

RESEARCH DESIGN AND METHODOLOGY

The primary purpose of the Phase I archeological investigations was to locate and identify any cultural resources that might be present in the proposed right-of-way. Because of the requirements of such a survey, given the fact that the study area is an extension on either side of an existing highway and much of the study corridor has been disturbed, it was difficult to develop any explicit research design. The Phase II investigations were to examine the integrity of the cultural materials and contexts of certain sites and to determine their eligibility for nomination to the National Register. Phase III data recovery mitigation efforts were carried out on those sites determined to be eligible for the National Register.

Prehistoric Research Design

The methodology and field procedures utilized for prehistoric testing were developed with regard to the expectations of the State Plan for prehistoric resources as described by Custer (1986b). Custer has divided Delaware into a number of study areas based on physiographic and environmental factors, and has delineated their potential for aboriginal exploitation and settlement. As the SR 48 study area fell into the Piedmont Uplands study area, expectations for the location of a base camp dating to any time period were low. The probability of locating resource procurement sites/camps was higher for the Archaic, Woodland I, Woodland II, and Contact periods. These sites would have been expected to be quite shallow and to have very little contextual integrity left, except, perhaps, should there have been any subsurface features. Most sites of this nature can be expected to have been disturbed by plowing or from the building of SR 48. These small procurement sites would be expected to yield small artifact inventories. They would be visible on the surface only within areas having good surface visibility. In areas masked by ground vegetation, such as wooded areas and pastures, it was necessary to carry out shovel testing. Sites were expected, in general, to be located within 200 feet of a surface water source.

Temporal range in such settings, when able to be determined from previously identified sites in the area, falls predominantly within the Archaic Period. The two prehistoric occupation loci at 7NC-B-7 reported by Barse (1985), both of which were transient limited procurement sites, are typical of what was expected to be found in this location. Locus A, located on a small knoll in a field, consisted of a thin scatter of predominantly quartz flaking debris and a rhyolite contracting stemmed point. Locus B, situated on the edge of a long ridge, was characterized by a thin scatter of flaking debris (mostly quartz) and a ferruginous sandstone contracting stemmed point.

Because of the presence of several water courses in the project area, prehistoric sites were expected to occur. It was thought that Red Clay Creek, as a corollary of its higher order and correspondingly greater potential in terms of food and resource productivity, might have produced longer duration, more functionally varied base camps than any that might be found elsewhere in the project area. This area was also the most likely location in the study area to contain post-Archaic components. There existed the possibility that

buried and undisturbed cultural deposits including various types of features and/or superimposed living floors might be found in the Red Clay Creek floodplain. Elsewhere, it was to be expected that any prehistoric sites that might be found would be surface or plowzone manifestations.

The results of the survey may be used to evaluate settlement models that have been proposed on the basis of previous research on site distributions in the Piedmont Uplands and, possibly, add data for the further refinement of these models. Custer has interpreted the use of this province as largely restricted to short term procurement activities. With sites ranging from small base camps to transient exploitative stations (Custer 1984; Custer and De Santis 1986). Sites there represent only a portion of the subsistence round, with more intensive utilization occurring in other environmental settings.

Historic Research Design

In conformity with the Delaware Statewide Comprehensive Historic Preservation Plan (Ames et al. 1987) and previous work in the area, it is expected that most of the historic resources in the project area will date to the latter part of the 18th and the 19th centuries. Most of these will reflect either the long agricultural history of this region or the importance of the Lancaster Pike as a transportation corridor. TAA's previous investigations in the area have revealed, for example, that within the project area the Oak Hill Inn appears on the Heald map of 1820, on the Rea and Price Map of 1849, and on the Lake and Beers Atlas of 1860, always with the same name. Its earliest apparent appearance is on the Shallus and Verle 1799-1801 map, but without an associated name. Toll gates and school houses are also on maps of various periods; these would appear to relate to the Pike in terms of its use as a transportation corridor. Agricultural settlements would also relate to the road, both directly and indirectly. While the initial expansion away from the Coastal Plain would have been toward the best available agricultural land (Taylor et al. 1987), as the roads became an integral factor in the landscape, the settlements would have followed these corridors. The movement of agricultural goods to market would have to have been along such transportation corridors and, in the absence of navigable streams, either old trails would have been used or new roads built. Much of the history of the corridor, then, is likely to reflect a different way of life than that of the industrial growth further north along SR 141, adjacent to the Brandywine; this primarily agricultural area seems to have been outside of the influence, until much later, of town and urban growth. It is possible, however, that Red Clay Creek, or even Little Mill Creek, were minor foci of water power based industrialization.

Again, the dimensions of the right-of-way itself can be expected to limit what will actually be found. Artifacts associated with farm related residences are expected to predominate. If the history of the current Peter Hayward (Stephenson and Thompson 1987) house is a reflection of what lies in the area, then the artifacts should, at some stage at least, reflect relatively well-off landowners. Obviously, the dimensions of the right-of-way shall limit what will be found. The more well-to-do landowners sited their homes further back from the road; this may mean that the main portions of any archeological remains may lie outside of the data recovery areas. On the other hand, the smaller landholders and tenants, as well as the properties functioning to serve the public, tend to have been sited closer to the road. It would be interesting, for example, if the right-of-

way comes close enough to the Oak Hill Inn to recover artifacts associated with the public inn function. This would offer interesting comparisons with such studies as that of Thompson's 1987 Riseing Son Tavern at Stanton. Other public function sites to be examined are that of the Oak Hill Schoolhouse and the Loveville Post Office/Shodderly. Also of interest will be the expected contrast between the intense industrial activity along the Brandywine and Red Clay Creek. Although the former is of a slightly higher order and undoubtedly had more inherent water power, it may be that something other than strictly hydrologic dynamics resulted in the different histories of development along these two nearby streams. The majority of the historic yards associated with dwellings to be tested are expected to yield artifacts related to either the dwellings and their economic status or to outbuildings and their particular functions.

As stated earlier in this report, twenty-five historic properties had been previously identified for the project area. These were documented in Eligibility Studies of standing structures carried out for the area (Benenson et al. 1988; Bower and Abbot 1991), a Draft Documentation of Adverse Effect and Memorandum of Agreement (KFS 1993), and a recently filed cultural resource form; it is from these studies that information on historic sites was first obtained. Several of the standing structures had components relating to more than one time period (these are defined by DeCunzo and Catts in the State's 1990 Management Plan). None of the previously identified sites have known components dating to the Exploration and Frontier Settlement period, prior to 1730, and only one structure may date to the period of Intensified and Durable Occupation, 1730-1770. There are ten structures that originated during the 1770-1830 period of Transformation from Colony to State, and seven that date to the Industrialization and Capitalization period of 1830-1880, along with a railroad line. Six properties date to the final Urbanization and Suburbanization period, from 1880 to circa 1940; of these, three are bridges and three are dwellings. In addition, a number of stone retaining walls were built along the Pike during this period, and these could still be seen. The identified date ranges for specific properties would be expected to change as archeological and archival investigations reveal the presence of structures that are no longer extant.

A number of significant examples of buildings of various function and style for New Castle County were identified in the Standing Structure Survey. The first era within the study area reflects late 18th and early 19th Century development along the Lancaster Turnpike (a toll road), a time from which several rubblestone and log vernacular houses remain, two of which, the Oak Hill Inn and Stone Barn (N-507 and N-508) and the Barker House (N-12082), stand close to the road and will be affected by the road widening. The Loveville Post Office and the Shodderly (N-12085) and the Oak Hill Schoolhouse (N-12083) were probably among the various services that opened along this road during the early part of the 19th Century. The William Jordan dwelling complex (N-12084) was part of the early agricultural community.

After early 19th Century improvements to the Pike, followed by its opening as a free road, a second period of settlement took place. Now fashionable suburban homes in the country setting were built for people with interests in the nearby city. Highfield Hall (N-495), with its Italianate style, is a good example of this trend. The Lewis Miller agricultural site (N-4075) complex exemplifies those farms that continued to function in the area.

It was the Colonial Revival movement that characterized the early 20th Century, a time when the country house movement saw the development of estates and gentleman farming. The Breidablik Estate (N-12086), a state-of-the-art dairy farm that once rivaled Winterthur and Nemours before it suffered much in the way of alteration, subdivision and demolition.

Information available from previous studies suggested that the historic resources within the project area would be linked to several of the research domains outlined by DeCunzo and Catts (1990). Domestic economy and landscape, as reflected in residential sites, will be an important area of study, and may include small home crafts or manufactures as well as agriculture. The long agricultural history of the area and the importance of Lancaster Pike as a transportation corridor are also important themes in the area's history.

The dimensions of the right-of-way would limit what was actually found. Artifacts associated with farm related residences were expected to predominate. If the history of the current Peter Hayward house (Stephenson and Thompson 1987) is a reflection of what lies in the area, then the artifacts may reflect relatively well-off landowners. However, the more well-to-do landowners seem to have sited their homes further back from the road; this may mean that the main portions of any archeological remains may lie outside of the data recovery areas. On the other hand, the smaller landholders and tenants, as well as the properties functioning to serve the public, tend to have been sited closer to the road.

Summary of the Projects

The primary purpose of the fieldwork carried out in 1988 was to conduct Phase I investigations on the entire Lancaster Pike project area and to conduct Phase II archeological testing at previously identified historic properties, although a possible new alternative route necessitated some additional shovel testing on either side of Red Clay Creek. The 31 historic properties previously listed have been identified within or adjacent to the project area and will be addressed in this report; 25 were located within the project area itself, but only ten were scheduled for testing. One additional historic site was located and tested in addition to these. Six of these properties were tested at the Phase I level; shovel tests were excavated in the area of impact to determine whether any features or architectural remnants were extant in the property associated with these structures or properties. The properties listed below received Phase I (identification of resources present) testing:

- The William Jordan House (N-12084)
- The Lewis Miller House (N-4075)
- Rolling Mill West (N-12911, added during fieldwork)
- Breidablik (N-12086)
- Oak Hill Inn (N-507)
- Highfield Hall/Masonic Home (N-495)

Properties on which more intensive archeological examination was needed had been targeted for both Phase I and Phase II evaluation of resources to make a determination as

to the eligibility for nomination to the National Register. A few properties were added to this list as the project progressed. The properties on which Phase II evaluations were conducted are:

The Loveville Post Office and Shodderly (N-12085)
The Barker House (N-12082)
Dwelling/Rolling Mill East Site (N-12079)
Stone Barn (N-508)
Oak Hill School (N-12083)

Only two of the Phase II evaluations resulted in recommendations for Phase III work. A portion of the yard at the Oak Hill Schoolhouse (N-12083) contained sealed deposits and a feature. The site was considered eligible for nomination to the National Register under Criterion C, and Phase III excavations took place within that part of the yard. The research design is described in that section of the report. The Barker House (N-12082) was also deemed eligible for the National Register, but this has not been carried out, since the proposed alternative that would have impacted this site had been dropped from consideration at that time.

In 1996, three storm water management areas and a smaller bio-retention facility that had been added to the highway plans were the subject of further shovel testing near the right of way. One of the ponds is to be located in the eastern portion of the Barker House Site (7NC-B-38, Sector B) where an architectural feature had been discovered in 1993. Because of this, a Phase II evaluation of Sector B of the site was also conducted in 1996. Another storm water management area was located at the northwest corner of the Wilmington and Western Railroad crossing, where a site had previously been discovered. This made it possible to test the entire landform on which that site had been found. In addition, areas adjacent to the Wilmington and Western Railroad were surveyed.

As the Route 48/Lancaster Pike study involved all Phases of archeological testing, the purposes of the various investigations differ. In the Phase I study, what is sought is the presence (or absence) of archeological remains and their extent, while Phase II testing focuses on the evaluation of the significance of a site according to the criteria of the National Register of Historic Places through the identification of archeological features and an assessment of the information potential of the site. The work at the Oak Hill School site resulted in Phase III data recovery excavations.

Although the confinement of some of the proposed excavations to the right-of-way limited the ability to carry out the stated research goals, some of the sites were able to be fully tested. The field and laboratory practices, and in particular the artifact types recovered and the distributional analyses, were carried out with this potential limit in mind. Nevertheless, cultural resources management archeology should not be conducted in an intellectual void. The Lancaster Pike project area potentially lends itself to an evolutionary analytical approach, since different time periods are represented in the buildings and often in the artifact deposits as well. Also of potential interest are the differences in function of the buildings and properties, both on a synchronic and a

diachronic level. Comparative data on all aspects of this research are available in a number of reports published by the Delaware Department of Transportation.

Archival Research

Since the project area lay along a roadway that has a long history as a transportation corridor, archival work was carried out that would provide information on the road itself. The intensity of archival work on the historic sites varied by property, since different levels of testing were required. Historic maps, early road records (found in Court of Quarter Sessions documentation) and minutes of meetings of the Wilmington Turnpike Company were the primary sources used to document the history of Lancaster Pike. Archeological background research was carried out at the Bureau of Archeology in Dover. In addition, map research, deed, census, will and probate and tax assessment information was used to research properties as needed. Tavern petitions were consulted for information regarding the property now known as Oak Hill Inn. School histories and ledgers were examined when researching the Oak Hill School. These documents were found at several research institutions in Delaware, primarily the library of the Delaware Historical Society in Wilmington, the Hall of Records in Dover and Hagley Library in Greenville. Both Dover and Wilmington Public Libraries were used for researching secondary historical sources.

Surface Reconnaissance

The Phase I 1988 fieldwork began with a driving reconnaissance of that portion of the Lancaster Pike right-of-way falling within the project area boundaries. This was followed by a pedestrian reconnaissance of the entire right-of-way corridor to look for any surface artifact concentrations or above ground historic features that might have been present. This also offered an opportunity to identify areas of high potential for archeological sites. It was felt that the knolls overlooking the streams would be locations of moderate to high probability for historic sites because of the ready availability of water, the proximity to potentially good arable land, and the possibility that fords and bridges served as a focus for various activities. Because of the association of water, these also tend to be prime locations for prehistoric sites. The lower elevation terrain is generally not considered to be of high probability because of its tendency to be poorly drained and/or periodically flooded. The higher elevation terraces near the streams tended to be attractive in terms of occupation by shorter duration prehistoric sites. In addition to the areas that were tested, a reconnaissance was made of the interfluvial areas, areas generally considered to be of extremely low probability for the occurrence of prehistoric sites, based on previous work in Delaware and the Middle Atlantic.

Field Testing

The initial Phase I testing in 1988 concentrated on landforms possessing high probability for prehistoric sites, although a 100% walkover was carried out on the entire project area and testing was carried out in the vicinity of historic resources. High probability areas are usually level, well drained and close to a water source, and are sometimes also the

location of historic sites. The areas next to the drainages crossing the right-of-way were shovel tested in their immediate floodplain environs and the associated overlooking knolls in order to determine if any cultural materials were present and if there were any undisturbed buried land surfaces. This resulted in the discovery of four archeological sites. Two of these were prehistoric and the other two contained both historic and prehistoric components; these latter were the subject of further testing during the 1993 and 1996 fieldwork.

Phase I Testing

Actual placement and number of test pits varied according to the nature of the terrain and the degree of prior impact in each area tested, but intervals ranged from 25 to 50 feet. Test units (TUs) were 2.5 feet square and were excavated by natural soil horizons. The soil was screened through 1/4 inch mesh hardware cloth. TU locations were mapped on detailed project maps provided by DelDOT. Representative soil profiles were recorded, and soil colors were described using a Munsell Soil Color Chart. Artifacts were bagged and identified by test unit and stratigraphic level. In some areas, disturbed soil was examined for the presence of artifacts (suggesting presence/absence of occupations).

Phase II Testing

The strategy followed was to excavate TUs at intervals of 20 feet in a grid pattern over a site, reducing this interval to 10 feet in areas of high artifact density or in areas of high potential for features. The purpose of closer interval testing was to determine if any significant contextual associations were present that would permit the recovery of information pertaining to the archeological component. When it was deemed to be appropriate, blocks of units or trenches were excavated. In general, data was assembled on artifact distribution, site stratigraphy and related stratigraphic contexts of artifacts and features. The decision to excavate a given feature or to recommend further work was made as the work progressed. As in the Phase I testing, representative soil profiles were recorded, soils were screened, necessary mapping was carried out, and artifacts were bagged as described above for the Phase I procedures.

The Highfield Hall property included a presumed gravesite; this was marked by a monument moved to the site in 1920 that was inscribed with the information “this is the gravesite of Gunning Bedford.” In order to determine whether any graves were actually located there, the area around the site was stripped using heavy equipment in order to allow the field technicians to examine the subsurface carefully for any indication of grave stains.

Phase III Excavations

Only two archeological sites, the Barker House and the Oak Hill Schoolhouse, were determined to be eligible for nomination to the National Register. The archeologically sensitive area of the Barker House site will be avoided, and no additional work was carried out. The Phase III data recovery excavations at the Oak Hill Schoolhouse are included within this report. The deep fill soils were machine stripped from a portion of

the site where a buried surface and a stone feature had been discovered in the Phase I and II excavations. The buried soils were then excavated by hand and recorded in the manner described above for Phase I and II data recording. The stone feature, a well, was not completely excavated because of safety issues and because archival research indicated that it had been periodically cleaned, rendering it unlikely to yield significant archeological deposits.

Laboratory Procedures

Following completion of field investigations, the artifacts were washed and marked according to standard artifact processing procedures. All artifacts were cleaned with plain water except fragile materials such as bone, shell or metal, which were dry-brushed. Prehistoric artifacts, of which only lithic artifacts were recovered, were classified by raw material type, by cultural historical type if possible and by functional class, such as flakes or bifaces. Variables such as presence of cobble cortex, presence of modification or flake type were also noted.

The historic artifacts were catalogued according to material composition, such as glass, ceramic or brick. Standard typological and functional categories were employed in the analysis, and dates were determined when possible. Ceramics were classified by ware type, method of decoration, vessel type if possible, and by types established by Brown (1982), South (1977) and Miller (1980; 1992). Glass was examined for color, method of manufacture and function, and where applicable, for patterns, marks or embossing (Hurst 1990). Dates are generally based on method of manufacture. Metal was generally described, and nails were dated where possible.