

BACKGROUND RESEARCH

Physical Geology and Environment

The Possum Park Road project area is located at the fall line which forms the interface between the High Coastal Plain and the Piedmont Uplands physiographic provinces (Figure 2). The area is characterized by several terraces overlooking the confluence of Middle Run and an unnamed tributary. The confluence of Middle Run and White Clay Creek is located roughly 600 feet to the south of the project area. The project area is divided by Possum Park Road with the majority of the project located on the east side of the road.

Soils adjacent to Middle Run are classified as Kinkora silt loam (Matthews and Lavoie 1970). Kinkora series soils are poorly drained and typically support mesic tolerant mixed hardwood trees. The area on either side of Possum Park Road is mapped as Delanco silt loam. This soil type is moderately well drained and supports hardwood species (primarily oak). However, it is prone to retaining water (approximately once a month) due to its level topography. Vegetation within the project area consists of grasses in cleared portions and secondary growth trees (Plate 1). Dominant tree species include yellow poplar, maple, sycamore, and white mulberry along with American holly. The understory is composed of a variety of shrubs including wild rose and poison ivy.

Recent disturbances within the project area comprise the construction of the aforementioned Wendy's restaurant, the emplacement of the sanitary sewers and other utilities, and the grading of the parking lot (Plate 2). As discussed in the Documentary Research section, the project area remained undeveloped until the present century when the southern portion of Possum Park Road was realigned to its current location.

Prehistoric Background

The prehistory of Delaware and the Delmarva Peninsula is summarized from detailed discussions presented elsewhere (Custer 1984, 1986, 1989). Native American cultures in Delaware have been divided into five segments: Paleo-Indian, Archaic, Woodland I, Woodland II, and European Contact. With the exception of the last period, these divisions are based on perceived changes in subsistence, settlement, and social systems of local prehistoric peoples primarily in response to changes in local and regional environments and social conditions.

At the time of the initial peopling of the Western Hemisphere, the Pleistocene Epoch was drawing to a close, but the effects of the Wisconsin Glaciation continued to influence the climate. Based on pollen profiles from locations in Delaware, at that time the region was characterized by a mosaic of different vegetational communities comprising grasslands interspersed among large stands of conifers with some deciduous trees present as well. The earliest prehistoric Native Americans, the Paleo-Indians (ca. 10,000 B.C.), were hunters and gatherers who employed distinctive chipped stone projectile points and knives referred to as "fluted points." The majority



Plate 1.

View looking northwest across Possum Park Road showing the project area on the west side of the road. Photographer: John W. Martin, June 1993.



Plate 2. View looking northwest of parking lot and George R. Clark baseball field.
Photographer: John W. Martin, June 1993.

of these implements were manufactured from high-quality cryptocrystalline lithic raw material(s). Similar fluted points were found in the western United States in direct association with extinct Pleistocene megafauna such as bison and mammoth. However, no such association has yet been documented east of the Mississippi River.

In Delaware and other parts of the Middle Atlantic region, smaller mammals such as caribou, elk, and deer are thought to have been the focus of Paleo-Indian hunting activities. Floral and faunal remains from the Paleo-Indian component of the Shawnee-Minisink site in the Upper Delaware Valley also document the exploitation of wild plant foods and fish (McNett et al. 1977; Kauffman and Dent 1982). The relatively sparse evidence for this period suggests that Paleo-Indians lived in small, highly mobile groups or bands. It is also suggested that the preference for high quality stone materials influenced the settlement pattern. Many Paleo-Indian sites are located near primary geological outcrops or rich gravel beds containing these raw materials. In the latter stages of this period a variety of notched bifaces replaced the fluted points.

The beginning of the Archaic period coincides with the development of Holocene environments by circa 6500 B.C. During this period essentially modern environments developed in the Middle Atlantic region. The Archaic period represents a continuation of lifeways essentially similar to those interpreted for the Paleo-Indian period but without the almost exclusive reliance on cryptocrystalline raw lithic material. A variety of ground stone tools were added to the chipped stone tool kit indicating a greater use of floral resources. Group movements were scheduled to coincide with the seasonal availability of a variety of floral and faunal resources. The exploitation of these floral and faunal species involved scheduled movements to take advantage of differentially available resources. In general, Archaic cultures exploited a wider variety of resources than their predecessors and did so from more specialized sites located in a greater range of settings. However, evidence suggests that they also lived in small, highly mobile bands.

During the Woodland I period (ca. 3000 B.C.) there was a marked shift toward more sedentary lifeways. Settlements became larger and more numerous, particularly in highly productive riverine and estuarine habitats where both marine fish and shellfish were exploited. Recurrent seasonal occupation of sites is also apparent as are changes in technologies. The latter innovations include the appearance of heavy woodworking tools such as axes and adzes, large stone hearths and, during the early part of the period, carved steatite vessels which are believed to have increased cooking efficiency and possibly served as storage containers. Ceramic vessels also make their appearance (ca. 1000 B.C.) during this period. Some of the earliest types had flat bases and handles similar in form to steatite containers. Conical shaped ceramic vessels occur during the first millennium and persisted until the arrival of Europeans. During Woodland I times, a variety of notched and stemmed bifaces manufactured from a wide variety of lithic materials were in use. The presence of non-local items at many sites that date to this period are indicative of wide-ranging trade and exchange networks and the possible presence of complex, hierarchical social systems.

The final prehistoric period in Delaware (Woodland II), began at approximately A.D. 1000. The trade and exchange networks of the preceding period had broken-down or ceased to function by this time. Hoe-type horticulture, including crops such as maize, beans, and squash, supplemented traditional wild animal and plant foods, however its impact in Delaware was limited (Custer and Griffith 1986; Stewart et al. 1986). The introduction of the bow and arrow and exclusive use of triangular projectile points were the two major technological innovations. Ceramics exhibit complex incised design motifs and clay tobacco pipes also make their first appearance.

The arrival of European explorers and settlers marks the close of the Woodland II period. Contact with the native peoples brought about profound and irreversible changes in the socio-economic organization and technologies of Delaware's Native Americans. An increased reliance upon articles of European derivation takes place while concomitantly, an overall decline is noted in the manufacture and use of native goods. During the 17th and 18th centuries European diseases, conflict, and treachery decimated the aboriginal populations to the extent that, by 1800, only a few individuals remained as residents within the state.

Historic Background

The following history of Delaware and New Castle County has been summarized from previous DelDOT reports (Coleman et al. 1984; Coleman et al. 1985) as well as Catts and Coleman (1986) and the State Plan for Historical Archaeological Resources (De Cunzo and Catts 1990).

The early history of Delaware is characterized by the shifting of authority between overseas nations who had laid claim to the area. In fact, the same pattern occurred further up the Delaware River Valley and in the Hudson River Valley as well. The transitional episode for Delaware is briefly detailed below.

While the Dutch West India Company was first to attempt a permanent settlement in Delaware in 1630, this site (near present day Lewes) was destroyed by the native population in 1631. More successful was the Swedish settlement at Fort Christina in 1638, near modern Wilmington. The Dutch took control of Delaware in 1655, based at Fort Casimir near the town of New Amstel (New Castle). This area became the center of commerce for the lower Delaware Valley. In 1664 the English gained control of all Dutch possessions in the western hemisphere, including Delaware. William Penn was given proprietary rights to the area and Delaware was placed under the political and economic control of Philadelphia.

Settlement during this early period primarily consisted of dispersed farmsteads located along the Delaware River and its tributaries. When Penn took control he implemented a system of granting tracts or parcels to settlers, usually families. Philadelphia and New Castle comprised the only commercial and social centers in the area with the remaining settlements consisting of hamlets located along the major transportation routes. As the road network was extremely poor, transportation was primarily by waterway. One exception to this was "Ogle's Town," which was

situated on the road to the Elk River by 1679, approximately two miles southeast of the project area. The town of Christiana Bridge was established at the head of navigation of Christiana Creek in 1660

As the economy grew, so did the government. In 1687 five tax districts, called Hundreds, were established in New Castle County. By 1710 four additional districts were created. Among these was Mill Creek Hundred which contains the project area. The economy of early colonial New Castle County, as well as all of Delaware, was agriculturally based. Swedish settlers initially grew rye and barley but subsequently switched to wheat when they discovered the relative ease with which it could be grown and marketed. As a result, farming changed from subsistence-based to market-oriented. During the 17th century, milling became one of the earliest manufacturing industries in the area. By the beginning of the 18th century the Middle Atlantic region was recognized for its specialization in wheat and grain production. Lumber was another important commodity, though the majority produced in New Castle County was probably used locally. An iron manufacturing industry arose during the middle of the 17th century, specifically associated with the Iron Hill area.

With improvements to the overland transportation system, during the 18th century, settlements shifted away from navigable waterways. Newport, established ca. 1735, was on a par with Wilmington and Christiana Bridge as a grain shipping and milling center during the 18th century. Newark, chartered in 1758, was one of the first inland market towns and symbolized a change from the traditional shipping towns located along waterways. Its location at crossroads of major east-west and north-south transportation routes enabled Newark to supply the local area with goods brought in from the surrounding region. Several of the mills along White Clay Creek were in the vicinity of Newark providing goods for the local community as well as for sale elsewhere. Another developmental factor for the town was the Newark Academy, a secondary school, which was established by the early 1760s. The Academy was eventually absorbed by Delaware College (later the University of Delaware) in 1834 (Conrad 1908).

Wilmington became the dominant urban center in New Castle County following its charter in 1739. The proximity of the Brandywine mills provided Wilmington with readily available goods for shipment. In addition, its location near the mouth of the Christiana River made shipment to and from other New Castle County and regional centers very convenient.

Nineteenth century New Castle County saw an increase in industrialization and urbanization along with a decline in farming, though agriculture still predominated throughout most of the century. Tenant farming became prevalent and crop exporting gave way to specialized production that served the needs of the increasing urban populations. Dairy products, vegetables, and fruit became the primary products in an economy of truck farmers. Over time the spreading population caused farmers to make use of less fertile land which reduced their profits and subsequently forced many to move from the area.

The 19th century witnessed the decline of some of the former centers of commerce such as Ogletown and Christiana Bridge, which newly constructed railroads had bypassed. In contrast, towns such as Stanton, Newport, and Newark benefited by the proximity of the railroads. While milling remained a significant industry in the county during this century, this enterprise shifted from a primarily agricultural orientation to more industrialized in nature. This increase in industrialization/urbanization and decrease in agriculture continues to the present day.

Documentary Research

Background research revealed that no archaeological sites have been identified or recorded within the project area. There is, however, a prehistoric archaeological site within one mile of the project area (7NC-D-131) and 27 archaeological sites are within a two mile radius. Many of these sites were discovered during DelDOT sponsored surveys or other development related construction projects. The registered prehistoric sites have yielded diagnostic artifacts spanning from the Paleo-Indian to Woodland II periods. All are located on the High Coastal Plain and none are recorded within the Piedmont Uplands. The sites range in function from temporary procurement and processing camps to residential base camps. In fact, Area B of site 7NC-D-131 (Coleman et al. 1987; Hoseth and Seidel 1993) has been tentatively identified as a Woodland I base camp associated with the Clyde Farm Complex. Larger sites tend to be located adjacent to free-flowing, perennial streams while the smaller sites often occur on knolls that overlook swampy areas or intermittent water courses.

The examination of 19th century maps provided no evidence of primary historic period structures within the project area. A list of the maps consulted is contained within the References section and includes: Rea and Price (1849); Beers (1868); Hopkins (1881); and Baist (1893). Additionally, no historic period sites are included within the cultural resource inventory maintained by the Bureau of Archaeology and Historic Preservation. The Roseville Mill once operated on Middle Run in the vicinity of the project area but has since been demolished. In addition, an agricultural complex (N10076) is located on Old Possum Park Road. This complex is centered on a Gothic Revival style farmhouse, which, on the basis of the architecture, probably dates to the mid-19th century. In fact, a structure is located in this approximate location on the Rea and Price map of 1849. However, this complex lies well beyond the project boundaries.

Possum Park Road was serving as a local connector between this section of the White Clay Creek Valley and the Milford Crossroads area by the mid-19th century. The original course of this road, in the vicinity of Capitol Trail, is currently occupied by Old Possum Park Road, situated to the east of the project area (Figure 3). The course of Possum Park Road was straightened during the 20th century (see Figure 1). Modern alterations to the project area include the installation of underground utilities, grading for a parking area, and modifications to the unnamed creek and Middle Run associated with Possum Park Road and the bridge that carries the road over the stream.

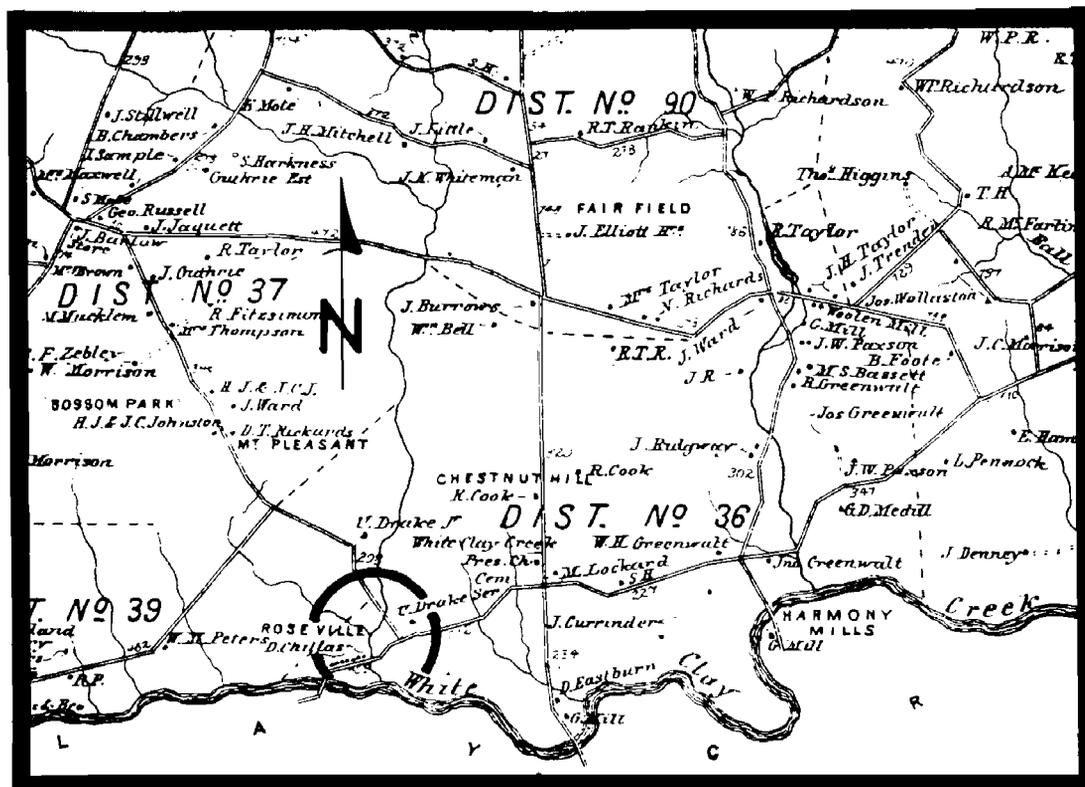


Figure 3. Beers, D.G. Mill Creek Hundred. *Atlas of the State of Delaware*. 1868. Project area circled.