				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X	X	
Late Archaic - Middle Woodland				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X		
Late Woodland				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X	X	

For prehistoric sites, Table 24 lists the varied functional site types for each time period and notes the levels of field investigations that would be appropriate given either undisturbed, (unplowed) or disturbed (plowed) contexts. The various settlement models and maps listed in this report can be used as a guide to determine where these various site types are likely to occur and estimates of potential numbers of sites requiring Phase III data recovery excavations can be noted. A similar listing for historic sites is not possible because as yet the comparative data base for Delaware is poor and decisions of significance and need for further research will have to be made on a case-by-case basis. However, it can be noted that most of the pre-1802 predicted site locations are likely locations for Phase III data recovery excavations. Also, it is difficult to imagine what types of potentially significant post-1802 sites would not be eligible for Phase III data recovery excavations or recordation. The final use of the plan will be to make specific recommendations about the research and field methods to be used in the Phase I location/identification surveys. These recommendations are listed below:

a) All standing structures within the proposed alignment should be field checked against the BAHP survey records and an inventory of sites for the alignment should be developed. The significance of these structures should be assessed on a case-by-case basis by a competent architectural historian.

b) All sites with standing structures should be assessed for the potential of associated historical deposits and the archaeological deposits and the structures at a single site should be considered as a single cultural resource, not as two unrelated topics.

c) The documented historic site locations listed in Appendix III and mapped on Attachment III, which do not have associated standing structures, should be viewed as a special class, or stratum, of potential

historic site locations that should be specifically checked for associated archaeological remains.

d) Areas denoted as having a high probability for pre-1802 historic sites should also be viewed as a special class of potential historic site locations and should be checked especially carefully for archaeological remains of that time period after the completion of in-depth archival research to identify documented settlement locations. Remaining areas within the alignment that need to be checked for historic sites can be surveyed as part of the general fieldwork that will look for both historic and prehistoric sites.

e) All areas within the alignment noted as high or medium probability zones for prehistoric sites should be carefully checked during the Phase I survey. Low probability areas should also be surveyed; however, it may not be necessary to completely survey all low probability zones. It is suggested here that a non-proportional stratified sample could be used in some project areas during the Phase I survey. For example, we can be fairly certain that many of the low probability areas on interior flats with no associated surface water and no poorly drained settings are unlikely to contain any sites. Even if they do contain sites, the sites are likely to be small lithic scatters that do not usually contain much significant data. In a few cases these sites have been studied (eg.; Limestone Hills Site Complex noted in Custer (1981) and the Archaic component of the Lancaster County Park site reported by Kinsey and Custer (1982) and they have yielded few artifacts and little significant data. Also, these kinds of topographic settings are likely to be plowed and disturbed, further reducing the chance that they would produce significant data. Finally, these sites are so ubiquitous that the

number that might be disturbed without recordation is a very small fraction of the resource base. With these arguments in mind, it is suggested here that prior to the beginning of the fieldwork portion of the Phase I survey, these areas described above be delineated in consultation with the DelDOT Archeologist and engineers and the staff of the Delaware Bureau of Archaeology and Historic Preservation, and that only a controlled sample of them actually be surveyed in the Phase I research. This will probably cause substantial savings of time and money which may be better spent in the high significance areas along the major drainages.

f) The site data in Appendices I - II have been entered into a computerized data base (d BASE II) and can be cross-tabulated and sorted by individual variables or combinations or variables. These cross-tabulations can be used to assess the uniqueness of certain classes of cultural resources.

In conclusion, this report has documented the known and potential cultural resources of the project area and outlined management considerations for use in project planning. Hopefully, use of this information will help to minimize the project's impact on the cultural resources of central Delaware.

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EMHL - Eleutherian Mills Historical Library.
MLSC - Morris Library, Special Collections, University of Delaware

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APPENDIX I

LISTING OF KNOWN PREHISTORIC ARCHAEOLOGICAL SITES

Sites listed within this appendix are marked on map Attachment I. Classes of information listed for each site in this appendix are described in the text of the report. Abbreviations utilized in the appendix are listed below. The contexts of this appendix have been entered on a data base management system and may be sorted and cross-tabulated by individual variables or combinations of variables.

Time Period

A - Archaic

WI - Woodland I

WII - Woodland II

Components

CF - Clyde Farm

BL - Barkers Landing

WN - Wolfe Neck

DA - Delmarva Adena

C - Carey

W - Webb

DP - Delaware Park

SC - Slaughter Creek

M - Minguannan

Citations

IFM collection - Island Field Museum collection
BAHP site files - Bureau of Archaeology and Historic Preservation site files

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
			CLAYTON QUAD			
7NC-H-1	N-3854	Micro-band b.c.	WI, WII	C, M		IFM Collection
7NC-H-2	N-3844	Micro-band b.c.	WI			IFM Collection
7NC-H-9	N-3855					
7NC-J-3	N-3845	Micro-band b.c.	A, WI, WII	CF, M		Custer 1983a:App. II
7NC-J-4	N-3846	Procurement	A, WI	CF	Associated with a bay/basin feature	Custer 1983a:App. II
7NC-J-6	N-3842					
7NC-J-13	N-3856					
7NC-J-14	N-3857	Procurement	A		Associated with a bay/basin feature	Custer 1983a:App. II
7K-A-1	K-402	Macro-band b.c.	WI, WII	CF, SC		IFM collection
7K-A-4	K-405		WII	SC		IFM Collection
			DOVER QUAD			
7K-C-5	K-438	Micro-band b.c.	WI	C,W		IFM Collection
7K-C-6	K-451	Micro-band b.c.	WI	BL, WN, W		IFM Collection
7K-C-17	K-455					
7K-C-18	K-465	Micro-band b.c.	WI			BAHP Files
7K-C-32	K-466					
7K-C-33	K-513	Micro-band b.c.	WI	BL		Custer 1983a:App. II
7K-C-40	K-452					
7K-C-54	K-432	Micro-band b.c.	WI	W		IFM Collection
7K-C-71	K-454					
7K-C-72	K-465					
7K-C-86	K-813	Macro-band b.c.	WI, WII	BL,DA/WN,SC		Custer 1983a:App. II
7K-C-87	K-814	Micro-band b.c.	WI	BL, C		Custer 1983a:App. II
7K-C-88	K-815	Procurement	A, WI			Custer 1983a:App. II

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
7K-C-90	K-871	Lithic Reduction	WI	BL, W, SC	Special purpose procur.	IFM collection BAHP site files
7K-C-91	K-872		WI			BAHP site files
7K-C-99	K-4333					
7K-C-91	K-947		WI	W, WN/DA		BAHP site files
7K-C-108	K-5471	Procurement				Galasso 1983
7K-C-109	K-5472	Procurement				Galasso 1983
			FREDERICA QUAD			
7K-F-12	K-631	Macro-band b.c.	WI	BL	Robbins Farm Site	Custer 1983a: App. II; Griffith & Artusy n.d.
7K-F-44	K-629	Micro-band b.c.	WI, WII	BL, DA, C		Custer 1983a: App. II; Griffith & Artusy n.d.
7K-F-45	K-626	Micro-band b.c.	WI	BL,DA,C,W		ibid.
7K-F-46	K-624	Micro-band b.c.	WI	BL,C, W		ibid.
7K-F-47	K-622	Micro-band b.c.	WI, WII	BL,DA, W, SC		ibid.
7K-F-48	K-621	Procurement	WI, WII	BL, W		ibid.
7K-F-49	K-630					
7K-F-50	K-620					
7K-F-51	K-611					
7K-F-52	K-612	Micro-band b.c.	WI, WII	BL, WN		Custer 1983a: App. II; Griffith & Artusy n.d.
7K-F-53	K-623	Micro-band b.c.	WI	BL,DA,C,W		ibid.
7K-F-54	K-627	Micro-band b.c.	WI	BL,DA,C,W		ibid.
7K-F-55	K-628	Macro-band b.c.	WI	BL,DA,C,W		ibid.
7K-F-56	K-618					
7K-F-57	K-613	Procurement	WI			ibid.
7K-F-58	K-619	Micro-band b.c.(?)	WI	BL,DA		Custer and Galasso 1983
7K-F-65	K-624	Micro-band b.c.(?)	WI, WII	WN/DA,C,SC		IFM Collection

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
7K-F-121	K-5446	Procurement				Custer and Galasso 1983
7K-F-122	K-5447	Procurement	WI			ibid.
			KENTON QUAD			
7K-C-27	K-431					
			LITTLE CREEK QUAD			
7K-D-8	K-608					
7K-D-10	K-490	Macro-band b.c.	A, WI, WII	BL,WN,C,W,SC		IFM Collection
7K-D-16	K-482					
7K-D-21	K-486	Macro-band b.c.	WI,WII	WN,C,W,SC	Hughes-Willis National Register Site	Thomas et al 1975; Griffith 1974
7K-D-25	K-489	Micro-band b.c.	A,WI,WII	WN,C,SC		IFM Collection
7K-D-27	K-495					
7K-D-29	K-481					
7K-D-33	K-497	Micro-band b.c.(?)	WI,WII	WN,W,SC		IFM Collection
7K-D-34	K-488		WI	C		IFM Collection
7K-D-46	K-950	Macro-band b.c.	WI,WII	BL,SC		BAHP site files
7K-D-68	K-5477	Micro-band b.c.	WII	SC		Custer & Galasso 1983
7K-D-69	K-5478	Macro-band b.c.	A,WI,WII	BL,SC		ibid.
			MIDDLETOWN QUAD			
7NC-F-3	N-3809		WI			IFM Collection
7NC-F-6	N-3819		WI			IFM Collection
7NC-F-7	N-3825	Macro-band b.c.	WI,WII	W,SC	Hell Island National Register Site	IFM Collection; Thomas 1966
7NC-F-8	N-3823	Micro-Band b.c.	WII	M		IFM Collection
7NC-F-9	N-3826	Micro-band b.c.	WII	M		IFM Collection
7NC-F-10	N-3824	Micro-band b.c.	WI,WII	CF,W,M		IFM Collection Gardner and Stewart 1978
7NC-F-11	N-3820					
7NC-F-12	N-3821	Micro-band b.c.	WI	W		Gardner and Stewart 1978
7NC-F-13	N-3827	Micro-band b.c.	WI			ibid.

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
7NC-F-21	N-3808					
7NC-F-22	N-3807					
7NC-F-23	N-3806	Procurement	WI			BAHP site files
7NC-F-24	N-3828	Procurement	WI			Gardner and Stewart 1978
7NC-F-28	N-3722	Procurement	WII			BAHP site files
7NC-F-29	N-3818	Micro-band b.c.	WI			Custer 1983a: App. II
7NC-F-31	N-3805		WI			BAHP site files
7NC-F-32	N-3816	Procurement	WI			Gardner and Stewart 1978
7NC-F-33	N-3817	Procurement	WI			ibid.
7NC-F-35	N-3858					
7NC-G-5	N-3812	Macro-band b.c.	WI,WII	CF,M	Early Minguannan cer.	IFM collections
7NC-G-7	N-3833	Micro-band b.c.	WI	CF		IFM collections
7NC-G-10	N-3813	Micro-band b.c.	WI	CF		IFM collections
7NC-G-11	N-3831					
7NC-G-13	N-3810					
7NC-G-14	N-3830	Procurement	WI			BAHP site files
7NC-G-15	N-3811	Micro-band b.c.	WII	M		IFM collections
7NC-G-21	N-3829					
7NC-G-25	N-3832					
7NC-G-26	N-3968	lit. red. hist. house	WI	CF,WN,	historic component ca. 1600-1799	IFM Collection
7NC-G-27	N-3898	Micro-band b.c.	WI	CF,WN,C,W		IFM Collection
7NC-G-28	N-3899					
7NC-H-7	N-3835	Procurement				IFM Collection
7NC-H-8	N-3836					
7NC-J-15	N-3959					
			ST. GEORGES QUAD			
7NC-E-2	N-3768	Micro-band b.c.	A,WI	CF	Indian Mound Site	Elwood Wilkin personal com.
7NC-E-11	N-3772	Micro-band b.c.	A,WI	CF, W		Custer 1983 App. II
7NC-E-12	N-3769		WII			BAHP site files
7NC-E-28	N-3770					

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
7NC-E-29	N-3771					
7NC-F-1	N-3786	Micro-band b.c.(?)	A,WI,WII	CF,W,M		IFM Collection
7NC-F-4	M-3788		WI			IFM Collection
7NC-F-14	N-781					
7NC-F-25	N-3797		WI	C		IFM Collection
7NC-F-26	N-3798					
7NC-F-27	M-3799					
7NC-G-1	N-3788	Procurement	A,WI	CF		IFM Collection
7NC-G-9	N-3800					
7NC-G-19	N-3789	Procurement	WI			IFM Collection
7NC-G-20	N-3790					
7NC-G-22	N-3791					
7NC-G-29	N-3958					
7NC-G-30	N-4044	Procurement	WI,WII			IFM Collection
7NC-G-31	N6245					
7NC-G-32	N-6246					
7NC-G-33	N-6265					
7NC-G-34	N-6266					
7NC-G-35	N-6268					
7NC-G-36	N-6269					
7NC-G-37	N-6244		Historic		19th Century	BAHP Files
	N-7838					
	N-7839					
	N-7840					
	N-7841					
			SMYRNA QUAD			
7K-A-7	K-403		WI			BAHP site files
7K-A-10	K-400		A,WI,WII			BAHP site files
7K-A-11	K-401		A,WI,WII			BAHP site files
7K-A-14	K-869	Micro-band b.c.	WI,WII	WN,C,SC		IFM Collection
7K-A-15	K-448	Micro-band b.c.	WI	W		BAHP site files
7NC-J-9	N-3849					
7NC-J-11	N-3848					

Site #	CRS #	Functional Type	Time Period	Components	Comments	References
			WYOMING QUAD			
7K-C-16	K-521					
7K-C-33	K-513	Micro-band b.c.	WI	BL		Custer 1983a: App. II
7K-C-57	K-514					
7K-C-60	K-515					
7K-C-75	K-517		Historic		Glazed Earthenware	IFM Collection
7K-C-78	K-511					
7K-C-83	K-467					
7K-E-5	K-585					
7K-E-9	K-670					
7K-E-75	K-565	Macro-band b.c.	WI,WII	BL,DA/WN,C, W,SC		IFM Collections
7K-E-108	K-568		WI	BL		IFM Collection
7K-E-110	K-569					
7K-E-116	K-589					
7K-C-102	K-5457	Procurement				Custer and Galasso 1983
7K-C-103	K-5458	Micro-band b.c.	A			ibid.
7K-C-105	K-5461	Procurement	WI			ibid.
7K-C-104	K-5459	Micro-band b.c.	WI	WN		ibid.
7K-C-160	K-5460	Procurement				ibid.
7K-E-159	K-5456	Procurement				ibid.

APPENDIX II

STANDING STRUCTURE DATA FROM BAHP FILES

The contents of this appendix have been entered in a data base management system and may be sorted and cross-tabulated by individual variables or combinations of variables.

Key to Symbols and Abbreviations

USGS Quadrangle Map Symbols

C	-	Clayton
D	-	Dover
F	-	Frederica
K	-	Kenton
LC	-	Little Creek
M	-	Middletown
SG	-	Saint Georges
S	-	Smyrna
TB	-	Taylors Bridge
W	-	Wyoming

Structure Condition Symbols

E	-	Excellent
G	-	Good
F	-	Fair
P	-	Poor
D	-	Deteriorated
A	-	Abandoned
DS	-	Destroyed

Date Symbols

e	-	early
m	-	middle
l	-	late
C	-	Century
c	-	circa
a	-	after
p	-	pre

Site Potential (P) Evaluation Symbols

N	-	No Potential
Y	-	Yes Potential
U	-	Unknown Potential

Site Significance (S) Evaluation Symbols

H	-	High Significance
M	-	Medium Significance
L	-	Low Significance
U	-	Unknown Significance

References Symbols

A	-	Baist's Atlas of New Castle County, Delaware, 1893.
B	-	Beer's Atlas of the State of Delaware, 1968.
C	-	Bureau of Archaeology and Historic Preservation Standing Structure Inventory Files.
D	-	Price and Rea, Map of the State of Delaware, 1850.
E	-	Rea and Price, Map of New Castle County, Delaware, 1849.
F	-	Varle, Map of the State of Delaware and Eastern Shore of Maryland, 1802.
G	-	USGS Geologic Atlas of the United States, Dover Folio, 1906.
H	-	Hoffecker, Delaware: A bicentennial history, 1977.
S	-	Various sources contained in the BAHP Standing Structure Inventory Files.

Key to Symbols and Abbreviations

Historic Site Type Symbols

AGBLG	-	Agricultural Outbuilding
AGCX	-	Agricultural Complex
AGMCX	-	Agricultural-Mill Complex
AGTEN	-	Agricultural Tenant Dwelling/Farm
ALMHSE	-	Almshouse
BANK	-	Bank
BRID	-	Bridge
BSSH	-	Blacksmith/Whitesmith Shop
CAUWY	-	Causeway
CCBLG	-	Canal Company Building
CEM	-	Cemetary
CHUR	-	Church
COMM	-	Commerical Structure
DWCX	-	Dwelling Complex
EST	-	Estate
GMCX	-	Gristmill Complex
GOVBLG	-	Government Building
HISTD	-	Historic District
HOT	-	Hotel
INDTEN	-	Industrial Tenant
LANOP	-	Landing Operation
LMKILN	-	Lime Kiln
LTHSE	-	Lighthouse
MANUFY	-	Manufactory
MMCX	-	Multiple-Mill Complex
MWHSE	-	Migrant Worker House
PEACH	-	Peach House
PEAORC	-	Peach Orchard
PHYS	-	Physician's Office
PLANT	-	Plantation
PO	-	Post Office
RR	-	Railroad Bed
RRR	-	Railroad-related
RRSTA	-	Railroad Station
RT	-	Racetrack
SCH	-	School
SCOSTA	-	Stagecoach Station
SERVST	-	Service Station
SLAVQ	-	Slave Quarters
SMCX	-	Sawmill Complex
SOMCX	-	Sorghum Mill Complex
STO	-	Store
STRUC	-	Structure
TAV	-	Tavern, Inn
TENANT	-	Tenant House
VESSEL	-	Vessel (sunken)
WARE	-	Warehouse
WKDW	-	Worker Dwelling
WKSH	-	Workshop

Key to Symbols and Abbreviations

Criteria for Significance Evaluation

1. Age: Sites providing information on early settlement, technology, commerce, industry, or lifeways are more significant.

2. Regional Interest: Sites which have impact on regional or local research problems are more significant.

3. National Interest: Sites which have impact on national or universal research problems are more significant.

4. Preservation: Sites containing well-preserved structural, faunal, floral, or skeletal remains are more significant.

5. Multi-function: Sites exhibiting a range of well-defined activity/functional loci are more significant.

6. Uniqueness: Sites containing rare or unique features (technological innovations, slave-related components) are more significant.

7. Previous Knowledge: Site types about which little is known are more significant and those which provide information on poorly understood social-historical contexts are more significant.

8. Public Significance: Sites which may easily be used in public education programs due to site contents and accessibility for public viewing are more significant.

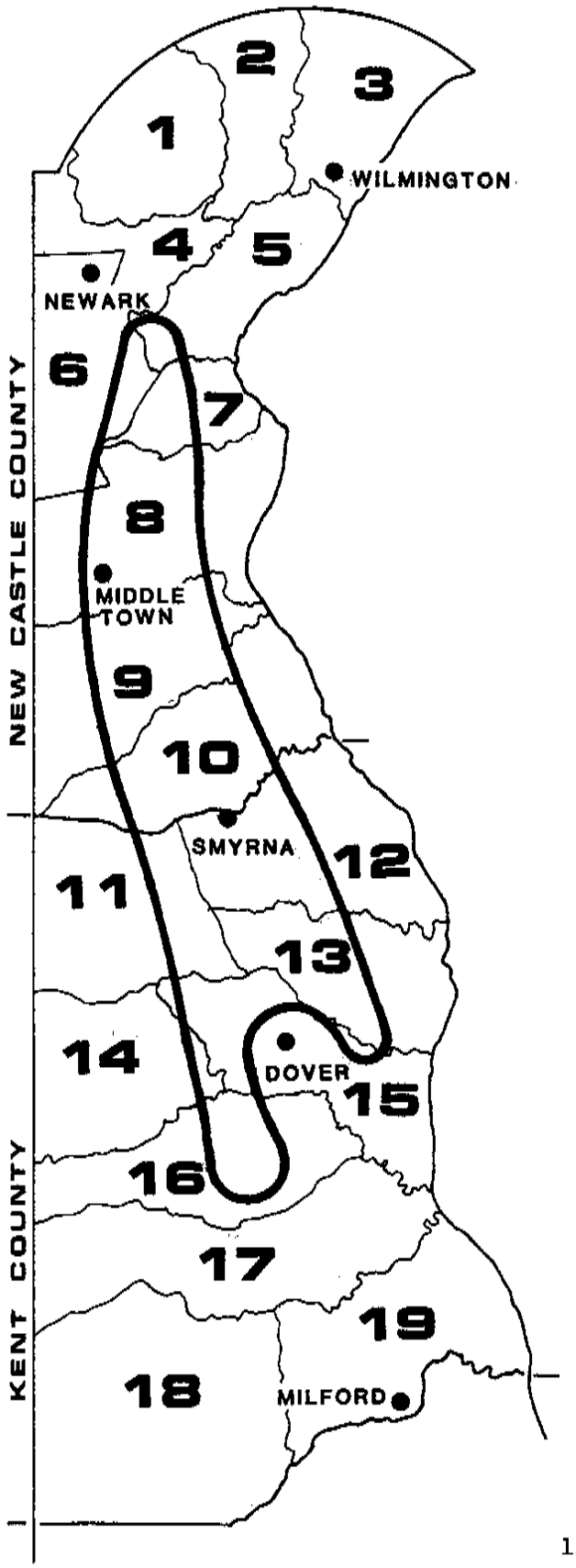
9. Size and Density: Larger sites and those containing dense deposits of material culture and more significant.

10. Famous Events or Persons: Sites associated with a person or event of local, regional, or national interest are more significant.

11. Duration of Occupation: Sites exhibiting discrete temporal loci whether in the context of long-term or short-term occupations are more significant.

FIGURE 27

HUNDREDS MAP OF NEW CASTLE AND KENT COUNTIES



KEY:

1 – MILL CREEK
2 – CHRISTIANA
3 – BRANDYWINE
4 – WHITE CLAY CREEK
5 – NEW CASTLE
6 – PENCADER
7 – RED LION
8 – ST. GEORGES
9 – APPOQUINIMINK
10 – BLACKBIRD
11 – KENTON
12 – DUCK CREEK
13 – LITTLE CREEK
14 – WEST DOVER
15 – EAST DOVER
16 – NORTH MURDERKILL
17 – SOUTH MURDERKILL
18 – MISPILLION
19 – MILFORD

APPOQUINIMINK HUNDRED

Site #	Quad	Date	Function	Potential	Significance	References
217	M	1849-68	AGTEN	Y	H:1,2,4,7,11	AB
218	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
219	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
220	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
221	M	p1849	AGCX	Y	H:1,2,4,5,7,11	E
222	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
223	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
224	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
225	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
226	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
227	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
228	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
229	M	p1802	GMCX	Y	H:1,2,4,5,6,7,8,11	A,B,E,F
230	M	p1849	INDTEN	Y	H:1,2,4,5,7,11	A,B,E
231	M	1849-68	INDTEN	Y	H:1,2,4,5,7,11	A,B
232	M	1849-68	STRUC	Y	H:1,2,4,5,7,11	A,B
233	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
234	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
235	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
236	M	1849-68	AGCX	Y	H:1,2,4,7,11	A,B
237	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
238	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
239	M	p1849	DWCX	Y	H:1,2,4,5,7,11	A,B,E
240	M	p1849	DWCX	Y	H:1,2,4,7,11	A,B,E
241	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
242	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E,
243	M	p1849	WKSH	Y	H:1,2,4,5,7,11	A,E
244	M	p1849	GMCX	Y	H:1,2,4,5,7,11	A,B,D,E
245	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
246	M	1849-68	STRUC	Y	H:1,2,7,11	A,B
247	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
248	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
249	M	1849-68	EST	Y	H:1,2,4,7,11	A,B
250	M	p1849	SCH	Y	M:1,2,4,7,11	E
251	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E

Site #	Quad	Date	Function	Potential	Significance	References
252	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
253	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
254	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
255	M	1849-68	MANUFY	Y	H:1,2,4,5,7,9,11	B
256	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
257	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
258	M	p1849	AGCX	Y	H:1,2,4,7,11	A,E
259	M	1849-68	SCH	Y	M:1,2,4,7,11	A,B
260	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
261	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
262	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
263	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
264	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
265	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
266	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
267	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
268	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
269	M	1849-68	STRUC	Y	H:1,2,11	A,B
270	M	1849-68	SCH	Y	M:1,2,4,7,11	A,B
271	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
272	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
273	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
274	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
275	M	1849-68	SCH	Y	M:1,2,4,7,11	A,B
276	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
277	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
278	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
279	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
280	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
281	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
282	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
283	M	1849-68	DWCX	Y	H:1,2,4,5,7,11	A,B
284	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
285	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
286	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
287	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
288	M	1849-68	WKSH;STO	Y	H:1,2,4,5,7,11	A,B

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289	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
290	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
291	M	p1849	AGTEN	Y	H:1,2,4,5,7,11	A,B,E
292	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E
293	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
296	C	p1849	AGCX	Y	H:1,2,4,5,7,9,11	A,B,E
297	C	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
298	C	1849-68	AGCX	Y	H:1,2,4,6,7,11	A,B
299	C	1849-68	STO	Y	H:1,2,4,5,7,11	A,B
300	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
301	C	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
302	C	p1849	AGTEN	Y	H:1,2,4,5,7,11	A,B,E
303	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
304	C	1849-68'	AGCX	Y	H:1,2,4,5,7,11	A,B
305	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
306	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
309	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
310	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
357	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
833	C	1868-93	AGCX	Y	M:1,2,4,5,11	A
838	C	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
839	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
841	M	1849-68	DWCX;LANOP	Y	H:1,2,4,5,7,11	A,B
842	M	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
843	M	1868-93	DWCX	Y	M:1,2,4,11	A
844	M	1868-93	DWCX	Y	M:1,2,4,11	A
845	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
846	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
847	M	1849-68	PO;WKSH	Y	H:1,2,4,5,7,11	A,B
848	M	1849-68	STO	Y	H:1,2,4,5,7,11	A
849	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
850	M	1849-68	BSSH	Y	H:1,2,4,5,7,11	A,B
851	M	1868-93	DWCX	Y	M:1,2,4,11	A
852	M	1849-68	STO;DWCX	Y	H;1,2,4,5,7,11	A,B
853	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
854	M	1849-68	STO	Y	H:1,2,4,5,7,11	A,B
855	M	1849-68	AGCX	Y	H;1,2,4,5,7,11	A,B

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858	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
859	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
860	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
861	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
862	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
863	M	1868-93	STRUC	Y	M:1,2,11	A
864	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
865	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
866	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
867	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
868	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
869	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
870	M	1868-93	STRUC	Y	M:1,2,11	A
871	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
872	M	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
875	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
876	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
877	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
878	M	1868-93	STRUC	Y	M:1,2,11	A
879	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
880	M	1868-93	STRUC	Y	M:1,2,11	A
881	M	1849-68	DWCX	Y	H:1,2,4,5,7,11	A,B
882	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
883	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
884	M	1868-93	STRUC	Y	M:1,2,11	A
885	M	1868-93	STRUC	Y	M:1,2,11	A
886	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
887	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
888	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
889	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
890	M	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
891	M	1868-93	DWCX	Y	M:1,2,4,11	A
892	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
893	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
894	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
895	M	1868-93	STRUC	Y	M:1,2,11	A
900	M	1868-93	AGCX	Y	M:1,2,4,7,11	A

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904	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
905	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
906	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
907	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
908	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
909	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
910	M	1868-93	CEM	Y	M:1,2,4,7,8,11	A
911	M	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
912	M	1868-93	AGCX;AGMCX	Y	H:1,2,4,5,7,11	A
913	M	1868-93	AGCX	Y	M:1,2,4,7,11	A
1052	M	1849-68	WKSH	Y	H:1,4,5,7,11	B
			BLACKBIRD HUNDRED			
294	C	p1849	GMCX	Y	H:1,2,4,5,7,8,11	A,B,E
295	C	p1849	SMCX	Y	H:1,2,4,5,7,8,11	A,B,E
307	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
308	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
311	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
312	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
313	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
314	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
315	TB	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
316	TB	p1849	AGTEN	Y	H:1,2,4,5,7,11	A,B,E
317	TB	p1849	AGCX	Y	H:1,2,4,5,7,11	B,E
318	TB	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
319	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E
320	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
321	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
322	C	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
323	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
324	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E
325	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
326	C	p1849	SCH	Y	M:1,2,4,7,11	A,B,E
327	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
328	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
329	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E

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330	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
331	S	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
332	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
333	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
334	S	p1802	GMCX	Y	H:1,2,4,5,6,7,11	D,E,F
335	C	1849-68	CHUR	Y	M:1,2,4,7,11	A,B
336	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
337	C	p1849	DWCX	Y	H:1,2,4,7,11	A,B,E
338	C	p1849	RRSTA;STO	Y	H:1,2,4,5,7,8,11	A,B,E
339	C	p1849	SCH	Y	M:1,2,4,11	A,B,E
340	C	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
341	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
342	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E
343	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
344	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
345	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,E
346	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
347	C	p1849	AGCX	Y	H:1,2,4,5,7,11	B,E
348	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
349	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
350	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
351	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
352	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
353	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
354	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
355	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
356	C	p1849	CHUR;CEM	Y	H:1,2,4,5,7,8,11	A,B,E
358	C	p1849	AGCX	Y	H:1,2,4,5,7,11	B,E
359	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
360	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
361	C	p1849	RR	Y	L:1,2,7	E
362	C	p1849	AGCX	Y	H:1,2,4,5,7,11	E
363	C	p1849	AGTEN	Y	H:1,2,4,5,7,11	A,B,E
364	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
365	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
366	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
367	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B

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368	C	1849-68	DWCX	Y	H:1,2,4,5,7,11	A,B
369	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
370	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
371	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
372	C	1849-68	AGTEN	Y	H:1,2,4,7,11	B
373	C	p1849	AGCX;EST	Y	H:1,2,4,5,7,8,11	A,B,E
374	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
375	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
376	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
377	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
378	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
379	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
380	C	1849-68	TENANT;BANK	Y	H:1,2,4,5,7,11	A,B
381	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
382	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
383	C	1868-93	RRSTA;HOT	Y	M:1,2,4,5,7,8,11	A
384	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
385	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
386	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
387	C	p1849	INDTEN	Y	H:1,2,4,5,7,11	E
388	C	p1849	STRUC	U	U	E
389	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
390	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
391	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
392	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
393	S	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
394	S	p1849	STO	Y	H:1,2,4,5,7,11	E
395	S	p1849	SGCX	Y	H:1,2,4,5,7,11	A,B,E
396	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
397	S	p1849	SCH	Y	M:1,2,4,11	A,B,E
398	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
399	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
400	S	1849-68	AGCX	Y	H:1,2,4,7,11	A,B
401	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
402	S	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
403	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
404	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E

Site #	Quad	Date	Function	Potential	Significance	References
405	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
406	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
407	S	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
408	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
409	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
410	S	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
411	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
412	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
413	S	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
414	S	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
415	S	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
416	S	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
417	S	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
418	S	p1849	COMM;DWCX	Y	H:1,2,4,5,7,9,11	B,E
419	S	p1849	COMM;DWCX	Y	H:1,2,4,5,7,9,11	E
420	S	p1849	COMM;DWCX	Y	H:1,2,4,5,7,9,11	E
421	S	1849-68	MANUFY	Y	H:1,2,4,5,7,9,11	B
422	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
423	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
424	C	p1849	AGCX	Y	H:1,2,4,5,7,11	B,E
425	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
426	S	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
427	S	1849-68	MANUFY	Y	H:1,2,4,5,7,9,11	A,B
428	S	1868-93	INDTEN	Y	M:1,2,4,5,11	A
429	S	p1802	LANOP	Y	H:1,2,4,5,6,7,9,11	A,B,D,E,H
786	S	1868-93	INDTEN	Y	H:1,2,4,7,11	A
787	S	1868-93	AGCX	Y	M:1,2,4,5,7,11	A,B
788	S	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
789	S	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
790	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
791	C	1849-68	AGTEN	Y	H:1,2,4,5,7,11	B
792	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
793	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
794	C	1849-68	DWCX	Y	H:1,2,4,5,7,11	A,B
795	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
796	C	1868-93	STRUC	Y	M:1,2,11	A
797	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A

Site #	Quad	Date	Function	Potential	Significance	References
798	C	1868-93	AGTEN	Y	M:1,2,4,5,7,11	A
799	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
800	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
801	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
802	C	1868-93	AGTEN	Y	M:1,2,4,7,11	A
803	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
804	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
805	C	1868-93	DWCX	Y	M:1,2,4,5,7,11	A
806	C	1868-93	AGTEN	U	U	A
807	C	1868-93	TENANT	Y	M:1,2,4,7,11	A
808	C	1868-93	AGTEN	Y	M:1,2,4,7,11	A
809	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
810	C	1868-93	AGTEN	Y	M:1,2,4,7,11	A
815	C	1868-93	STRUC	Y	M:1,2,4,11	A
816	C	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
836	S	1868-93	AGTEN	Y	M:1,2,4,7,11	A
856	C	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
857	S	1849-68	AGTEN	Y	H:1,2,4,7,11	B
873	TB	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
874	TB	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
896	C	1849-68	AGCX;EST	Y	H:1,2,4,5,7,8,9,11	B
897	C	1849-68	AGTEN	Y	H:1,2,4,7,11	B
898	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
899	C	1849-68	AGTEN	Y	H:1,2,4,7,11	B
901	C	1849-68	AGTEN	Y	H:1,2,4,7,11	B
902	C	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
903	C	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
			DUCK CREEK HUNDRED			
430	S	p1849	LANOP	Y	H:1,2,4,5,7,9,11	B,E
431	S	p1868	INDTEN	Y	H:1,2,4,5,7,11	B
432	S	p1868	INDTEN	Y	H;1,2,4,5,7,11	B
433	S	P1868	MANUFY;WARE;LANOP	Y	H:1,2,4,5,6,7,11	B
434	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
435	S	p1868	WARE	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
436	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
437	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
438	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
439	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
440	S	p1868	WARE	Y	H:1,2,4,5,7,11	B
441	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
442	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
443	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
444	S	p1868	SCH	Y	M:1,2,4,7,11	B
445	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
446	S	P1868	AGTEN	Y	H:1,2,4,7,11	B
447	S	P1868	SCH	Y	M:1,2,4,7,11	B
448	S	P1868	AGTEN	Y	H:1,2,4,7,11	B
449	S	p1868	AGCX	U	U	B
450	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
451	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
453	S	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
455	S	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
456	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
457	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
458	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
459	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
460	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
461	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
462	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
463	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
464	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
465	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
466	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
467	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
468	S	p1850	SCH	Y	H:1,2,4,5,7,11	B,D
469	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
470	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
471	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
472	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
473	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
474	S	p1868	AGTEN	Y	H:1,2,4,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
475	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
477	D	1868	AGTEN	Y	H:1,2,4,5,7,11	B
478	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
479	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
480	S	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
481	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
482	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
483	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
484	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
485	S	p1850	CHUR;CEM	Y	H1,2,4,5,7,8,11	B,D
486	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
487	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
488	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
489	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
490	S	P1868	AGTEN	Y	H:1,2,4,7,11	B
491	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
492	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
493	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
494	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
495	S	p1868	AGCX	Y	H:1,2,4,5,7,11	B
530	C	p1868	INDTEN	Y	H:1,2,4,5,7,11	B
534	S	p1868	DWCX	Y	H:1,2,4,7,11	B
921	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
922	S	p1868	AGTEN	U	U	B
923	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
924	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
925	S	p1868	AGCX;MANUFY	Y	H:1,2,4,5,6,7,8,9,11	B
			EAST DOVER			
666	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
667	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
668	LC	p1868	DWCX	Y	H:1,2,4,7,11	B
669	LC	p1868	DWCX	Y	H:1,2,4,7,11	B
670	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
671	LC	p1868	DWCX	Y	H:1,2,4,7,11	B
672	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
673	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
674	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
675	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
676	LC	p1868	AGCX	U	U	B
677	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
678	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
679	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
680	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
681	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
682	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
683	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
684	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
685	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
686	LC	p1868	AGCX	U	U	B
687	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
688	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
689	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
690	LC	p1868	CHUR	Y	M:1,2,7,11	B
691	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
692	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
693	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
694	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
695	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
696	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
697	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
698	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
699	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
700	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
701	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
702	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
703	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
704	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
705	D	p1850	SMCX	Y	H:1,2,4,5,7,11	B,D
706	D	P1868	INDTEN	Y	H:1,2,4,7,11	B
707	D	p1868	INDTEN	Y	H:1,2,4,7,11	B
708	D	p1868	INDTEN	Y	H:1,2,4,7,11	B
709	D	p1868	SCH	Y	M:1,2,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
710	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
711	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
712	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
713	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
714	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
715	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
716	D	p1868	STRUC	Y	H:1,2,11	B
717	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
718	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
719	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
720	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
721	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
722	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
723	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
724	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
725	D	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
727	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
728	D	p1868	SCH	Y	M:1,2,4,7,11	B
729	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
			KENTON HUNDRED			
452	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
454	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
496	S	p1868	AGTEN	Y	H:1,2,4,7,11	B
497	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
498	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
499	C	p1868	EST	Y	H:1,2,4,5,7,8,9,11	B
500	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
501	C	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
502	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
503	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
504	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
505	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
506	C	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
507	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
508	C	p1868	AGTEN	Y	H:1,2,4,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
509	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
510	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
511	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
512	C	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
513	C	p1868	SCH	Y	M:1,2,4,7,11	B
514	C	p1850	SCH	Y	M:1,2,4,7,11	B,D
515	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
516	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
517	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
518	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
519	C	p1868	STRUC	U	U	B
520	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
521	C	p1868	INDTEN	Y	H:1,2,4,7,11	B
522	C	p1868	INDTEN	Y	H:1,2,4,7,11	B
523	C	p1868	INDTEN	Y	H:1,2,4,7,11	B
524	C	p1868	INDTEN	Y	H:1,2,4,7,11	B
525	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
526	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
527	C	p1849	SMCX	Y	H:1,2,4,5,7,11	B,D,E
528	C	p1868	AGMCX	Y	H:1,2,4,5,7,11	B
529	C	p1868	AGMCX	Y	H:1,2,4,5,7,11	B
531	C	p1849	GMCX	Y	H:1,2,4,5,7,11	D,E
532	C	p1849	MMCX	Y	H:1,2,4,5,7,11	E
533	C	p1850	GMCX	Y	H:1,2,4,5,7,11	B,D
535	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
536	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
537	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
538	C	p1868	AGTEN	Y	H:1,2,4,7,11	B
539	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
540	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
541	K	p1868	DWCX	Y	H:1,2,4,7,11	B
542	K	p1868	DWCX	Y	H:1,2,4,7,11	B
543	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
544	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
545	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
546	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
547	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
548	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
549	K	p1850	SCH	Y	M:1,2,4,7,11	B,D
550	K	p1868	EST	Y	H:1,2,4,5,7,11	B
551	D	p1868	EST	Y	H:1,2,4,5,7,11	B
552	D	p1802	GMCX	Y	H:1,2,4,5,7,8,11	B,D,F
553	S	p1868	PO;RRSTA	Y	H:1,2,4,7,11	B
554	D	p1868	EST	Y	H:1,2,4,5,7,11	B
555	K	p1868	INDTEN	Y	H:1,2,4,5,7,11	B
556	K	1802-1850	SMCX	Y	H:1,2,4,5,7,8,11	B,D
557	K	1802-1850	GMCX	Y	H:1,2,4,5,7,8,11	B,D
558	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
559	D	p1868	INDTEN	Y	H:1,2,4,7,11	B
560	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
561	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
562	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
563	K	p1868	AGCX	Y	H:1,2,4,5,7,11	B
564	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
565	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
566	K	p1868	AGTEN	Y	H:1,2,4,7,11	B
567	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
568	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
569	D	p1868	DWCX	Y	H:1,2,4,7,11	B
570	D	p1850	STO	Y	H:1,2,4,5,7,8,11	B,D
571	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
572	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
573	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
574	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
575	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
576	D	p1868	STRUC	U	U	B
577	D	p1868	SCH	Y	M:1,2,4,7,11	B
578	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
579	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
580	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
581	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
582	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
777	D	p1850	SCH	Y	M:1,2,4,7,11	D
939	S	p1868	STO	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
964	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
976	C	p1868	AGCS	Y	H:1,2,4,5,7,11	B
980	C	p1868	AGCX	Y	H:1,2,4,5,7,11	B
			LITTLE CREEK HUNDRED			
476	D	1802-1850	GMCX	Y	H:1,2,4,5,6,7,11	B,D,F
583	D	p1868	INDTEN	Y	H:1,2,4,7,11	B
584	D	p1868	INDTEN	Y	H:1,2,4,7,11	B
585	D	p1868	SCH	Y	M:1,2,7,11	B
586	D	p1850	CHUR;CEM	Y	H:1,2,4,5,7,11	B,D
587	D	p1868	STO	Y	H:1,2,4,5,7,11	B
588	D	p1868	CHUR;CEM	Y	M:1,2,4,5,7,11	B
589	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
590	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
591	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
592	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
593	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
594	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
595	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
596	D	p1868	DWCX	Y	H:1,2,4,7,11	B
597	D	p1868	DWCX	Y	H:1,2,4,7,11	B
598	D	p1868	MANUFY	Y	H:1,2,4,5,7,11	B
599	D	p1850	SCH	Y	M:1,2,7,11	B,D
600	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
601	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
602	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
603	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
604	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
605	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
606	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
607	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
608	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
609	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
610	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
611	D	p1868	SCH	Y	M:1,2,7,11	B
612	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
613	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
614	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
615	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
616	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
617	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
618	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
619	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
620	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B
621	D	p1868	AGTEN	Y	H:1,2,4,7,11	B
622	D	p1868	CHUR	Y	M:1,2,7,11	B
623	D	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
625	D	1850-68	SOMCX	Y	H:1,2,4,5,7,11	B
626	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
627	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
628	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
629	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
630	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
631	LC	p1868	DWCX;TENANT	Y	H:1,2,4,7,11	B
632	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
633	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
634	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
635	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
636	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
637	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
638	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
639	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
640	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
641	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
642	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
643	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
644	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
645	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
646	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
647	LC	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
648	LC	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
649	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
650	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
651	LC	1780	CHUR;CEM	Y	H:1,2,3,4,5,6,7,8,11	B,D,H
652	LC	p1868	DWCX	Y	H:1,2,4,7,11	B
653	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
654	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
655	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
656	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
657	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
658	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
659	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
660	LC	p1868	AGTEN	Y	H:1,2,4,7,11	B
661	LC	p1868	STRUC	Y	H:1,2,11	B
662	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
663	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
664	LC	p1850	CHUR	Y	M:1,2,7,11	B,D
665	LC	p1868	AGCX	Y	H:1,2,4,5,7,11	B
778	D	p1850	CHUR	Y	M:1,2,7,11	D
779	LC	p1850	SCH	Y	M:1,2,7,11	B,D
			NEW CASTLE HUNDRED			
1	SG	p1849	AGTEN	Y	H:1,2,4,5,7,11	B,E
2	SG	p1849	AGTEN	Y	H:1,2,4,7,11	B,E
3	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
4	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
5	SG	p1849	AGCX	N		A,B,E
6	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
7	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
782	SG	1868-93	AGTEN	N		A
783	SG	1868-93	STRUC	N		A
784	SG	1868-93	STRUC	Y	M:1,2,11	A
785	SG	1868-93	TENANT	Y	M:1,2,4,11	A
			NORTH MURDERKILL HUNDRED			
730	W	p1802	GMCX	Y	H:1,2,4,5,6,7,8,11	B,D,F
731	W	p1802	GMCX	Y	H:1,2,4,5,6,7,8,11	B,F
732	W	p1868	STRUC	N		B
733	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B

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734	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
735	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
736	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
737	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
738	W	p1850	ALMHSE	Y	H:1,2,3,4,5,6,7,11	B,D
739	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
740	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
741	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
742	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
743	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
744	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
745	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
746	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
747	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
748	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
749	W	p1868	AGCX	U	U	B
750	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
751	W	p1868	AGCX	Y	H;1,2,4,5,7,11	B
752	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
753	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
754	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
755	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
756	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
757	W	p1868	AGTEN	Y	H:1,2,4,7,11	B
780	W	p1850	AGCX	Y	H:1,2,4,5,7,11	D
781	W	p1850	SCH	Y	M:1,2,7,11	D
			PENCADER HUNDRED			
58	SG	p1802	AGMCX	Y	H:1,2,4,5,7,11	ABEF
60	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
61	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
62	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
63	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
64	SG	p1802	TAV;HOT	U	U	A,B,E,F
67	SG	p1849	DWCX	Y	H:1,2,4,7,11	A,B,E
68	SG	P1849	DWCX	Y	H:1,2,4,7,11	A,B,E

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69	SG	p1849	DWCX;STO	Y	H:1,2,4,5,7,11	A,B,E
70	SG	p1849	SCH	Y	M:1,2,7,11	A,B,E
71	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
72	SG	p1849	AGTEN	Y	H:1,2,4,7,11	B,E
73	SG	p1849	STO;DWCX	Y	H:1,2,4,5,7,11	A,B,E
1006	SG	p1868	AGTEN	Y	H:1,2,4,7,11	A,B
1007	SG	p1868	EST;AGCX	Y	H:1,2,4,5,7,8,9,11	A,B
1008	SG	p1868	AGTEN	Y	H:1,2,4,7,11	A,B
1009	SG	p1868	AGTEN	U	U	A,B
1010	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
1011	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
1012	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1013	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1014	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1015	SG	1868-93	TENANT	Y	H:1,2,4,5,7,11	A
1016	SG	1868-93	STRUC	Y	M:1,2,11	A
1017	SG	1849-68	STRUC	Y	H:1,2,11	B
1018	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1019	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
1020	SG	1849-68	STO	Y	H:1,2,4,5,7,11	A,B
1021	SG	1849-68	HOT	Y	H:1,2,4,5,7,11	A,B
1022	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1051	SG	p1802	AGCX	U	U	B,E,F
			RED LION HUNDRED			
8	SG	p1849	CHUR;CEM	Y	H:1,2,4,5,7,8,11	A,B,E
9	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
10	SG	p1849	EST	Y	H:1,2,4,5,7,8,10,11	A,B,E
11	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
12	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
13	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
14	SG	p1849	AGCX	N	N	A,B,E
15	SG	p1849	DWCX	N	N	A,B,E
16	SG	p1849	DWCX	N	N	A,B,E
17	SG	p1849	CHUR;ALMHSE;AGCX	N	N	A,B,E
18	SG	p1849	AGCX	N	N	A,B,E

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19	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
20	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
21	SG	p1849	AGCX	N	N	A,B,E
22	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
23	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
24	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
25	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
26	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B
27	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
28	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
29	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	B,E
30	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
31	SG	p1849	SCH	Y	M:1,2,7,11	A,B,E
32	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
33	SG	p1868	AGTEN	Y	H:1,2,4,7,11	A,B
34	SG	p1849	AGTEN	Y	H:1,2,4,7,11	B,E
35	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
36	SG	p1849	AGTEN	Y	H;1,2,4,7,11	E
37	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
38	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
39	SG	1849-68	AGTEN	U	U	A,B
40	SG	1849-68	SCH	Y	M;1,2,7,11	A,B
41	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
42	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
43	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
44	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
45	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
46	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
47	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
48	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
49	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
50	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
51	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
52	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
53	SG	p1849	AGCX	U	U	E
54	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
55	SG	1849-68	AGCX	U	U	A,B

Site #	Quad	Date	Function	Potential	Significance	References
56	SG	1849-68	RRBLG	Y	H;1,2,4,5,7,11	A,B
57	SG	1849-68	CCBLG	Y	H:1,2,4,5,7,11	A,B
59	SG	1849-68	CCBLG	Y	H:1,2,4,5,7,11	A,B
99	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
118	SG	p1802	SMCX	Y	H:1,2,4,5,6,7,8,11	A,B,E,F
119	SG	p1849	STO	Y	H:1,2,4,5,7,11	A,B,E
120	SG	1849-68	STO	Y	H:1,2,4,5,7,11	A,B
121	SG	1849-68	CCBLG	Y	H:1,2,4,5,7,11	A,B
811	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
812	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
813	SG	p1868	STO	Y	H:1,2,4,5,7,11	A,B
814	SG	p1868	STO	Y	H:1,2,4,5,7,11	A,B
817	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
818	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
819	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
821	SG	p1868	BSSH	Y	H:1,2,4,5,7,11	A,B
822	SG	p1868	DWCX;WKDW	Y	H:1,2,4,7,11	A,B
823	SG	p1868	HOT	Y	H:1,2,4,5,7,11	A,B
824	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
825	SG	p1868	DWCX;COMM	Y	H:1,2,4,5,7,11	A,B
826	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
827	SG	p1868	CHUR;DWCX	Y	H:1,2,4,5,7,11	A,B
828	SG	p1868	AGTEN	Y	H:1,2,4,7,11	A,B
829	SG	p1868	STRUC	Y	H:1,2,11	A,B
830	SG	p1868	BSSH	Y	H:1,2,4,5,7,11	A,B
831	SG	p1868	CHUR	Y	M:1,2,7,11	A,B
832	SG	p1868	DWCX	Y	H;1,2,4,7,11	A,B
834	SG	p1868	HOT	Y	H:1,2,4,5,7,11	A,B
835	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
836	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
837	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
840	SG	p1868	DWCX	Y	H:1,2,4,7,11	A,B
1023	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1024	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
1025	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
1026	SG	1868-93	RT	Y	M:1,2,4,5,7,11	
1027	SG	1868-93	DWCX	Y	M:1,2,4,11	A

Site #	Quad	Date	Function	Potential	Significance	References
1028	SG	1868-93	EST	Y	M:1,2,4,5,7,11	A
1029	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
1030	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
1031	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
1032	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1033	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1034	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1035	SG	1868-93	STRUC	Y	M;1,2,11	A
1036	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1037	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1038	SG	1868-93	AGCX	Y	M:1,2,4,7,11	A
1039	SG	1868-93	AGCX	Y	M:1,2,4,5,7,11	A
1040	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
1041	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
1042	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
1043	SG	1849-68	STRUC	U	U	B
1044	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
1045	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1046	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1047	SG	1868-93	DWCX	Y	M:1,2,4,11	A
1048	SG	1868-93	AGCX	Y	M:1,2,4,7,11	A
1049	SG	1868-93	AGCX	Y	M:1,2,4,7,11	A
1050	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
1054	SG	1849-68	SCH	Y	M:1,2,7,11	A,B
			ST. GEORGES HUNDRED			
65	SG	p1849	STO;DWCX	N	N	A,B,E
66	SG	p1849	LANOP	N	N	A,B,E
74	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
75	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
76	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
77	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
78	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
79	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
80	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
81	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B

Site #	Quad	Date	Function	Potential	Significance	References
82	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
83	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
84	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
85	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
86	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
87	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
88	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
89	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
90	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
91	SG	p1849	SCH;CHUR	Y	M:1,2,7,5	A,B,E
92	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
93	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
94	SG	1849-68	LANOP	Y	H:1,2,4,5,7,11	A,B
95	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
96	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
97	SG	1849-68	GMCX;DWCX	Y	H:1,2,4,5,6,7,8,9,11	A,B,E
98	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
100	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
101	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
102	SG	p1849	BRID	Y	M:1,2,4,5,7,11	B,E
103	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
104	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
105	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
106	SG	p1849	STRUC	Y	H:1,4,7,11	E
107	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
108	SG	1849-68	AGTEN	Y	H;1,2,4,7,11	B
109	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
110	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
111	SG	1849-68	AGCX	Y	H:1,2,4,7,11	A,B
112	SG	p1849	SCH	Y	M;1,2,7,11	A,B,E
113	SG	p1849	STO	Y	H:1,2,4,5,7,11	A,B,E
114	SG	p1849	CHUR;CEM	Y	H;1,2,4,5,7,8,11	A,B,E
115	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
116	SG	1849-68	AGCX	Y	H:1,2,4,7,11	A,B
117	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	E
122	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
123	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B

Site #	Quad	Date	Function	Potential	Significance	References
124	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
125	SG	1849-68	CEM	Y	H:1,2,4,5,7,8,11	A,B
126	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
127	SG	p1849	SCH	Y	H:1,2,7,11	A,B,E
128	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
129	SG	1849-68	STRUC	Y	H:1,7,11	B
130	SG	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
131	SG	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
132	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
133	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
134	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
135	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
136	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	B
137	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
138	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
139	SG	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
140	SG	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
141	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
142	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
143	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B,E
144	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
145	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
146	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
147	M	p1849	AGCX	Y	H:1,2,4,5,7,11	E
148	M	p1849	AGTEN	Y	H:1,2,4,7,11	E
149	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
150	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
151	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
152	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
153	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B,E
154	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
155	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
156	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
157	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
158	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
159	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
160	M	1849-68	INDTEN	Y	H:1,2,4,7,11	A,B

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161	M	p1802	GMCX	Y	H:1,2,4,5,6,7,8,11	A,B,E,F
162	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,E
163	M	p1849	AGCX	Y	H:1,2,4,5,7,11	E
164	M	1849-68	INDTEN	Y	H:1,2,4,7,11	A,B
165	M	1849-68	INDTEN	Y	H:1,2,4,7,11	A,B
166	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
167	M	p1849	AGTEN	Y	H:1,2,4,7,11	E
168	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
169	M	1849-68	SCH	Y	M:1,2,7,11	B
170	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
171	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
172	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
173	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
174	M	1849-68	BSSH	Y	H:1,2,4,5,7,11	A,B
175	M	1849-68	BSSH	Y	H:1,2,4,5,7,11	A,B
176	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
177	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
178	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
179	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
180	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
181	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
182	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
183	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
184	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
185	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
186	M	p1849	SCH	Y	M:1,2,7,11	A,B,E
187	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
188	M	1849-68	STRUC	Y	H:1,7,11	A,B
189	M	1849-68	DWCX;TENANT	Y	H:1,2,4,7,11	A,B
190	M	1849-68	TENANT	Y	H:1,2,4,7,11	A,B
191	M	1849-68	TENANT	Y	H:1,2,4,7,11	A,B
192	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
193	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
194	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
195	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
196	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
197	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B

Site #	Quad	Date	Function	Potential	Significance	References
198	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
199	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
200	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
201	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
202	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
203	M	p1849	AGTEN	Y	H:1,2,4,7,11	A,B,E
204	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
205	M	1849-68	AGTEN	Y	H;1,2,4,7,11	A,B
206	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
207	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
208	M	1849-68	EST;AGCX	Y	H:1,2,4,5,7,11	A,B
209	M	p1802	CHUR;CEM	Y	H:1,2,4,5,7,8,11	A,B,E,F
210	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
211	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
212	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
213	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
214	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
215	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
216	M	p1849	AGCX	Y	H:1,2,4,5,7,11	A,B,E
914	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
915	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
916	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
917	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
918	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
919	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
920	M	1868-93	DWCX	Y	M:1,2,4,11	A
926	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
927	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
928	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
929	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
930	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
931	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
932	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
933	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
934	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
935	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
936	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B

Site #	Quad	Date	Function	Potential	Significance	References
937	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
938	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
940	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
941	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
942	M	1868-93	AGTEN	Y	H:1,2,4,7,11	A,B
943	M	1868-93	AGCX	Y	H:1,2,4,5,7,11	A,B
944	M	1849-68	AGTEN	Y	M:1,2,4,7,11	A
945	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
946	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
947	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
948	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
949	M	1849-68	STRUC	Y	H:1,7,11	B
950	M	1849-68	AGTEN	Y	H:1,2,4,5,7,11	A,B
951	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
952	M	1868-93	DWCX	Y	M:1,2,4,11	A
953	M	1868-93	DWCX	Y	M:1,2,4,11	A
954	M	1849-68	WKSH	Y	H:1,2,4,5,7,11	A,B
955	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
956	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
957	M	1849-68	AGTEN	Y	H:1,2,4,7,11	B
958	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
959	M	1868-93	AGTEN	Y	M:1,2,4,7,11	A
960	M	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
961	M	1868-93	DWCX	Y	M:1,2,4,11	A
962	M	1849-68	DWCX	Y	H:1,2,4,7,11	B
963	M	1868-93	DWCX	Y	H:1,2,4,11	A
965	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
966	M	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
967	M	1849-68	AGCX	Y	H:1,2,4,5,7,11	A,B
968	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
969	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
970	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
971	SG	1849-68	DWCX;EST	Y	H:1,2,4,5,7,8,9,11	A,B
972	SG	1868-93	RRSTA	Y	M:1,2,4,7,11	A
973	SG	1868-93	HOT	Y	M:1,2,4,5,7,11	A
974	SG	1868-93	EST	Y	H:1,2,4,5,7,11	A
975	SG	p1849	AGCX	Y	H:1,2,4,5,7,8,9,11	A,B,E

Site #	Quad	Date	Function	Potential	Significance	References
977	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
978	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
979	SG	1868-93	STRUC	Y	M:1,2,11	A
981	SG	1868-93	DWCX	Y	M:1,2,4,11	A
982	SG	1868-93	TENANT	Y	M:1,2,4,7,11	A
983	SG	1868-93	DWCX	Y	M:1,2,4,11	A
984	SG	1849-68	DWCX	Y	M:1,2,4,11	A,B
985	SG	1849-68	STO;PO;DWCX	Y	M:1,2,4,5,7,11	A,B
986	SG	1849-68	DWCX;PHYS	Y	H:1,2,4,5,7,8,11	A,B
987	SG	1849-68	PHYS	Y	H:1,2,4,5,7,8,11	A,B
988	SG	1849-68	DWCX	Y	H:1,2,4,7,11	A,B
989	SG	1868-93	STO	Y	M:1,2,4,11	A
990	SG	1849-68	STO	Y	H:1,2,4,5,7,11	A,B
991	SG	1849-68	STRUC	Y	H:1,2,7,11	A,B
992	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
993	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
994	SG	1868-93	STRUC	Y	M;1,2,7,11	A
995	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
996	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
997	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
998	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	B
999	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1000	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1001	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
1002	SG	1868-93	AGTEN	Y	M:1,2,4,7,11	A
1003	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1004	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
1005	SG	1849-68	AGTEN	Y	H:1,2,4,7,11	A,B
			SOUTH MURDERKILL HUNDRED			
758	W	p1868	SCH	Y	M:1,2,7,11	B
759	F	p1802	MMCX	Y	H:1,2,4,5,6,7,8,11	B,D,F
760	F	p1802	SMCX	Y	H:1,2,4,5,6,7,8,11	B,F
761	F	p1868	AGTEN	Y	H:1,2,4,5,7,11	B
762	W	p1868	AGTEN	Y	H:1,2,4,7,11	B
763	W	p1868	SOMCX	Y	H:1,2,4,5,7,11	B

Site #	Quad	Date	Function	Potential	Significance	References
764	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
765	W	p1868	AGCX	Y	H:1,2,4,5,7,11	B
766	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
767	F	p1868	AGTEN	Y	H:1,2,4,7,11	B
768	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
769	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
770	F	p1868	BRID	Y	M:1,2,4,7,11	B
771	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
772	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
773	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
774	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
775	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
776	F	p1868	AGCX	Y	H:1,2,4,5,7,11	B
			WEST DOVER HUNDRED			
726	D	p1868	AGCX	Y	H:1,2,4,5,7,11	B

APPENDIX III

HISTORIC ARCHAEOLOGICAL RESOURCES DATA

The contents of this appendix have been entered in a Data Base Management System and may be sorted or cross-tabulated by individual variables or combinations of variables.

Key to Symbols and Abbreviations

USGS Quadrangle Map Symbols

C	-	Clayton
D	-	Dover
F	-	Frederica
K	-	Kenton
LC	-	Little Creek
M	-	Middletown
SG	-	Saint Georges
S	-	Smyrna
TB	-	Taylors Bridge
W	-	Wyoming

Structure Condition Symbols

E	-	Excellent
G	-	Good
F	-	Fair
P	-	Poor
D	-	Deteriorated
A	-	Abandoned
DS	-	Destroyed

Date Symbols

e	-	early
m	-	middle
l	-	late
C	-	Century
c	-	circa
a	-	after
p	-	pre

Site Potential (P) Evaluation Symbols

N	-	No Potential
Y	-	Yes Potential
U	-	Unknown Potential

Site Significance (S) Evaluation Symbols

H	-	High Significance
M	-	Medium Significance
L	-	Low Significance
U	-	Unknown Significance

References Symbols

A	-	Baist's Atlas of New Castle County, Delaware, 1893.
B	-	Beer's Atlas of the State of Delaware, 1968.
C	-	Bureau of Archaeology and Historic Preservation Standing Structure Inventory Files.
D	-	Price and Rea, Map of the State of Delaware, 1850.
E	-	Rea and Price, Map of New Castle County, Delaware, 1849.
F	-	Varlie, Map of the State of Delaware and Eastern Shore of Maryland, 1802.
G	-	USGS Geologic Atlas of the United States, Dover Folio, 1906.
H	-	Hoffecker, Delaware: A bicentennial history, 1977.
S	-	Various sources contained in the BAHP Standing Structure Inventory Files.

Key to Symbols and Abbreviations

Historic Site Type Symbols

AGBLG	-	Agricultural Outbuilding
AGCX	-	Agricultural Complex
AGMCX	-	Agricultural-Mill Complex
AGTEN	-	Agricultural Tenant Dwelling/Farm
ALMHSE	-	Almshouse
BANK	-	Bank
BRID	-	Bridge
BSSH	-	Blacksmith/Whitesmith Shop
CAUWY	-	Causeway
CCBLG	-	Canal Company Building
CEM	-	Cemetary
CHUR	-	Church
COMM	-	Commerical Structure
DWCX	-	Dwelling Complex
EST	-	Estate
GMCX	-	Gristmill Complex
GOVBLG	-	Government Building
HISTD	-	Historic District
HOT	-	Hotel
INDTEN	-	Industrial Tenant
LANOP	-	Landing Operation
LMKILN	-	Lime Kiln
LTHSE	-	Lighthouse
MANUFY	-	Manufactory
MMCX	-	Multiple-Mill Complex
MWHSE	-	Migrant Worker House
PEACH	-	Peach House
PEAORC	-	Peach Orchard
PHYS	-	Physician's Office
PLANT	-	Plantation
PO	-	Post Office
RR	-	Railroad Bed
RRR	-	Railroad-related
RRSTA	-	Railroad Station
RT	-	Racetrack
SCH	-	School
SCOSTA	-	Stagecoach Station
SERVST	-	Service Station
SLAVQ	-	Slave Quarters
SMCX	-	Sawmill Complex
SOMCX	-	Sorghum Mill Complex
STO	-	Store
STRUC	-	Structure
TAV	-	Tavern, Inn
TENANT	-	Tenant House
VESSEL	-	Vessel (sunken)
WARE	-	Warehouse
WKDW	-	Worker Dwelling
WKSH	-	Workshop

Key to Symbols and Abbreviations

Criteria for Significance Evaluation

1. Age: Sites providing information on early settlement, technology, commerce, industry, or lifeways are more significant.

2. Regional Interest: Sites which have impact on regional or local research problems are more significant.

3. National Interest: Sites which have impact on national or universal research problems are more significant.

4. Preservation: Sites containing well-preserved structural, faunal, floral, or skeletal remains are more significant.

5. Multi-Function: Sites exhibiting a range of well-defined activity/functional loci are more significant.

6. Uniqueness: Sites containing rare or unique features (technological innovations, slave-related components) are more significant.

7. Previous Knowledge: Site types about which little is known are more significant and those which provide information on poorly understood social-historical contexts are more significant.

8. Public Significance: Sites which may easily be used in public education programs due to site contents and accessibility for public viewing are more significant.

9. Size and Density: Larger sites and those containing dense deposits of material culture and more significant.

10. Famous Events or Persons: Sites associated with a person or event of local, regional, or national interest are more significant.

11. Duration of Occupation: Sites exhibiting discrete temporal loci whether in the context of long-term or short-term occupations are more significant.

APPOQUINIMINK HUNDRED

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
									Evaluation		
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N102	M	N	c1720	D	Brick	AGMCX	U	Y	H:1,2,4,5,6,7,8,9,11	c1720	A,B,C,E
N103	N	N	c1840			AGCX	U	Y	H:1,2,4,5,7,11	c1840	B,C,E
N104	M	N	c1730			EST	U	Y	H:1,2,4,5,6,7,8,9,10,11	c1730	A,B,C,E
N119	M	U	p1849		Brick	AGCX;PEAORC	U	Y	H:1,2,4,5,6,7,8,9,10,11	p1849	A,B,C,E
N123	M	Y	e18thC	E	Brick	AGCX;PLANT	Y	Y	H:1,2,4,5,6,7,8,9,11	e18thC	A,B,C,E,S
N124	M	Y	1768	G	Brick	CHUR;CEM	Y	Y	H:1,2,4,6,7,8,11	1768	A,B,C,E,F,S
N131	C	N	1849-1868	E		AGCX	U	Y	H:1,2,4,5,7	1849-1868	A,B,C
N214	M	N	1773		Brick	AGCX	U	Y	H:1,2,4,5,6,7,8,9,11	1773	A,B,C,E,S
N417	M	Y	c1767			MANUFY;DWCX	Y	Y	H:1,2,3,4,5,6,7,8,9,10,11	c1767	A,B,C,E,
N423	M	Y	1847	G	Brick	CHUR;CEM	Y	Y	H:1,2,4,6,7,8,10,11	1847	A,B,C,E
N3905	M	U	1797	G	Brick	AGCX	U	Y	H:1,2,4,5,7,9,11	1797	A,B,C,E
N3918	M	N	p1849			LANOP	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N3919	M	N	p1849	F		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N3920	M	N	c1690	G	Log	AGCX	U	Y	H:1,2,3,4,5,6,7,8,9,10,11	c1690	A,B,C
N3921	M	U	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N3965	M	N	1820-1850	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1820-1850	A,B,C,E
N4309	M	U	1849-68		Steel	RRR;BRID	U	Y	M:1,2,4,5,7,11	1849-68	A,B,C
N5834	M	N	e19thC	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	e19thC	A,B,C,E,
N5838	C	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5839	M	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5844	M	U	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5845	M	U	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5846	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	B,C,E
N5847	C	N	1880	G	Frame	DWCX	U	Y	M:2,4,11	1880	C
N5848	C	U	1849-1868			RRSTA;PO	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5849	C	N	1.19thC	G	Frame	HOTRRR	U	Y	M:2,4,5,11	1.19thC	C
N5850	C	N	p1868	DS	Timber	DWCX	N	Y	H:1,2,4,7,11	p1868	A,B,C
N5851	C	U	p1868			RRSTA;STO	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N5852	C	U	1868-93			DWCX	U	Y	M:2,4,11	1868-93	A,C
N5853	C	N		G	Frame	DWCX	U	U	U	a1893	C
N5854	C	N	p1849	D	Log	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5855	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5856	M	N	p1849	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5857	M	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N5858	M	N	c1940	G	Frame	AGCX	U	Y	M:2,4,5,11	1868-93	A,C
N5863	TB	N	p1812	G	Brick	AGCX	U	Y	H:1,2,4,5,7,8,11	p1812	A,B,C,E
N5865	M	N	1849-68	DS	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5872	M	N	1849-68	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5873	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5874	M	U				STRUC	U	U	U	a.1893	C
N5875	M	N	1905	G	Frame	CHUR;CEM	U	Y	H:1,2,3,4,5,6,7,8,9,10,11	p1849	A,B,C,E
N5876	M	N	1932-35	D	Frame	MANUFY;DWCX	U	Y	H:1,2,4,5,7,11	1849-68	B,C
N5877	M	N	1932	G	Frame	MANUFY;SERVST	U	Y	L:2	1932	C
N5878	M	U	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5879	M	N	1849-68	DS	Frame	AGTEN	U	Y	H:1,2,4,5,6,7,8,11	1849-68	A,B,C
N5880	M	N	1923	D	Frame	CHUR	U	Y	L:2,7	1923	C
N5884	C	N		G	Frame	DWCX	U	U	U	a.1843	C
N5885	C	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5887	M	N	p1849	G	Log	AGCX	U	Y	H:1,2,4,5,6,7,8,11	p1849	A,B,C,E
N5888	M	N	1868-93	G	Frame	AGCX	U	Y	H:2,4,5,7,11	1868-93	A,C
N5889	M	N	p1868	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N5890	M	N	p1849	G	Frame	AGTEN	U	Y	H:1,2,4,5,6,7,8,11	p1849	A,B,C,E
N5896	M	N		G	Frame	STRUC	U	U	U	a.1893	C
N5898	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5899	M	N	1803	G	Frame	AGCX	U	Y	H:1,2,4,7,11	1803	A,B,C,E
N5900	M	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5901	M	N	p1849	D	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1849	A,B,C,E
N5902	M	N	p1849	G	Frame	AGBLG	U	Y	H:1,2,4,7,11	p1849	A,B,C,E
N5903	M	N	1826		Frame	AGCX	U	Y	H:1,2,4,5,7,11	1826	B,C,E
N5904	M	N	1849-68	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	1849-68	B,C
N5905	M	N	1835-39	G	Frame	AGCX;EST	U	Y	H:1,2,4,5,7,8,9,10,11	1835-39	A,B,C,E
N5919	M	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5920	M	N	p1848	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5921	M	N	1.18th C.	G	Stone	AGCX	U	Y	H:1,2,4,5,7,11	1.18thC	A,B,C,E
N5922	M	N	1849-68	G		AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5923	M	N	p1849	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1849	A,B,C,E
N5925	C	U	1849-68	D	Frame	SCH;AGCX	U	Y	H:1,2,4,5,7,8,11	1849-68	A,B,C
N5926	C	N	p1849	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1849	B,C,E

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N5927	C	U	1849-68			AGTEN	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5928	M	N	p1849	E	Brick	MANUFY;AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5929	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5941	M	N	1868-93	G	Frame	DWCX	U	Y	M:2,4,11	1868-93	A,C
N6212	M	N	m.20thC		Frame	DWCX	U	Y	L:2	M.20thC	C,S
N6213	M	N	m.20thC	G	Frame	DWCX	U	Y	L:2	m.20thC	C,S
N6214	M	N		G	Frame	DWCX	U	U	U	a.1893	C
N6215	M	N	m.20thC	G	Frame	DWCX	U	Y	L:2	M.20thC	C
N6216	M	N			Frame	DWCX	U	U	U		C
N6217	M	N	M20thC	G	Frame	DWCX	U	Y	L:2	M20thC	C
N6218	M	N		G	Frame	DWCX	U	U	U	a1893	C
N6219	M	N		G	Frame	DWCX	U	U	U	a1893	C
N6220	M	N		G	Frame	DWCX	U	U	U	a1893	C
N6221	M	N	c1950	G	Frame	DWCX	U	Y	L:2	c1950	C
N6222	M	N	m20thC	G	Frame	DWCX	U	Y	L:2	m20thC	C
N6223	M	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6224	M	N	1920-35	G	Frame	SCH;DWCX	U	Y	L:2,4,5,7,11	1920-35	C,S
N6225	M	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6226	M	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6227	M	N	e20thC	D	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6228	M	N	m20thC	G	Frame	DWCX	U	Y	L:2	m20thC	C
N6229	M	N	c1900	G	Frame	DWCX	U	Y	M:2,4,7,11	c1900	C
N6230	M	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6231	M	N	m20thC	G	Frame	DWCX	U	Y	L:2	m20thC	C
N6232	M	N	m20thC	G	Frame	DWCX	U	Y	L:2	m20thC	C
N6233	M	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,7,11	e20thC	C
N6234	M	N	m20thC	G	Frame	DWCX	U	Y	L:2	m20thC	C
N6235	M	N	m20thC		Frame	DWCX	U	Y	L:2	m20thC	C
N6236	M	U	p1849			AGTEN	U	Y	H:1,2,4,5,7,11	p1849	B,C,E

BLACKBIRD HUNDRED

STANDING STRUCTURES / ASSOCIATED ARCHAEOLOGICAL REMAINS

CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	Evaluation S	Date	References
N129	C	N	1840	F	Frame	AGCX;PEACH	U	Y	H:1,2,4,5,7,8,9,11	1840	B,E,C
N130	C	N	1.18thC	G	Brick	EST;AGCX	U	Y	H:1,2,4,5,6,7,8,9,11	1.18thC	A,B,C
N132	S	N	1800	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1800	A,B,C,E
N133	S	N	p1849	G		PEACH	U	Y	H:1,2,4,5,7,8,11	p1849	A,B,C,E
N134	S	N	1.18thC	G		AGCX	U	Y	H:1,2,4,5,7,8,11	1.18thC	A,B,C
N135	S	Y	c1761	D	Brick	STO;HOT;WARE	Y	Y	H:1,2,4,5,6,7,8,9,11	c.1761	A,B,C,E,S
N570	S	Y	1755		Brick	EST;PLANT;AGCX	Y	Y	H:1,2,4,5,6,7,8,9,11	1755	A,B,C,E,S
N4153	C	N	p1849	P	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N4154	C	N	1.18thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1.18thC	A,B,C,E
N4155	C	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N4156	C	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N4157	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N4158	C	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N4159	C	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N4160	C	N	p1849	DS	?	AGCX	N	Y	M:1,2,5,7,11	p1849	A,B,C,E
N4161	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N4162	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N4246	S	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N4250	S	N	p1849	G	Timber	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5265	C	N	1868-93	DS	Frame	AGCX	N	Y	M:2,4,5,7,11	1868-93	A,C,G
N5937	C	N		G	Frame	CHUR	U	U	U	a1893	C
N5938	C	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5939	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	B,C,E
N6270	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6271	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6272	C	N	p1849	G	Timber	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6273	C	N	1893-1906	G	Frame	AGCX	U	Y	M:2,5,11	1893-1906	C,G
N6274	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6275	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6279	S	U	1868-93	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N6280	C	U	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6281	C	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N6282	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6283	C	U	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N6285	S	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6286	S	U	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6288	C	N	p1849	G	Timber	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6289	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6290	C	U	p1868			AGTEN	U	Y	M:1,2,4,7,11	p1868	A,B,C
N6292	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6293	C						U	U	U		C
N6294	S	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N6295	S	N	1849-1868	G	Frame	STO;AGCX	U	Y	H:1,2,3,4,5,6,7,8,9,11	1849-1868	A,B,C
N6296	S	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6299	C	N	e20thC	G	Timber	DWCX	U	Y	M:2	e20thC	C
N6300	C	N	1.19thC	G	Timber	AGCX	U	Y	M:2,4,5,11	1.19thC	C
N6301	C	N	1.19thC e20thC	G	Timber	DWCX	U	Y	M:2,11	1.19thC e20thC	C
N6302	C	N	1.19thC	G	Timber	STO;HOT	U	Y	H:2,4,5,7,11	1.19thC	C
N6303	C	N	e19thC	G	Timber	HOT;SCOSTA	U	Y	H:1,2,4,5,7,8,11	e19thC	C
N6304	C	N	1.19thC	G	Timber	DWCX	U	Y	M:2,4,11	1.19thC	C
N6305	C	N	1800	G	Timber	DWCX	U	Y	H:1,2,4,5,7,8,11	1800	C
N6306	C	N	c1830	G	Log	DWCX	U	Y	H:1,2,4,5,6,7,8,11	c1830	B,C,S
N6307	C	N		G	Timber	AGCX	U	U	U		C
N6309	C	N		G	Timber	SCH	U	U	U		C
N6310	C	U	p1849	G	Timber	STO	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6311	C	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,C,E
N6312	C	N	1870-1880	E	Timber	AGCX	U	Y	H:2,4,5,7,11	1870-1880	C
N6313	C	N	p1868	G	Timber	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
N6314	C	N	p1868			AGCX	U	Y	H:1,2,4,5,7,11	p1868	A,B,C
N6315	S	N	1849-1868			EST;AGCX	U	Y	H:1,2,4,5,7,11	1849-1868	A,B,C
N6316	S	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6317	S	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N7837	S	U	1849-1868			AGCX	U	Y	H:1,2,4,5,7,11	1849-1868	A,B,C

DUCK CREEK HUNDRED

STANDING STRUCTURES / ASSOCIATED ARCHAEOLOGICAL REMAINS

CRS #	Quad	NRL	Date	Cond.	Material	Function	Evaluation NRE	P	S	Date	References
K105	S	Y	1753	G	Brick	EST	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1753	C,S
K127	S	Y	1786	E	Brick	EST	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1786	B,C
K156	S	Y	1741	G	Brick	EST	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1741	B,C,S
K202	S	N	p1849			LANDOP	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
K203	S	Y	1775-1800	G	Brick	EST	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1775-1800	B,C
K236	D	N	C1800	E	Brick	EST;AGMCX	U	Y	H:1,2,4,5,6,7,8,9,11	c1800	B,C
K238	D	N	1774	D	Brick	AGMCX	U	Y	H:1,2,4,5,6,7,8,9,11	1774	B,C,S
K265	C	N	p1868	D		AGCX	U	Y	H:1,2,4,5,7,8,10,11	p1868	B,C,S
K3826	D	N	e20thC	G	Frame	DWCX	U	Y	M:2,4,5,7,11	e20thC	C
K3827	S	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3828	S	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3829	S	N	e20thC	G	Frame	AGCX;STO	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3830	S	N	1.18thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1.18thC	B,C
K3831	S	N	1930	G	Concrete	DWCX	U	Y	L:2	1930	C
K3832	S	N	1930	G	Frame	DWCX	U	Y	L:2	1930	C
K3833	S	N	1940	G	Frame	GOVBLD	U	Y	L:2	1940	C
K3834	S	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3835	S	N	c1950	G	Frame	DWCX	U	Y	L	c1950	C
K3836	S	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K3837	S	N	1925	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3838	S	N	1938	G	Frame	DWCX	U	Y	L:2	1938	C
K3839	S	N	1938	G	Frame	DWCX	U	Y	L:2	1938	C
K3840	S	N	c1850	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	c1850	B,C
K3841	S	N	1922	G	Concrete	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3846	S	N	1939	G	Frame	DWCX	N	Y	L:2	1939	C
K3847	S	N	1939	G	Frame	DWCX	N	Y	L:2	1939	C
N3848	S	N	1935	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K3849	S	N	1850	D	Frame	AGCX	U	Y	H:1,2,4,7,11	1850	B,C
K3850	S	N	1.19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3851	S	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3852	S	N	c1945	G	Frame	AGCX	N	Y	H:1,2,4,5,7,11	p1868	B,C
K3853	S	U		G	Brick	DWCX	U	U	U	a.1868	C
K3854	S	U	c1890	G	Frame	DWCX	U	Y	M:2,4,7,11	c1890	C
K3855	S	U		G	Frame	DWCX	U	U	U	a1868	C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K3856	S	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3857	S	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3858	S	U	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3859	S	N	c1850	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1850	B,C
K3860	S	Y	em19thC	G	Frame	AGCX	Y	Y	H:1,2,4,5,7,11	em19thC	B,C
K3861	S	N	1935	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K3862	S	N	p1868	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K3863	S	N	em19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,8,11	em19thC	B,C
K3864	S	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3865	S	Y	em19thC	F	Frame	AGCX	Y	Y	H:1,2,4,5,7,8,9,10,11	em19thC	B,C
K3866	S	N	1940	G	Frame	DWCX	U	Y	L:2	1940	C
K3868	S	N	1940-50	G	Frame	DWCX	U	Y	L	1940-50	C
K3869	S	N	1940-50	G	Frame	DWCX	U	Y	L	1940-50	C
K3871	C	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3872	C	Y	1894	G	Frame	CHUR	Y	Y	L:2,6,7,8	1894	C
K3873	C	N			Frame	DWCX	U	U	U	a1868	C
K3874	C	N	c1910	G	Frame		U	Y	M:2,4,5,7,11	c1910	C
K3882	C	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3883	C	N	c1930	G	Frame	DWCX	U	Y	L:2	c1930	C
K3938	S	Y	1740	G	Frame	AGCX	Y	Y	H:1,2,4,5,6,7,8,9	1740	B,C
K3939	S	N	1.19thC	G	Frame	AGTEN	U	Y	H:2,4,7,11	1.19thC	B,C
K3940	S	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3941	S	N	1930-40	G	Frame	STRUC	U	Y	H:1,2,4,7,11	p1868	B,C
K3942	S	N	m19thC	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	m19thC	B,C
K3943	S	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,6,7,11	m19thC	B,C
K3944	S	U	c1800	G	Frame	DWCX	U	Y	H:1,2,4,5,6,7,8,11	c1800	C
K3945	S	N	c1800	G	Log	AGCX	U	Y	H:1,2,4,5,6,7,8,11	c1800	B,C
K3946	D	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K3947	S	N	c1900	D	Frame	AGBLDS	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3948	S	N	c1920	G	Frame	EST;AGCX	U	Y	H:1,2,4,5,7,8,11	p1868	B,C
K3949	S	N	1920-30	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3950	S	N	m-1.18thC	G	Brick	AGCX	U	Y	H:1,2,4,5,7,9,11	m-1.18thC	B,C
K3951	S	N	m-1.18thC	G	Brick	AGCX	U	Y	H:1,2,4,5,7,9,11	m-1.18thC	B,C
K3957	S	N	c1900	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K3958	S	N	c1925	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3959	S	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3960	S	Y	c1863	G	Frame	PEACH;AGCX; MANUFY	Y	Y	H:1,2,4,5,6,7,8,9,10,11	c1863	B,C
K3961	S	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3962	S	N	1.19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1.19thC	B,C
K3965	S	N	1875	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3966	S	N	m-1.18thC	G	Frame	AGCX	U	Y	H:1,2,4,5,6,7,8,11	m-1.18th	B,C
K3967	S	N	p1868	G		AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K4006	S	N	c1950-1800	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	c1750-1800	B,C
K4008	S	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K4009	S	N	e-m19thC	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	e-m19thC	B,C
K4010	S	N	e19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	e19thC	B,C
K4011	S	N	e-m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	e-m19thC	B,C
K4012	S	N	m19thC	G	Frame	DWCX	U	Y	M:2,4,11	m19thC	C
K4013	S	N	c1800	F	Frame	DWCX	U	Y	H:1,2,4,5,6,7,8,11	c1800	B,C
K4014	S	N	e-m19thC	G	Frame	DWCX	U	Y	H:1,2,4,5,7,11	e-m19thC	B,C
K4015	S	N	e-m19thC		Frame	DWCX	U	Y	H:1,2,4,5,7,11	e-m19thC	B,C
K4016	S	N	c1940	G	Frame	DWCX	U	Y	L	c1940	C
K4017	S	N	e-m19thC	G	Frame	DWCX	U	Y	H:1,2,4,5,7,11	e-m19thC	B,C
K4018	S	N	m-1 19thC	G	Frame	DWCX	U	Y	H:1,2,4,5,7,11	m-1 19thC	B,C
K4019	S	N	e-m 19thC	G	Frame	DWCX	U	Y	H:1,2,4,5,7,11	e-m 19thC	B,C
K4020	S	N	m19thC	G	Frame	DWCX	U	Y	H:1,2,4,7,11	m19thC	B,C
K4021	S	N		G	Frame	DWCX	U	U	U	a1868	C
K4022	S	N	1846		Frame	PO;STO	U	Y	H:1,2,4,5,7,11	1846	B,C
K4023	S	N	e-m 19thC	D	Frame	DWCX	U	Y	H:1,2,4,7,11	e-m 19thC	B,C
K4024	S	N	e-m 19thC	F	Frame	DWCX	U	Y	H:1,2,4,7,11	e-m 19thC	B,C
K4025	S	N	e19thC	G	Frame	DWCX;LM KILN	U	Y	H:1,2,4,5,6,7,11	e19thC	B,C
K4026	S	N	1.18thC	G	Frame	DWCX;MANUFY	U	Y	H:1,2,4,5,7,11	1.18thC	B,C

EAST DOVER HUNDRED

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K145	D	N	1734	G	Brick	AGCX	U	Y	H:1,2,4,5,6,7,8,11	1734	B,C
K909	F	N	1.19thC	D		CEM	U	Y	M:2,4,7,8,11	1.19thC	C
K1020	D	N	c1865	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1865	B,C
K1021	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1022	D	N	1865	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1865	B,C
K1024	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1025	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1026	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1027	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1029	D	N	1925-35	G	Frame	AGCX	U	Y	M:1,2,5,11	p1868	B,C
K1033	D	N	c1910	G	Frame	AGCX	U	Y	M:2,4,5,7,11	c1910	C
K1035	D	N	c1870	G	Frame	AGCX	U	Y	M:1,2,4,5,7,11	c1870	C
K1036	D	N	1900	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1900	C
K1037	D	N	c1860	G	Frame	CHUR	U	Y	M:1,2,4,8,7,11	c1860	B,C
K1038	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1042	D	N		DS	Frame	AGCX	U	U	U	p1868	C
K1045	D	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1046	D	N	c1900	G	Frame	DWCX	U	Y	M:2,4,11	c1900	C
K1047	D	N	c1853	G	Log	STO;AGCX	U	Y	H:1,2,4,5,7,11	c1853	B,C
K1048	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1049	D	N	p1868	G	Frame	AGCX	U	Y	M:1,2,4,5,7,11	p1868	B,C
K1050	D	N	c1910	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1052	D	N	1886	G	Frame	DWCX	U	Y	M:1,2,4,11	1886	C
L1054	D	N	1890-1920	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1065	D	N	1885		Frame	AGCX	U	Y	M:1,2,4,5,7,11	1885	C
K1067	D	N			Frame	STRUC	U	U	U	a1868	C
K1068	D	N	1870	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1870	C
K1069	D	N	c1900	G	Frame	AGCX	U	Y	M:2,4,5,11	c1900	C
K1073	D	N		D	Frame	DWCX	U	U	U	a1868	C
K1075	D	N		G	Frame	DWCX	U	U	U	a1868	C
K1077	D	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,5,7,11	1.19thC	C
K1081	D	N	c1850	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1850	B,C
K1084	D	N	c1760	G	Brick	AGCX	U	Y	H:1,2,4,5,6,7,8,11	c1760	B,C
K1087	LC	N	1870	G	Frame	AGCX	U	Y	M:1,2,4,5,7,11	1870	C

KENTON HUNDRED

STANDING STRUCTURES

CRS #	Quad	NRL	Date	Cond.	Material	Function
K138	C	Y	m18thC	G	Brick	EST
K147	C	N	1.18thC	E	Brick	TAV;DWCX
K183	C	N	m18thC	G	Brick	AGCX
K188	C	N	p1792	DS	Frame	AGMCX
K233	K	N	18thC	DS	Brick	CHUR
K234	K	Y	1798	D	Brick	EST;PLANT
K1074	D	N		F		DWCX
K1279	K	N	1920	G	Frame	DWCX
K1280	K	N	p1868	G	Frame	AGCX
K1281	K	N		G	Frame	DWCX
K1282	K	N	p1868	G	Frame	AGCX
K1283	K	N	c1910	G	Frame	AGCX
K1285	K	N	1.18thC	G	Brick	AGCX
K1286	K	N		G	Frame	DWCX
K1287	K	N	c1920-30	G	Frame	SCH
K1288	D	N	c1920-30	G	Frame	DWCX
K1289	K	N	1910	G	Frame	AGCX
K1290	D	N	p1868	G	Frame	AGTEN
K1291	D	N	p1868	G	Frame	AGCX
K1292	K	N	c1910	G	Frame	AGCX
K1293	K	N	c1840-68	G	Frame	AGTEN
K1322	C	N	1949	G	Frame	AGCX
L1323	C	N	c1785	G	Brick	AGCX
K1324	C	N	c1868-75	G	Frame	AGCX
K1326A	C	N	p1868	G	Frame	AGCX
K1326B	C	N	p1868	G	Frame	AGTEN
K1333	C	N	p1868		Brick	AGCX
K1344	K	N	1.19thC	D	Frame	AGCX
K1345	K	N	p1868	G	Frame	CHUR;CEM
K1346	C	N	p1868	G	Frame	AGCX
K1347	C	N	1.19thC	G	Frame	AGCX
K1348	C	N	1740	G	Frame	AGCX
K1349	K	N	p1868	G	Frame	AGCX
K1365	C	N	p1868			AGCX

ASSOCIATED ARCHAEOLOGICAL REMAINS

Evaluation					
NRE	P	S	Date	References
Y	Y	H:1,2,4,5,6,7,8,9,10,11	m18thC	B,C
U	Y	H:1,2,4,5,7,8,11	1.18thC	B,S,C
U	Y	H:1,2,3,4,5,7,8,9,11	m18thC	B,S,C
N	Y	H:1,2,4,5,7,8,9,11	p1792	B,E,C
N	Y	M:1,2,4,7,11	18thC	B,D,S,C
Y	Y	H:1,2,4,5,6,7,8,9,10,11	1798	B,S,C
U	U	U	a1868	C
U	Y	L:2	1920	C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	U	U	a1868	C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	M:2,4,5,7	c1910	C
U	Y	H:1,2,4,5,7,8,11	1.18thC	B,C
U	U	U	a1868	C
U	Y	L:2	c1920-30	C
U	Y	L:2	c1920-30	C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	H:1,2,4,7,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	H:1,2,4,7,11	c1840-68	B,C
U	Y	L	1949	C
U	Y	H:1,2,4,5,6,7,8,11	c1785	B,C
U	Y	M:2,4,5,11	c1868-75	C
U	Y	H:1,2,4,5,7,8,10,11	p1868	B,C
U	Y	H:1,2,4,7,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	e19thC	C
U	Y	H:1,2,4,5,7,8,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	M:2,4,5,11	1.19thC	C
U	Y	H:1,2,4,5,6,7,8,11	1740	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C
U	Y	H:1,2,4,5,7,11	p1868	B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K1366	C	U	c1810	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1810	B,C
K1373	D	N	c1910	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K1374	D	N	c1770-80	G	Brick	AGCX	U	Y	H:1,2,4,5,6,7,11	c1770-80	B,C
K1375	D	N	1876	G	Brick	AGCX	U	Y	M:2,4,5,11	1876	C
K1376	D	N	c1850-60	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1850-60	B,C
K1378	S	U	p1868	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K1381	D	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,5,11	1.19thC	C
K1382	D	U	1.19thC	U	Frame	AGCX	U	Y	M:2,4,5,11	1.19thC	C
K1383	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1384	D	N	1930	G	Frame	DWCX	U	Y	L:2	1930	C
K1385	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1386	D	N	c1860	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1860	B,C
K1387	S	N	m19thC	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K1388	C	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1389	S	N	c1850	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1850	B,C
K1390	C	N	p1850	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1850	B,C
K1391	C	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K1393	D	N	c1875	D	Frame	AGCX	U	Y	M:1,2,4,5,11	c1875	C
K1394	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1395	D	N	p1802	G	Frame	AGMCX	U	Y	H:1,2,4,5,7,11	p1802	B,C,F
K1396	K	N	c1780-90	G	Brick	EST	U	Y	H:1,2,4,5,7,8,9,11	c1780-90	B,C
K1397	K	N	c1750	G	Frame	AGCX	U	Y	H:1,2,4,5,6,7,8,11	c1750	B,C
K1398	K	N	c1750-60	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	c1750-60	B,C
K1400	D	N	c1850	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1850	B,C
K1401	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1637	C	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3167	D	N		G	Frame	AGCX	U	U	U	a1868	C
K3168	D	N		G	Frame	AGCX	U	U	U	a1868	C
K3169	D	N	c1935	G	Frame	DWCX	U	Y	L	c1935	C
K3170	D	N	c1920-30	G	Frame	AGCX	U	Y	L:2,4,5	c1920-30	C
K3171	D	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3172	D	N	c1850	G	Frame	DWCX	U	Y	H:1,2,4,7,11	c1850	B,C
K3173	D	N	c1900	G	Frame	AGCX	U	Y	M:2,4,5,11	c1900	C
K3177	D	N	c1920	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K3179	D	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3180	K	N	1897	G	Frame	DWCX	U	Y	M:2,4,5,7	1897	C
K3181	S	N	p1868		Frame	TENANT	U	Y	H:1,2,4,7,11	p1868	B,C
K3182	C	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3183	D	N	c1920-30	G	Frame	DWCX	U	Y	L:2	c1920-30	C
K3184	D	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K4332	D	N	p1868	G	Log	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K5051	C	N	1896	G		CEM	U	Y	H:2,4,7	1896	C
K5052	C	N	1880-1890	D	Frame	SCH;AG BLD	U	Y	M:2,4,5,7,11	1880-1890	C
K5053	C	N	1880-1910	F	Frame	SCH;AG BLD	U	Y	M:2,4,5,7,11	1880-1890	C
K5054	C	N	1896	G	Frame	CHUR	U	Y	M:2,4,7,11	1896	C
K5055	C	N	1890-1920	F	Frame	SCH	U	Y	M:2,4,5,7,11	1890-1920	C
K5084	C	N	1880-1910	D	Frame	DWCX	U	Y	M:2,4,11	1880-1910	C
K5156	C	N		G	Frame	WARE;MANUFY	U	U	U	a1868	C
K5157	C	N	1942	G	Frame	MANUFY	U	Y	L:2,4	1942	C
K5158	C	N	1943	G	Concrete	MANUFY	U	Y	L:2,4	1943	C
LITTLE CREEK HUNDRED											
K136	D	Y	m18thC	F	Brick	PLANT	Y	Y	H:1,2,4,5,6,7,8,9,10,11	m18thC	C,S
K833	D	N	p1868	E	Frame	GMCX	U	Y	H:1,2,4,7,11	p1868	B,C
K860	D	N	p1868		Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K954	D	N	1850-60	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1850-60	B,C
K955	D	N	1700	G	Brick	AGCX	U	Y	H:1,2,4,5,6,7,8,11	1700	B,C
K1001	D	N	c1910	G	Frame	DWCX	U	Y	M:2,4,11	c1910	C
K1034	D	N		G	Frame	AGCX	U	U	U	a1868	C
K1089	D	N	c1850	D	Log	AGCX	U	Y	H:1,2,4,5,6,7,11	c1850	C
K1609	D	N	c1840	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1840	B,C
K1613	D	N	p1868	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1627	D	U	p1868		Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1628	D	N	p1868	D	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K1771	D	N		G	Frame	DWCX	U	Y	U		C
K1772	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2053	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2054	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2055	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2056	D	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2057	D	N		G	Frame	AGCX	U	U	U	a1868	C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K2058	D	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2060	D	N	p1868	G	Frame	AGCX;TENANT	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2061	D	N	p1868	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K2062	D	N		G	Frame	AGCX	U	U	U		
K2063	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2064	D	N		D	Frame	AGCX	U	U	U	a1868	C
K2065	D	N	e20thC	G	Frame	MW HSE	U	Y	M:1,2,4,5,7,11	e20thC	C
K2066	D	N	p1868	D	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2067	D	N	c1860	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1860	B,C
K2069	D	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2070	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2072	D	U	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2073	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2079	D	N	1928	G	Frame	DWCX	U	Y	L:2	1928	C
K2080	D	N	1860	G	Frame	AGCX	U	Y	H:1,2,4,5,7,8	1860	B,C
K2082	D	N	e20thC	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K2103	S	N	c1900	D		Vessel	U	Y	H:2,4,5,6,7,8,11	c1900	C
K2104	S	N	c1900	D		Vessel	U	Y	H:2,4,5,6,7,8,11	c1900	C
K3147	D	N	c1920-30	G	Frame	DWCX	U	Y	L:2	c1920-30	C
K3148	D	N		G	Frame	DWCX	U	U	U	a1868	C
K3149	D	N	c1920-30	G	Frame	DWCX	U	Y	L:2	c1920-30	C
K3150	D	N	1919	G	Frame	DWCX	U	Y	L:2	1919	C
K3151	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3152	D	N		G	Frame	DWCX	U	N	N		C
K3153	D	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3154	D	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3155	D	N	m20thC	G	Frame	SERVST;STO	U	Y	U	m20thC	C
K3156	D	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,7,11	1.19thC	C
K3157	D	N		G	Frame	DWCX	U	U	U	a1868	C
K3158	D	N		F	Frame	DWCX	U	U	U	a1868	C
K3159	D	N			Frame	DWCX	U	U	U	a1868	C
K3160	D	N		D	Frame	DWCX	U	U	U	a1868	C
K3161	D	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3162	D	N	1934		Frame	DWCX	U	Y	L:	1934	C
K3163	D	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3164	D	N	p1868	G	Frame	EST;AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C

NEW CASTLE HUNDRED

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N498	SG	N	1853	E	Brick	CHUR	U	Y	M:1,2,4,7,11	1853	C
N1237	SG	N	p1849	E	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E,S
N4275	SG	U	c1920's			BRID	U	Y	L:2	c1920's	C
N5065	SG	U	1849-68		Frame	DWCX	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5077	SG	U	p1849		Frame	SCH	U	Y	M:1,2,7,11	p1849	A,B,C,E
N5078	SG	U	1849-68		Frame	AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5079	SG	U	20thC		Frame	DWCX	U	Y	L:2	20thC	C
N5080	SG	U			Frame	DWCX	U	U	U	a1893	C
N5085	SG	U	20thC		Frame	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N5086	SG	U	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5088	SG	U	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5092	SG	U	1849-68			AGTEN	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5936	SG	N	p1849			HOT;TAV;DWCX	N	Y	H:1,2,4,5,7,11	p1849	A,B,C,E

NORTH MURDERKILL HUNDRED

K246	W	N	1740	E	Log	AGCX	U	Y	H:1,2,4,5,6,7,8,11	1740	B,C
K320	W	N	p1850	DS	Brick	ALMHSE	U	Y	H:1,2,4,5,6,7,8,11	p1850	B,C,D
K2032	W	N	18thC	G	Frame	AGNCX	U	Y	H:1,2,4,5,7,11	18thC	B,C,D
K3538	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3539	W	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3540	W	N		G	Frame	DWCX	U	U	U	a1868	C
K3542	W	N	p1868	DS		AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3543	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3544	W	N	1912	G	Frame	AGCX	U	Y	M:2,4,11	1912	C
K3546	W	N	p1868	F	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3547	W	N	e20thC	G	Frame	AGCX	U	Y	M:2,4,11	e20thC	C
K3548	W	N		D	Frame	AGCX	U	U	U	a1868	C
K3549	W	N	1880-1900	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1880-1900	C
K3550	W	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3551	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3560	W	N	p1937	G	Frame	DWCX	U	Y	L:2	p1937	C
K3561	W	N	c1850	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	C1850	B,C
K3562	W	N	c1848	G	Frame	DWCX	U	Y	L:2	c1948	C
K3563	W	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K3564	W	N	1928	G	Frame	AGCX	U	Y	L:2	1928	C
K3565	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3566	W	U		G	Brick	DWCX	U	U	U	a1868	C
K3567	W	N	1868-1906	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1868-1906	C,G
K3568	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3729	W	N	c1880	G	Frame	AGCX	U	Y	M:1,2,4,5,7,11	c1880	C
K3730	W	N	p1868	G	Brick	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3731	W	N		G	Frame	AGBLG;PWCX	U	U	U	a1968	C
K3732	W	N	e20thC	G	Frame	AGCX	U	Y	M:2,4,5,11	e20thC	C
K3733	W	N	1.19thC	D	Frame	RR STA	U	N		1.19thC	C
K3734	W	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K3735	W	N	p1868	F	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3736	W	N	e20thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3737	W	N	e-m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	e-m19thC	B,C
K3738	W	N	1933	G	Frame	AGCX	U	Y	L:2	1933	C
K3739	W	N	e20thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3741	W	N	p1868	D	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3742	W	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3743	W	N	e20thC	G	Frame	AGMCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3744	W	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,8	p1868	B,C
K3745	W	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K3746	W	N	e20thC	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3747	W	N	e20thC	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1868	B,C
K3748	W	N	1930	G	Frame	DWCX	U	Y	L:2	1930	C
K3749	W	N	c1860	G	Frame	AGCX;PEAORC	U	Y	H:1,2,4,5,7,11	c1860	B,C
K3750	W	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3751	W	N	p1850	G	Frame	ALMHSE	U	Y	H:1,2,4,5,7,11	p1850	B,C,D
K3752	W	N	e20thC	G	Timber	AGBLG	U	Y	M:2,4,5,11	e20thC	C
K3735	W	N	1925	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3754	W	N	c1860	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1860	B,C
K3755	W	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3756	W	N	c1900	G	Frame	AGCX	U	Y	M:2,4,5,11	c1900	C
K3757	W	N	1930	D	Frame	DWCX	U	Y	L:2	1930	C
K3758	W	N	1925	G	Frame	DWCX	U	Y	L:2	1925	C
K3759	W	N		G	Frame	DWCX	U	U	U		C
K3760	W	N	e20thC	G	Frame	AGCX	U	Y	M:2,4,5,11	e20thC	C
K3761	W	N	1935	G	Frame	DWCX	U	Y	L:2	1935	C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K3762	W	N	c1890	G	Frame	AGCX	U	Y	M:2,4,5,11	c1890	C
K3763	W	N	c1890	G	Frame	DWCX	U	N		c1890	C
K3764	W	N	e20thC	G	Frame	DWCX	U	Y	L:2	e20thC	C
K3787	W	N	1930	G	Frame	DWCX	U	Y	L:2	1930	C
K3788	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3791	W	N	1930	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3792	W	N	p1868		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3793	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3794	W	N	c1900	G	Frame	DWCX	U	Y	M:2,4,11	c1900	C
K3795	W	N	1.19thC	G	Frame	DWCX;SCH	U	Y	M:2,4,5,11	1.19thC	C
K3796	W	N	e19thC	G	Frame	DWCX	U	Y	H:1,2,4,5,7,11	e19thC	C
K3798	W	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K3808	W	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K3809	W	N	1864	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1864	C
K3810	W	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3811	W	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3812	W	N	1.19thC	G	Frame	DWCX	U	U		1.19thC	C
K3813	W	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3814	W	N	1.19thC	D	Frame	DWCX	U	U	U	1.19thC	C
K3816	W	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3817	W	N	1935	G	Frame	DWCX	U	Y	L:2	1935	C
K3818	W	N	1930	G	Frame	DWCX	U	Y	L:2	1930	C
K3819	W	N	1.19thC	G	Frame	DWCX	U	Y	M:2,4,11	1.19thC	C
K3823	W	N		G	Frame	AGCX	U	U	U	a1893	C
						PENCADER HUNDRED					
N5018	SG	U	c1900		Frame	DWCX	U	Y	M:2,7,11	c1900	C
N5026	SG	Y	1868-93		Frame	EST;AGCX	Y	Y	H:2,4,5,6,8,10,11	1868-93	A,C
N5027	SG	Y	1849-68			STO;DWCX	Y	Y	H:1,2,4,5,7,11	1849-68	B,C
N5028	SG	N	p1849		Log	AGCX;DWCX	U	Y	H:1,2,4,5,6,7,8,11	p1849	C,E
N5029	SG	U			Frame	DWCX	U	U	U	a1893	C
N5031	SG	Y	c1806	G	Brick	EST;AGCX	Y	Y	H:1,2,4,5,6,7,8,10,11	c1806	A,B,C,E
N5123	SG	Y	1846	G	Brick	EST;AGCX	Y	Y	H:1,2,4,5,6,7,8,10,11	1846	A,B,C,E
N6190	SG	N	1849-68	G	Brick	AGCX	U	Y	H:1,2,4,5,7,8,10,11	1849-68	A,B,C
N6191	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N6320	SG	U	c1800	D	Log	AGCX	U	Y	H:1,2,4,5,7,11	c1800	A,B,C,E

RED LION HUNDRED

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N139	SG	Y	1775	D	Brick	EST;AGCX	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1775	A,B,C,E
N142	SG	Y	1892	G	Brick	EST;AGCX	Y	Y	H:1,2,4,5,6,7,8,11	p1849	A,B,C,E
N143	SG	Y	1825-49	E	Frame	PEACH	Y	Y	H:1,2,4,5,7,8,11	1825-49	A,B,C,E
N144	SG	Y	1792-1815	E	Brick	EST;PHYS	Y	Y	H:1,2,4,5,7,8,11	1792-1815	A,B,C,E,S
N187	SG	N	118thC		Brick	PLANT	U	Y	H:1,2,4,5,6,7,8,9,11	118thC	A,B,C,S
N499	SG	N	1840			DWCX	U	Y	H:1,2,4,7,11	1840	A,B,C
N500	SG	N	C1844			DWCX;SCOSTA	U	Y	H:1,2,3,4,5,7,11	c1844	A,B,C
N1235	SG	N	1790		Brick	AGCX	U	Y	H:1,2,4,5,7,11	1790	A,B,C,E,S
N1491	SG	N	p1849		Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N1492	SG	Y	1800-25	G	Brick	EST	Y	Y	H:1,2,4,5,7,8,11	1800-25	A,B,C,E,S
N1493	SG	N	1836	E	Brick	EST;AGCX	U	Y	H:1,2,4,5,7,11	1836	A,B,C,S
N1565	SG	N	C1840s	DS		SCH;EST	U	Y	H:1,2,4,5,6,7,8,9,10,11	c1840s	A,B,C,E
N3964	SG	N	c1750	A	Brick	PLANT	U	Y	H:1,2,4,5,6,7,8,9,11	c1750	A,B,C,E
N42911	SG	N	1920-29	G	Concrete	BRID	U	Y	L:2,10	1920-29	C
N5002	SG					HISTD		Y	H:1,2,4,5,7,8,9,11		C
N5015	SG	N	1849-68			SCH	U	Y	M:1,2,7,11	1849-68	A,B,C
N5016	SG	N	1868-93		Frame	DWCX	U	Y	M:2,7,11	1868-93	A,C
N5017	SG	N			Frame	AG BLG	U	U	U		C
N5019	SG	Y	c1840s	G	Brick	PLANT	Y	Y	H:1,2,3,4,5,6,7,8,9,11	c1840s	A,B,C
N5025	SG	Y	1875-1900			STO	Y	Y	H:2,4,5,7,11	p1849	C,E
N5030	SG	N	1875	G	Frame	CHUR;CEM	U	Y	H:2,4,5,7,11	1858	C
N5032	SG	N	1899	G	Frame	CHUR	U	Y	L:2,7	1899	C
N5033	SG	N	p1893	G		DWCX	U	Y	L:2,7,11	p1893	A,C
N5034	SG	N		G	Frame	DWCX	U	Y	L:2,4,11		C
N5035	SG	Y	1870	G		DWCX;PO	Y	Y	M:2,4,7,11	1870	A,C
N5036	SG	N	1930	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N5037	SG	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5038	SG	Y	1825-50	G	Frame	AGCX	Y	Y	H:1,2,4,5,7,11	1825-50	A,B,C
N5039	SG	N	p1849	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5040	SG	N	1868-93	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N5041	SG	Y	1698	G	Brick	CHUR;CEM;DWCX	Y	Y	H:1,2,3,4,5,6,7,8,11	1698	A,B,C,E,F
N5042	SG	Y	1825-75	G	Frame	AGCX	Y	Y	H:1,2,4,5,7,11	1825-75	A,B,C,E
N5042.1	SG	N	1849-68	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5043	SG	N	p1849		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N5044	SG	N		G		AGCX	U	U	U	a1893	C
N5045	SG	Y	1849-68	G		DWCX	Y	Y	H:1,2,4,7,11	1849-68	A,B,C
N5046	SG	N	1849-68	G		DWCX	U	Y	H:1,2,4,7,11	p1868	A,B,C
N5047	SG	N	1849-68	G		DWCX	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5052	SG	N	1849-68	DS		AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5053	SG	N	p1849	D		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5054	SG	Y	c1830	G	Frame	AGCX	Y	Y	H:1,2,4,5,7,11	c1830	A,B,C,E
N5055	SG	N	1928	G		DWCX	U	Y	L:2	1928	C
N5066	SG	U	1933			AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5067	SG	U	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,C,E
N5068	SG	U	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5087	SG	U	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5249	SG	U	1849-68			AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
ST. GEORGES HUNDRED											
N105	M	N	p1849	P		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N106	M	Y	c1850s	F		EST;AGCX	Y	Y	H:1,2,4,5,7,8,11	c1850s	A,B,C
N107	M	N	c1840		Frame	PEACH;PEAORC	U	Y	H:1,2,4,5,7,8,9,11	c1840	A,B,C,E
N109	M	N	c1840		Frame	PEACH;PEAORC	U	Y	H:1,2,4,5,7,8,9,11	c1840	A,B,C,E
N110	M	N	1846	P		PEACH;PEAORC	U	Y	H:1,2,4,5,7,8,9,11	c1846	A,B,C,E
N111	M	N	1849-1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N114	M	N	c1823	E	Brick	AGCX	U	Y	H:1,2,4,5,7,11	c1823	A,B,C,E
N115	M	N	p1849	E	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N116	M	Y	1842	G	Brick	PEACH;PLANT	Y	Y	H:1,2,4,5,7,8,9,10,11	1842	A,B,C,E
N117	M	Y	1842		Frame	PLANT;PEACH	Y	Y	H:1,2,4,5,6,7,8,9,10,11	1842	A,B,C,E,S
N117.1	M	Y	c1830s			SLAQ	Y	Y	H:1,2,3,6,7,8,11	c1830s	A,B,C,E
N117.2	M	Y	c1900			WKDW	Y	Y	M:2,7	c1900	C
N118	M	Y	1856	G	Frame	PEACH	Y	Y	H:1,2,4,7,8,11	1856	A,B,C
N120	M	Y	p1849	G	Brick	PEACH	Y	Y	H:1,2,4,7,8,11	p1849	A,B,C,E
N121	M	N	1860	G	Brick	PEACH	U	Y	H:1,2,4,5,7,8,11	1860	C
N3935	SG	Y	C1750	D	Brick	AGCX	Y	Y	H:1,2,4,5,6,7,8,11	c1750	A,B,C,E
N3939	SG	Y	1800-25	G	Brick	AGCX;TAV	Y	Y	H:1,2,4,5,7,8,11	1800-25	A,B,C,E
N3940	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N3947	SG	N	1849-68	E	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N3961	M	N	p1802		Brick	AGCX	U	Y	H:1,2,4,5,6,7,8,11	p1802	B,C,E,F
N4252	M	N		G	Brick	DWCX	U	U	U	a1893	C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N4253	M	N			Brick	DWCX	U	U	U		C
N4254	M	N			Brick	DWCX	U	U	U		C
N4255	M	N			Brick	DWCX	U	U	U		C
N4256	M	N			Brick	DWCX	U	U	U		C
N4257	M	N			Brick	DWCX	U	U	U		C
N4258	M	N			Brick	DWCX	U	U	U		C
N4258	M	N			Brick	DWCX	U	U	U		C
N4259	M	N			Brick	DWCX	U	U	U		C
N4260	M	N			Brick	DWCX	U	U	U		C
N4261	M	N			Brick	DWCX	U	U	U		C
N4262	M	N			Brick	DWCX	U	U	U		C
N4263	M	N			Brick	DWCX	U	U	U		C
N4264	M	N			Brick	DWCX	U	U	U		C
N4265	M	N			Brick	DWCX	U	U	U		C
N4266	M	N			Brick	DWCX	U	U	U		C
N4267	M	N			Brick	DWCX	U	U	U		C
N4268	M	N			Brick	DWCX	U	U	U		C
N4269	M	N			Brick	DWCX	U	U	U		C
N4270	M	N			Brick	DWCX	U	U	U		C
N4271	M	N			Brick	DWCX	U	U	U		C
N4272	M	N			Brick	DWCX	U	U	U		C
N4273	M	N	1920-30	D	Frame	DWCX	U	Y	L:2	1920-30	C
N5129	M	N	1849-68	D	Frame	SLAVQ;TENANT	U	Y	H:1,2,3,4,5,6,7,8,11	1849-68	A,B,C
N5130	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5131	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5132	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5153	M	N	c1840	A	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1840	A,B,C,E
N5134	M	N	p1849	DS	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5135	M	N	1866	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1866	A,B,C
N5136	M	N	1868-93			SCH	U	Y	M:2,7,11	1868-93	A,C
N5137	M	N	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,C
N5138	M	N	1849-68			INDTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5139	M	N	p1802			GMCX	U	Y	H:1,2,4,5,7,8,11	p1802	A,B,C,E,F
N5140	M	N					U	U	U	a1893	C
N5141	M	N	1849-68			AGCX	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5142	M	N	1866	G	Frame	AGCX;PEAORC	U	Y	H:1,2,4,5,7,9,11	1866	A,B,C
N5143	M	N	1860	D	Frame	DWCX;STO	U	U	U	1860	A,B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N5144	M	N	1868-93			SCH;DWCX	U	Y	M;2,7,11	1868-93	A,C
N5145	M	N	p1849	A		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5146	M	N	c1870s	G	Brick	EST;AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5147	M	N	e19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	e19thC	A,B,C,E
N5149	M	N	1849-68	D	Timber	EST;AGCX	U	Y	H:1,2,4,5,7,9,11	1849-68	A,B,C
N5150	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	B,C,E
N5151	M	N	p1849			AGCX	U	Y	H:H:1,2,4,5,7,11	p1849	A,B,C,E
N5152	M	N	1849-68	DS	Brick	PEACH;PEAORC	U	Y	H:1,2,4,5,7,8,9,10,11	1849-68	A,B,C
N5153	M	N	1849-68	D	Lg;Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5154	M	N	1849-68	G	Frame	DWCX	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5155	M	N	p1849	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5156	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5157	M	N	p1849			STO;PO	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5158	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,C,E
N5159	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5160	M	N	1849-60			AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5161	M	N	p1849			STO;DWCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5162	M	N	1868-93		Frame	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N5163	M	N	1849-68	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	1849-68	B,C
N5164	M	N	p1849	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5165	M	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5177	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5178	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5179	M	N	1849-68			AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5180	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5181	M	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5182	SG	N	c1860s	G	Frame	STO;DWCX	U	Y	H:1,2,4,5,7,11	c1860s	A,B,C
N5183	SG	N	p1849	G	Frame	EST	U	Y	H:1,2,4,5,7,8,9,11	p1849	A,B,C,E
N5184	SG	N	p1849	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5186	SG	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5187	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5188	SG	N	p1849	G		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5189	SG	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5190	SG	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5191	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5192	SG	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5193	SG	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N5194	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5195	SG	N	p1849	G	Timber	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5196	SG	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5197	SG	N	1849-68			AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5198	SG	N	p1849	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5199	SG	N	1849-68	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5201	SG	N	1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5202	SG										
N5203	SG	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5208	SG	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5209	M	N	c1850		Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1850	C
N5210	M	N	1928	G	Frame	AGCX	U	Y	L:2,5	1928	C
N5211	M	N	p1849	G		AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5212	M	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5213	M	N	p1849		Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C
N5214	M	N	p1868	G	Frame	GMCX	U	Y	H:1,2,4,5,6,7,8,11	p1868	
N5215	M	N	e18thC	G	Frame	GMCX	U	Y	H:1,2,4,5,6,7,8,11	e19thC	A,B,C,E
N5216	M	N	p1849	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	p1849	A,B,C,E
N5218	M	N	p1849	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5219	M	N	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5234	SG	N					U	U	U	a1893	C
N5235	SG	N	1849-68			AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5236	SG	N	1849-68	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5237	SG	N	p1849			AGTEN	U	Y	H:1,2,4,7,11	p1849	A,B,C,E
N5238	SG	N	1868-93			AGCX		Y	M:2,4,5,7,11	1868-93	A,C
N5239	SG	N	p1849	D	Frame	AGTEN;PLANT	U	Y	H:1,2,4,5,7,8,11	p1849	A,B,C,E
N5240	SG	N	1849-68	G	Frame	AGTEN	U	Y	H:1,2,4,7,11	1849-68	A,B,C
N5241	SG	N	1849-68	G	Frame	AGTEN	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5242	SG	N	1868-93	G	Frame	AGBLG	U	Y	M:2,4,5,7,11	1868-93	A,C
N5244	Sg	N	c1775	G	Brick	AGCX	U	Y	H:1,2,4,5,7,11	c1775	A,B,C,E
N5245	SG	N	e19thC	D	Brick	AGTEN	U	Y	H:1,2,4,7,11	e19thC	C,E
N5246	SG	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5247	M	N	1900		Frame	EST	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5248	SG	N	1849-68	G		AGCX	U	Y	H:1,2,4,5,7,11	1849-68	A,B,C
N5253	SG	N	p1849			AGCX	U	Y	H:1,2,4,5,7,11	p1849	A,B,C,E
N5934	M	N	1868-93	G	Brick	AGCX	U	Y	M:2,4,5,7,11	1868-93	A,C
N6343	M	N		D	Frame		U	U	U		C

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
N6344	M	N			Brick		U	U	U		C
N6345	M	N			Brick		U	U	U		C
N6346	M	N			Brick		U	U	U		C
N6347	M	N			Brick		U	U	U		C
N6348	M	N			Brick		U	U	U		C
N6349	M	N			Brick		U	U	U		C
N6350	M	N			Brick		U	U	U		C
N6351	M	N			Brick		U	U	U		C
N6352	M	N		F	Frame		U	U	U	a1893	C
SOUTH MURDERKILL HUNDRED											
K103	F	Y	1780	E	Brick	CHUR;CEM	Y	Y	H:1,2,4,5,7,8,11	1780	B,C,F,S
K1689	F	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2712	F	N	c1860	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1860	B,C
K2713	F	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2739	F	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2740	F	N		G	Frame	DWCX	U	U	U	a1868	C
K2741	F	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2742	F	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2743	F	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2744	F	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K2745	F	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2746	F	N	1.19thC	G	Frame	AGCX	U	Y	M:2,4,5,7,11	1.19thC	C
K2748	W	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K2749	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2750	W	N	p1868	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2751	W	N	p1868	D	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2753	F	N			Frame	STRUC	U	U	U	a1868	C
K2754	F	N	m19thC	G	Frame	DWCX	U	Y	H;1,2,4,5,7,11	m19thC	B,C
K2755	W	N	a1900	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K2756	W	N	c1930	G	Frame	AGCX	U	Y	L:2	c1930	C
K2758	W	N		G	Frame	AGCX	U	U	U	a1868	C
K2759	W	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C
K2760	W	N	c1900	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K3131	W	N	m19thC	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	m19thC	B,C

WEST DOVER HUNDRED

STANDING STRUCTURES							ASSOCIATED ARCHAEOLOGICAL REMAINS				
							Evaluation				
CRS #	Quad	NRL	Date	Cond.	Material	Function	NRE	P	S	Date	References
K1197	D	N		G	Frame	DWCX	U	U	U	a1868	C
K1198	D	N	c1830	G	Frame	AGCX	U	Y	H:1,2,4,5,7,11	c1830	B,C
K1199	D	N	p1868	DS	Frame	AGCX	U	Y	H:1,2,4,5,7,11	p1868	B,C
K1259	W	N	1919	G	Frame	AGCX	U	Y	L:2	1919	C

APPENDIX IV

PREHISTORIC SETTLEMENT PATTERN

The purpose of this appendix is to provide a short, more technical, discussion of the implications of the mapped prehistoric predictive zones for regional settlement pattern studies. Specifically, the implications of the prehistoric predictive maps from the present study will be compared to those discussed by Eveleigh et al. (1983) and state plan models (Custer 1983b). Implications for each of the major time periods of Delaware prehistory are discussed below.

Paleo-Indian Period

The low numbers of known and potential Paleo-Indian sites for the project area make it difficult to assess the implications of the predictive zones. Also, the training set used in the initial model formulation included few Paleo-Indian sites. However, a few general observations can be noted.

The main point is that the predictive model picked out a series of high probability zones within the concentrations of bay/basin features noted in Figure 4. As was noted earlier, in the report, this was the main area that more impressionistic site location models (Custer 1983b) delineated as a potential locus of Paleo-Indian sites. It is interesting to note that other studies of Paleo-Indian site locations in Coastal Plain areas (Bonfiglio and Cresson 1978) suggest that the most likely location of Paleo-Indian sites in areas around bay/basin features is the southwestern or southern sides of the features. However, the model used here picks a variety of locations adjacent to these features that are not necessarily on the southern and southwestern sides. For example, see Zone 6 on the Middletown Quad and Zones 1-4, 6, and 7 on the Clayton Quad in Attachment V. It seems as if the highest probability zones in these bay/basin concentrations are well-drained ridges that are centrally located in relation to several bay/basin features. Field

testing should be able to determine, which are really site locations. It is possible that the scale of the logistical regression model used here is too large to specifically distinguish site locations at the level discussed by Bonfiglio and Cresson.

Archaic Period

Recent studies of Coastal Plain Archaic site distributions (Custer and Galasso 1983; Eveleigh et al. 1983; Wise 1983; Galasso 1983) have noted that many interior well-drained ridges adjacent to poorly drained settings, including bay/basin features, are often locations of Archaic micro-band base camps and procurement sites. Also, these studies have noted that Archaic Period sites are more numerous than previously thought (eg., Custer 1981). The predictive model used in this study notes many high probability zones in interior zones, many of which are associated with bay/basin features. However, an equal number are associated with swampy, poorly drained floodplains of low order, and often ephemeral, streams. Custer and Galasso (1983) note that these may be locations of either micro-band base camps or procurement sites. Also, some of the Archaic sites may be a different type of site that falls somewhere in between micro-band base camps and procurement sites in terms of size, activites, and artifact type variety. Recent research at the Hawthorn site (Custer and Bachman 1983) suggests that the alternative site type may be termed a processing/staging site which is a small camp related to special forays to procurement sites. Whatever, the site type, the predictive model used here suggests that these, and other Archaic Period sites, may be common throughout the project area in interior zones. The large number of these of potential locations may be interpreted as evidence of relatively intensive use of interior regions during the warm, wet Atlantic climatic episode that is coeval with the Archaic Period. During this period it may be possible that many of the

presently ephemeral streams were perennial and many now-extinct streams were ephemeral in interior regions. If this were the case, groups would have had sufficiently dependable surface water to remain in the interior zone for long periods of time and might not have needed sources to establish base camps along the major drainages. However, interior floodplain settings and productive zones would be smaller than those along the major drainages and smaller settlements, micro-band base camps, would be more common than macro-band base camps. If this pattern was indeed present, then the social organizations of Archaic groups intensively utilizing the interior regions might have been more fragmented than that of coastal groups, or groups living at macro-band base camps along major drainages and large interior swamps (Custer 1982a:Chapter 3). Indeed, it should be noted that potential macro-band base camp locations are present on the predictive maps in areas closer to the coast and along major drainages. In sum, the potential Archaic utilization of both major drainage/coastal settings and interior zones is great. However, field testing of the model's predictions will be necessary to see if the inferred site types noted above are really present in the specified frequencies.

Woodland I Period

Most of the known sites in the project area date to the Woodland I Period and the predictive maps in Attachment V best apply to this time period. Because a major portion, the southern two-thirds, of the present study area corresponds to the area initially studied by Eveleigh et al. (1983), the interpretations of the model predictions will not be discussed for this area. The interested reader should check the article by Eveleigh et al. (1983) for these interpretations. In this section the discussion will focus on the predictions of the model for the northern portions of the project area.

The predictive model notes several, large high probability zones surrounded by larger medium probability zones in the northern portions of the study area along what was once Saint Georges Creek, and Drawyers Creek, the Appoquinimink River, Duck Creek, the Smyrna River, and the Leipsic River. These probability zones are centered on the oligohaline zone which represents the transition zone between salt and fresh water in the drainages. This zone is especially productive for hunters and gatherers and has been noted as a major focus for large Woodland I macro-band base camps (Custer 1983a:Chapter 4; 1983b). In general, the results of the application of the predictive model in this study confirm the models used previously and underscore the focus of settlement in the mid-drainage zone during Woodland I times. Moreover, this focus is an important part of explanations of Woodland I social complexity (Custer 1982) and the model results indicate that the increases in population densities which are part of these models were present in the northern areas of the Delaware Coastal Plain as well as in southern areas.

The model results also show many potential interior locations for Woodland I sites, including many potential Woodland I micro-band base camp locations. Galasso (1983) notes that in addition to the process of intensification of utilization of major drainage floodplain locations during Woodland times, there is an extensification of the variety of environments utilized. Because this extensification would presumably include a series of forays away from major base camps into interior zones, including the potential micro-band base camp and procurement site locations noted by the model, the results of the model, which note numerous potential site locations of this type, support these contentions. Specifically, the present study shows that these processes were in operation in northern areas of the Coastal Plain as well as in the more southern areas studied by Galasso (1983) Custer and Galasso (1983).

Woodland II Period

Research by Eveleigh et al.(1983) indicated that some Woodland II macro-band base camps and micro-band base camps were included within the high probability zones mapped out by the predictive model. Also, Woodland II micro-band base camps and procurement sites were noted for medium probability zones. The application of the predictive model in this study shows many of these sites throughout the study area. This finding is especially interesting because some earlier studies had noted the northern portions of Kent County and the southern portions of New Castle County as a potential buffer zone during Woodland II times. As was noted earlier in this report, re-examination of many of the collections showed that numerous known sites within the supposed "buffer zone" were indeed Woodland II sites and the appearance of numerous medium and high probability zones, which probably include many Woodland II sites, further underscores the fact that the "buffer zone" is an artifact of archaeological survey data, not a cultural reality.

It should also be noted that newly available ceramic distribution data indicates that the "buffer zone" probably did not exist. One of the original sets of data that the "buffer zone" concept was supposed to explain was the apparent discontinuity in the distribution of Woodland II ceramic design types. Northern Delaware, north of the Appoquinimink, was characterized by Minguannan ceramics, while southern Delaware, south of Duck Creek, was characterized by Townsend ceramics (Custer 1983a:Chapter 5). Although the ceramic types were recognized as very similar, and indicative of some interaction among the groups that manufactured them, it was thought that they were sufficiently different, in terms of temper, to indicate some degree of cultural differences. However, recent excavations at Killens Pond State Park by Cara Wise have recovered some Woodland II ceramics that are a blend of Minguannan and Townsend wares. These

newly discovered ceramics are tempered with a mix of shell and grit and may indicate a subtle shift in temper preferences among groups living in the interface zone of the two ceramic styles distribution. This overlapping of ceramic styles suggests a continuous distribution of interacting populations and also seems to contradict the existence of a buffer zone during Woodland II times.

In spite of these indications of interacting populations for the middle sections of the study area during Woodland II times, it should be noted that the adaptations are quite different between the two areas. In northern areas, which fall within the Minguannan Complex, a more fragmented social organization with few large sedentary sites seems to prevail. In southern areas which fall within the Slaughter Creek Complex, more macro-band base camps are present and a more complex social organization including more individuals is inferred.

In sum, the predictive model from this study confirms many of the existing models that were developed previously. However, in some cases it shows that existing models must be re-evaluated. The model also provides a guide to future research that can be oriented toward improving our ideas of what the past was like.

APPENDIX V

PROPOSAL FOR A PHASE I ARCHAEOLOGICAL PLANNING STUDY OF THE PROPOSED U.S. 13, RELIEF ROUTE CORRIDOR, NEW CASTLE AND KENT COUNTIES, DELAWARE

INTRODUCTION

The purpose of this proposal is to outline the potential units-of-work to be included in a Phase I Planning Study of the Proposed U.S. 13 Relief Route Corridor that will pass through sections of New Castle and Kent Counties, Delaware. The units-of-work outlined in this proposal are based on the following assumptions:

1) The study is strictly a planning study and will require no field research, other than preliminary driving reconnaissance and visiting of existing sites.
2) The study will produce information useful for highway planning purposes, but will not be sufficient by itself for determinations of National Register eligibility or determination of effects on potentially significant and significant cultural resources.

This proposal will outline the goals of the proposed research, note the units-of-work to be performed to reach these goals, and note the costs of the project.

PROJECT GOALS

Pursuant to the request-for-proposal (Appendix I), the main goal of the proposed research project is to provide a series of maps that outlines the sections of the project area that contain, or are likely to contain, cultural resources that are eligible for listing on the National Register of Historic Places. These maps will be designed to provide the kinds of information that will allow highway planners to minimize the costs of mitigation of adverse effects on these cultural resources. In other words, this project will outline "sensitive" areas within the project boundaries that it would be best to avoid with the actual corridor of impact. These data can also be used to guide later phases of field research, including location and identification surveys, and determination of eligibility testing. Also, it is hoped that some preliminary estimations of cultural resource management project costs related to the highway development can be generated. The overall utility of these data can be measured in

minimized impacts on cultural resources and minimized costs for mitigation during later stages of the project.

UNITS-OF-WORK

The units-of-work to be performed in this project will vary by the types of cultural resources considered. The two basic categories of cultural resources expected are historic resources and prehistoric resources. The project activities related to each are described below.

Historic Resources

Historic resouces differ significantly from prehistoric resources in that existing documentary records can be used to inventory the known and potential locations of historic resources. In general, historic resources can be divided into two categories: standing structures and archaeological sites. Usually, standing structures will have associated archaeological materials; however, there may be locations where historic archaeological sites are no longer associated with standing structures. Consequently, the proposed units-of-work listed below for a Phase I survey of historic cultural resources include searches of documents and records that relate to standing structures as well as other documentary data that pertains to archaeological sites with no associated structures and archaeological sites that were associated with standing structures that are no longer extant.

1) The comprehenisve architectural surveys carried out by the Delaware Bureau of Archaeology and Historic Preservation will be searched for all standing structures of National Register significance and potential National Register significance in the project area. These comprehensive surveys of standing structures are available for all of the proposed project area.

2) The potential for archaeological remains associated with the standing structures will also be assessed for all structures in the proposed project area.

3) Historic maps and other pertinent documents that indicate the presence of structures that may no longer be extant or that document activities likely to produce significant historic archaeological sites, but no structures, will be searched for the project area. Beers Atlas is an example of one of these sources.

4) The available literature on the likely placement of historic archaeological sites will also be reviewed and applied to the project area to make sure that any sites that might have significant historic archaeological resources, and which might not have been recorded in the documents, are noted and considered.

Completion of these units-of-work will assure that all known or potential significant historical cultural resources within the proposed project area will be considered.

Prehistoric Resources

Prehistoric resources are more difficult to inventory and consider because there are no extant records of their locations available for study. The locations of known prehistoric archaeological sites can be listed; however, such a method does not consider the vast array of prehistoric archaeological sites that exist, but are as yet undiscovered. Rather than just consider the known sites and allow the unknown sites to be encountered on a haphazard basis as the project proceeds, it is possible to make educated judgement about the types of archaeological sites that one might expect to find in the project area and their locations. Working from the assumption that the locations of prehistoric archaeological sites are the results of patterned human behavior, and assuming that prehistoric groups had to locate their habitation sites in relation to basic subsistence needs, certain patterns in archaeological site locations can be recognized. These patterns, termed settlement patterns (Parsons 1972), vary from

place to place and through time. The basic composition of the environment is one determinant of settlement patterns as are the technologies and social organization of prehistoric groups. Numerous studies of past environments and past technologies of the inhabitants of Delaware's Coastal Plan (Custer 1983; Thomas et al. 1975; Griffith 1974) provide the background information needed to predict the possible locations of varied types of archaeological sites from varied time periods within the past 15,000 years. The initial descriptions of these regional settlement patterns are necessarily impressionistic (see Custer 1983 for an example); however, further stages of research that seek to test the validity of these impressions by using detailed field survey and statistically valid sampling techniques (Custer and Galasso 1983) and multrivariate quantitative site location models (Wells 1981; Wells et al. 1981) can provide quantitative estimates that are quite reliable.

In general, the types of information needed to generate fairly accurate, impressionistic site location models are present for the entire corridor. Statistically valid samples and multi-variate quantitative models are available for approximately one-third of the area. Because it is unfeasible to attempt to gather new filed data for the remaining segments of the corridor at this time, the proposed units-of-work listed below are designed to maximize the utility of the presently available data base and generate a series of equally accurate, but variably precise models.

1) Search the existing site records of the Bureau of Archaeology and Historic Preservation for all known prehistoric archaeological sites within the proposed project area and note which have been determined eligible for the National Register and which are potentially eligible.

2) Compare the physiographic settings of the project area with archaeological site location models described in the Management Plan for Delaware's Prehistoric Archaeological Resources (Custer n.d.) and note the assessments of resource stress and potential significance for the predicted

site locations.

3) Utilize more detailed models of archaeological site locations as they are available in the project area for generated more detailed predictive statements.

4) Where possible, utilize regional mapping of environmental features and variables by methods such as LANDSAT (Wells 1981) and the New Castle County Grid Cell Data Base (Svatos 1979) to map out the distributions of cultural significant environmental features.

Table 1 shows five sub-divisions of the project area and describes the kinds of data that are available in each for developing the listings of potential site location.

EXPECTED RESULTS

The following items will be included in the final report:

1) A series of maps detailing known and potential site locations.

2) Discussion of the significance of known and predicted sites and the kinds of mitigation strategies that might be necessary for the varied classes of sites expected for the project area.

3) Discussion of the sensitivity of various portions of the study area for significant cultural resources and a delineation of very sensitive areas that would be est to avoid during final alignment selection.

APPENDIX VI

GUIDE TO ATTACHMENT V

The purpose of this appendix is to provide a listing of the major prehistoric probability zones on each of the 7.5' USGS maps that are included in Attachment V. Probability zones on each map are numbered and listed along with the site models (noted as applicable Figures from the main text), typical site location descriptions (Noted as Tables and descriptions from the main text) and types of sites that may be expected in each zone. The data in this appendix, therefore, specifically links the general site location models and the probability zone maps generated by the logistical regression.

KEY:

Probability Zones

H - High

M - Medium

L - Low

S - Special

Time Periods

PI - Paleo-Indian

A - Archaic

WI - Woodland I

WII - Woodland II

Sites

P - Procurement

Mi - Micro-band Base Camp

Ma - Macro-band Base Camp

M/E C - Mortuary-Exchange Center

BC - Base Camp

BCMS - Base Camp Maintenance Station

HS - Hunting Site

LITTLE CREEK QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1, 3-5	H, M	9, 15, 21	9-Major Drainage	(A) Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
2	M	9, 15, 21	9-Major Drainage	(A) P
			10-Mid-Drainage	(WI)Mi, P
			11-Mid-Drainage	(WII)Mi, P
6-7		17	10-Mid-Drainage	(WI) M/EC

Comments: The highest probability zones are located at confluences of low order tributaries on the Simons River and the Little River Drainage.

FREDERICA QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1	H, M	9, 15, 21	9-Major Drainage	(A)Ma, Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
2-4	S	17	10-Mid-Drainage	(WI) M/EC

Comments: The major probability zone focuses on the confluence of Spring Creek and Double River. The potential Delmarva Adena sites (#2 and #3) are also located in this area.

WYOMING QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1, 2, 4, 5	H, M	9, 15, 21	9-Major Drainage	(A)Ma, Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
3	M	9, 15, 21	9-Major Drainage	(A) P
			10-Mid-Drainage	(WI)MI, P
			11-Mid-Drainage	(WII)Mi, P

Comments: All zones noted are on lower order tributaries of Isaac Branch, Tidbury Creek, Double Run, and Pratt/Hudson Branch.

DOVER QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1, 2, 4 6-8, 10	H, M	9, 15, 21	9-Major Drainage 10-Mid-Drainage 11-Mid-Drainage	(A)Ma, Mi, P (WI)Ma, Mi, P (WII)Ma, Mi, P
3, 5	H, M	5, 11, 21	6-All	(PI)BC, BCMS, HS
			9-Major Drainage 10-Mid-Drainage 11-Mid-Drainage	(A)Ma, Mi, P (WI)Ma, Mi, P (WII)Ma, Mi, P
9	M	9, 15, 21	9-Major Drainage 10-Interior 11-Interior	(A) P (WI)Mi, P (WII)Mi, P
11	S	17	10-Mid-Drainage	(WI) M/EC
12-15		18	10-Mid-Drainage	(WII) M/EC

Comments: The majority of the higher probability zones are along major drainage tributaries of the St. Jones River including Cahoon Branch, Maidstone Branch, and Fork Branch. High probability zones are also seen along the Leipsic River and Muddy Branch as well as in association with bay/basin complexes.

KENTON QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1, 2	H, M	9, 15, 21	9-Major Drainage 10-Mid-Drainage 11-Mid-Drainage	(A)Ma, Mi, P (WI)Ma, Mi, P (WII)Ma, Mi, P
3	H, M	5, 11, 21	6-All	(PI)BC, BCMS, HS
			9-Major Drainage 10-Mid-Drainage 11-Mid-Drainage	(A)Mi, P (WI)Mi, P (WII)Mi, P
4	M	9, 15, 21	9-Major Drainage 10-Interior 11-Interior	(A) P (WI)Mi, P (WII)Mi, P
5	S	18	10-Mid-Drainage	(WI) M/EC

Comments: All zones cluster at the confluence of Pinks Branch and Taylor Branch, except for a bay/basin cluster (#3).

ST. GEORGES QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1	H, M	9, 15, 21	9-Major Drainage	(A) P
			10-Interior	(WI)Mi, P
			11-Interior	(WII)Mi, P
2	M	9, 15, 21	9-Major Drainage	(A) P
			10-Interior	(WI)Mi, P
			11-Interior	(WII)Mi, P
3	H, M	9, 15, 21	9-Major Drainage	(A)Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P

Comments: Except for a small portion of Zone 1 and most of Zone 3, the probability zones noted on this map are on the headwaters of tributaries of the major drainages.

MIDDLETOWN QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1-5, 7	H, M	9, 15, 21	9-Major Drainage	(A)Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
6	H, M	5, 11, 21	6-All	(PI)BC, BCMS, HS
			9-Major Drainage	(A)Ma, Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
8	M	9, 15, 21	9-Major Drainage	(A) P
			10-Interior	(WI)Mi, P
			11-Interior	(WII)Mi, P
9-13	S	18	10-Mid-Drainage	(WI) M/E C

Comments: The high and medium probability zones cover the major mid-drainage zones of the Drawyers Creek, Appoquinimink River, and Blackbird Creek drainages. Several are also associated with a concentration of bay/basin features. Numerous potential Webb Complex mortuary/exchange sites are noted.

TAYLORS BRIDGE QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1	M	9, 15, 21	9-Major Drainage	(A)Mi, P
			10-Bay Coast	(WI)Mi, P
			11-Bay Coast	(WII)Mi, P

Comments: This zone is on the lower reaches of Blackbird Creek and includes headlands overlooking present tidal marsh.

CLAYTON QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1-4, 6, 7	H, M	5, 11, 21	6-All	(PI)BC, BCMS, HS
			9-Major Drainage	(A)Ma, Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
5	M	9, 15, 21	9-Major Drainage	(A) P
			10-Interior	(WI)Mi, P
			11-Interior	(WII)Mi, P
8-11	H, M	9, 15, 21	9-Major Drainage	(A)Ma, Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
12	S	18	10-Mid-Drainage	(WI) M/E C

Comments: Most of the high probability zones are associated with bay/basin features although a few fall along the Providence Creek drainage.

SMYRNA QUAD

Zones	Prob. Zones	Applicable Figs.	Tables and Descriptions	Sites
1-3, 6-8	H, M	9, 15, 21	9-Major Drainage	(A)Mi, P
			10-Mid-Drainage	(WI)Ma, Mi, P
			11-Mid-Drainage	(WII)Ma, Mi, P
4, 5	M	9, 15, 21	9-Major Drainage	(A) P
			10-Interior	(WI)Mi, P
			11-Interior	(WII)Mi, P
9-13	S	18	10-Mid-Drainage	(WI) M/E C

Comments: Most of the high probability zones are associated with mid-drainage zone tributaries of the Leipsic River and the main channels of the Smyrna River and Sawmill Branch. A few interior medium probability zones are associated with bay/basin features.

APPENDIX VII

GUIDE TO ATTACHMENT VI

PRE-1802 SENSITIVITY ZONES

This appendix lists the major historic sensitivity zones for the pre-1802 period. These zones are mapped on 7.5' USGS maps in Attachment VI.

Saint Georges Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 2: Lower Saint Georges Creek area; land between Dragon Creek and Scott Run.
Zone 3: Headwaters area of major streams and their tributaries.
Zone 4: Major transpeninsular road (western route); Routes 71 and 301.
Zone 5: Secondary east-west connector road.

Middletown Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 2: Mid-drainage and headwaters areas of major streams and their tributaries.
Zone 3: Major transpeninsular road (western route); Routes 71, 301.
Zone 4: Secondary east-west connector road; connecting both overland and water routes.

Taylors Bridge Quadrangle

Zone 1: Marshland of major streams; first available well-drained land along the lower reaches of major stream.

Clayton Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13
Zone 2: Headwaters area of major streams and their tributaries.

Smyrna Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 2: Mid-drainage areas of major streams and their tributaries.

Dover Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13
Zone 2: Mid-drainage and headwaters areas of major streams and their tributaries.
Zone 3: Junction of major overland and water transportation routes.

Kenton Quadrangle

Zone 1: Headwaters-upper drainage areas of major stream and tributaries; western edge of settlement in Kent County.

Appendix VII: Guide to Attachment VI

Little Creek Quadrangle

Zone 1: Major transpeninsular road (eastern route); Route 9.
Zone 2: Lower to mid-drainage area of major stream; locus of major overland and water transportation routes.

Wyoming Quadrangle

Zone 1: Headwaters area of major streams and their tributaries; junction of water and overland routes.
Zone 2: Upper and mid-drainage areas, headwater areas of principal streams and their tributaries.

Frederica Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13
Zone 2: Lower to mid-drainage areas of major streams and tributaries; first area of well-drained land on major stream, marshland on lower reaches of river.

APPENDIX VIII

GUIDE TO ATTACHMENT VII

POST-1802 SENSITIVITY ZONES

This appendix lists the major historic sensitivity zones for the post-1802 period. These zones are mapped on USGS 7.5' maps in Attachment VII.

Saint Georges Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 2: Major transpeninsular road (western route); Routes 71, 301, 4, County Road 435; railroad corridor.
Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.

Middletown Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 2: Major transpeninsular road (western route); Routes 71, 301, 4, County Road 435, railroad corridor.
Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.
Zone 5: Railroad town.

Taylors Bridge Quadrangle

Zone 4: Interior settlement.

Clayton Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.

Smyrna Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.
Zone 5: Railroad town.
Zone 6: Major water navigational route.

Dover Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13
Zone 4: Interior settlement.

Wyoming Quadrangle

Zone 1: Major transpeninsular road (central route); Route 13.
Zone 4: Interior settlement

Appendix VIII: Guide to Attachment VII

Kenton Quadrangle

Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.

Little Creek Quadrangle

Zone 4: Interior settlement
Zone 6: Major water navigational route.

Frederica Quadrangle

Zone 3: Secondary east-west connector road.
Zone 4: Interior settlement.

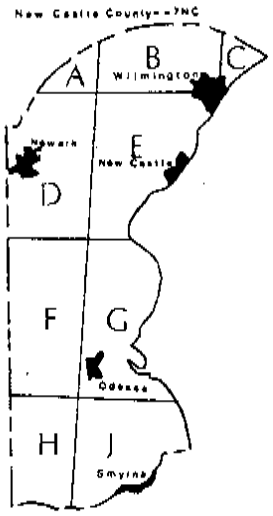
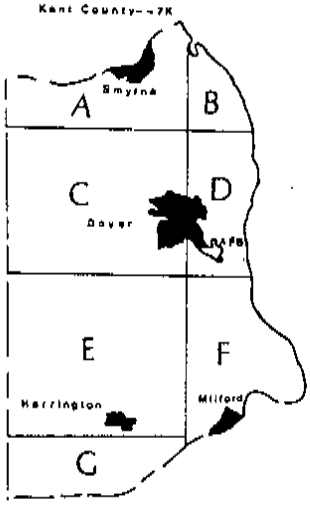
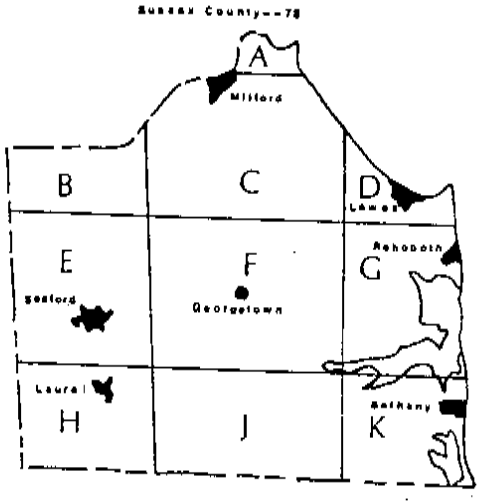
APPENDIX IX

NOTES ON SITE NUMBERS
(an example)

7NC-E-46(N-6264)

7NC-E-46

7NC-E-46	=	State Site Number
7	=	Numberical prefix identifying the state of Delaware.
NC	=	New Castle County; K=Kent County
E	=	Each county is divided into lettered divisions, letter E indicates the block in which the site is found in New Castle County, Delaware.
46	=	The 46th site recorded in New Castle County, Delaware.

N-6264

N-6264	=	Cultural Resource Survey Number
N	=	New Castle County, Delaware; K=Kent County
6264	=	The 6264th cultural resource inventoried in New Castle County. Each cultural resource number ties into the aerial photos and management files on repository with the Delaware Division of Historical and Cultural Affairs, Dover, Delaware and/or The Island Field Museum and Research Center, South Bowers, Delaware.