

## VI. ARCHAEOLOGICAL SURVEY

### A. RESEARCH DESIGN

Perhaps the most important development in cultural resource management (CRM) studies in recent years has been the increased attention given to the development and explicit use of research designs. Although the Secretary of the Interior's Standards and Guidelines for archaeology and Historic Preservation (48 FR 44716) recommend the use of research designs for identification and evaluation studies, the use of research designs has often been neglected, particularly on small projects. The inattention to research designs in the CRM profession has been pointed out periodically by various investigators, and CRM practitioners have been urged to develop regional models amenable to testing on small survey and testing projects. It has also been argued that valid assessments of cultural significance must be carried out with respect to preservation planning priorities that are based on local and regional cultural models (Goodyear et al. 1978; Raab and Klinger 1977).

The kinds of research questions that may be addressed during a particular CRM project depend on the project's scope and the quality of information available from previous investigations. The present study is the first CRM investigation of the project area. Because the scope of work focuses on the identification of prehistoric and historic sites within the project area, it is best suited to the study of settlement patterns, that is, the distribution of sites across the landscape. Given the small size and limited physiographic variability within the project area, however, the primary research objective was simply to determine the presence or absence of sites in the study tract.

Delaware's management plan for prehistoric resources (Custer 1986) provides a basis for assessing the overall archaeological sensitivity of the project area and for the development of explicit predictions regarding the occurrence of prehistoric sites. The state management plan was developed according to the Department of the Interior's Resource Protection Planning Process (RP3) model, and it provides a number explicit settlement pattern models that characterize the various periods of the state's prehistory. The major study units in the state plan correspond to the five major cultural periods (Paleo-Indian, Archaic, Woodland I, Woodland II, and European Contact). The spatial limits of the major study units are defined according to the state's major physiographic zones. The study falls within the Mid-Peninsular Drainage Divide physiographic zone, which is defined by the Atlantic-Chesapeake watershed line that separates the headwaters of streams that flow toward the east and empty into the Delaware Bay and those that flow to the west through Maryland and empty into the Chesapeake Bay. For each of the major study units, Custer (1986) has defined various site types, which correspond to property types in the RP3 model. Site types are discussed as elements of settlement pattern models for each study unit. Research of the project area indicated that it did not contain any areas of high prehistoric potential, as it lacked highly preferred occupational settings, such as terraces adjacent to principal drainages or elevated areas with well-drained soils. It was therefore concluded that the project area was unlikely to contain any of the prehistoric site types identified in the state plan.

Historical information indicated that the project area was not occupied until the Urbanization and Suburbanization period (1880-1940). The first known historical use of the property occurred in 1880 when a farm was established on the property, and the farmstead location was treated as an area of potential archaeological sensitivity. No suitable seventeenth- or eighteenth-century cartographic sources were available, but resources dating prior to the mid-nineteenth century were not expected because there were no transportation routes through or adjacent to the property prior to the late nineteenth century.

The field survey was carried out during the period from March 2-6, 1992, with a field survey team that included seven archaeologists. The field survey began with a systematic walkover survey of the entire study area, except for the small areas surrounding the two residential complexes and the hog wallow. The remainder of the project area was under cultivation for corn, affording ground visibility that was variable, ranging from poor to excellent. The initial walkover was carried out in order to assess the general field conditions, to locate visible cultural remains, and to identify areas of potential sensitivity that were not evident from the inspection of topographic maps. Parallel transects were maintained during the initial walkover survey, with a maximum interval of 15 meters maintained between transects, and all areas of good surface exposure were examined more intensively. During the walkover survey, all find spots were marked with pin flags.

The surface survey was supplemented by shovel testing, which provided a small, but important aperture for assessing the presence of archaeological materials. The shovel tests measured roughly 50x50-cm in plan, and they were excavated according to natural strata. Shovel tests were advanced to a depth of at least 60 cm, and all tests were excavated into subsoil. All excavated soil was screened through 1/4-inch mesh hardware cloth. Schematic soil profiles including soil texture and Munsell soil color notations were recorded for each shovel test on a standardized form. Each shovel test was backfilled upon completion.

After cleaning and sorting according to major material categories (prehistoric lithics, prehistoric ceramics, historic ceramics, glass, small finds, etc.), the collections were analyzed by specialists and the artifact attributes were coded on computer data entry forms. Artifact cataloging and tabulation were accomplished using LBA's computerized database system. The database allows recordation of more than a dozen attributes for each artifact. In addition to standard descriptors, lengthy notes specific to individual artifacts can also be entered into the database.

Historic artifacts were cataloged according to standard typologies (e.g., Noel Hume 1970; South 1977), using the class, type and variety approach (for example, class = glass, type = bottle, variety = case). First the entire collection was sorted according to major classes -- ceramics, curved glass, pipes, and small finds. The small finds class is a residual or catch-all category that includes a broad variety of items, including artifacts assignable to South's (1977) Architectural, Furnishings, Arms, Personal, Clothing and Activities Groups. Cataloging of the ceramics and glass was carried only to the level of individual sherds, rather than vessels, and no cross-mends or Minimum Number of Vessel determinations were made. Dating of deposits was accomplished primarily by the Terminus Post Quem (TPQ) technique, using the beginning date of manufacture for artifacts with a known temporal range. Some of the attributes -- date ranges, for example, were automatically entered by the computer for commonly encountered artifact types. Data processing speed and storage was enhanced by the use of alphabetic and numeric codes for the various attributes, but more lengthy "translations" can be generated as well, particularly for printing catalog sheets. For example, the codes "CRW 10" translates to "Ceramic, whiteware, shell-edged blue", with an automatically entered date range of 1820 to 1900.

The cataloging of prehistoric artifacts was also carried out according to a techno-morphological analytical approach; that is, artifacts are grouped into classes and then further divided into types based upon key morphological attributes, which are linked to or indicative of particular stone-tool production or reduction strategies. However, a function(s) can be assigned to each artifact class and type. More detailed functional assessments of artifacts can be made by recording specific observations about use wear and tool morphology. Data derived from experimental and ethnoarchaeological research is relied upon in the identification and interpretation of artifact classes and types.

Appendix E includes an abbreviated catalog listing of the recovered artifacts according to provenience. After cataloging, artifacts that represented non-significant deposits, such as modern litter, were discarded.

## B. SURVEY RESULTS

The surface survey resulted in the identification of two large, low-density scatters of historic material, one located in the northwest portion of the survey area, directly across Road 243 from a currently occupied residence, and another in the southwest portion of the property, flanking the Eskridge residence and Ward House. There were also a few isolated finds of historic material within the property. Following the initial surface survey, four areas within the property received more intensive survey, including shovel testing. Figure 5 illustrates the overall property base map and the areas where shovel testing was carried out.

The initial walkover revealed a well-defined surface scatter of historic material in the northwest sector of the property, designated Survey Area 1. The scatter was concentrated along State Road 243, directly across the road from an occupied house. Following its initial discovery, a concentrated walkover survey was completed for this area, and each surface find was marked with a pin flag. The overall dimensions of the scatter were approximately 15x135 meters, and the surface distribution of material exhibited a narrow, linear distribution along the road. Two rows of shovel tests (Transects A and J) were laid out through the scatter, as shown in Figure 7.

Shovel testing along Road 243 clearly indicated that the surface scatter was the result of recent dumping activity, and it consisted primarily of modern material. Some shovel test profiles in this area exhibited a disturbed stratigraphy, confirming oral reports that the field had been cleared and leveled with heavy machinery during the past 20 years. Figure 8 illustrates representative shovel test profiles for Survey Area 1. A number of the shovel tests displayed a buried A-horizon, apparently the result of recent land leveling. One quartz side-notched projectile point base was recovered from Shovel Test A4, but it was from a plowzone context and appears to be an isolated find. The point fragment could range in date from the Middle/Late Archaic through the Woodland I periods, as it falls in the morphological range of the Halifax point type (Coe 1964), which dates roughly from 3500 to 2500 BC, and the generalized side notched point form, which extends through the Woodland I period in Delaware (Custer 1984). Four additional shovel tests placed in a cruciform pattern around the prehistoric find spot contained no additional prehistoric material. Historic material recovered from this survey area includes whiteware, ironstone, and redware ceramics; bottle, jar, and unidentifiable glass; a bottle cap; a metal can fragment; modern window glass; broad glass; machine-cut and unidentifiable nails; brick; mortar; miscellaneous hardware; and unidentifiable metal. The Mean Ceramic Date (South 1977) for the ceramic assemblage is 1896.2, based on 19 datable sherds. However, the majority of the datable sherds are plain whiteware, which date from 1820 to the present, therefore the MDC should not be viewed as a reliable indicator of a median occupation date.

Shovel tests were also placed in the rear yard area associated with the circa 1880 William H. Ward House, although the walkover survey showed only a very light scatter of historic material in that area. Sixteen shovel tests placed at the intersection points of a 20-foot grid showed a light artifact scatter, virtually all of which was recovered from plowzone or overlying displaced fill contexts. Figure 9 illustrates the placement of shovel tests in the rear yard of the Ward House, and Figure 10 illustrates representative stratigraphic profiles for this area. The normal profiles consisted simply of plowzone and subsoil horizons, however a few shovel tests near the house showed a disturbed surface horizon. Shovel Test G1, for example (see Figure 10), included a shallow fill deposit overlying the original A-horizon. The recovered assemblage was very fragmentary, and included plain whiteware and glazed redware ceramics; bottle glass; broad glass; modern window glass; various machine cut, wire and unidentifiable nails; brick; a 22-caliber bullet casing; an eyelet; and a spring. Because shovel testing indicated that the deposits were largely confined to plowzone or disturbed contexts, and because the assemblage contained a mixture of nineteenth and twentieth-century material, the deposits were not considered significant and no further testing was done. Archaeological site number 7S-F-138 has been assigned to the site, to record the associated refuse deposits.

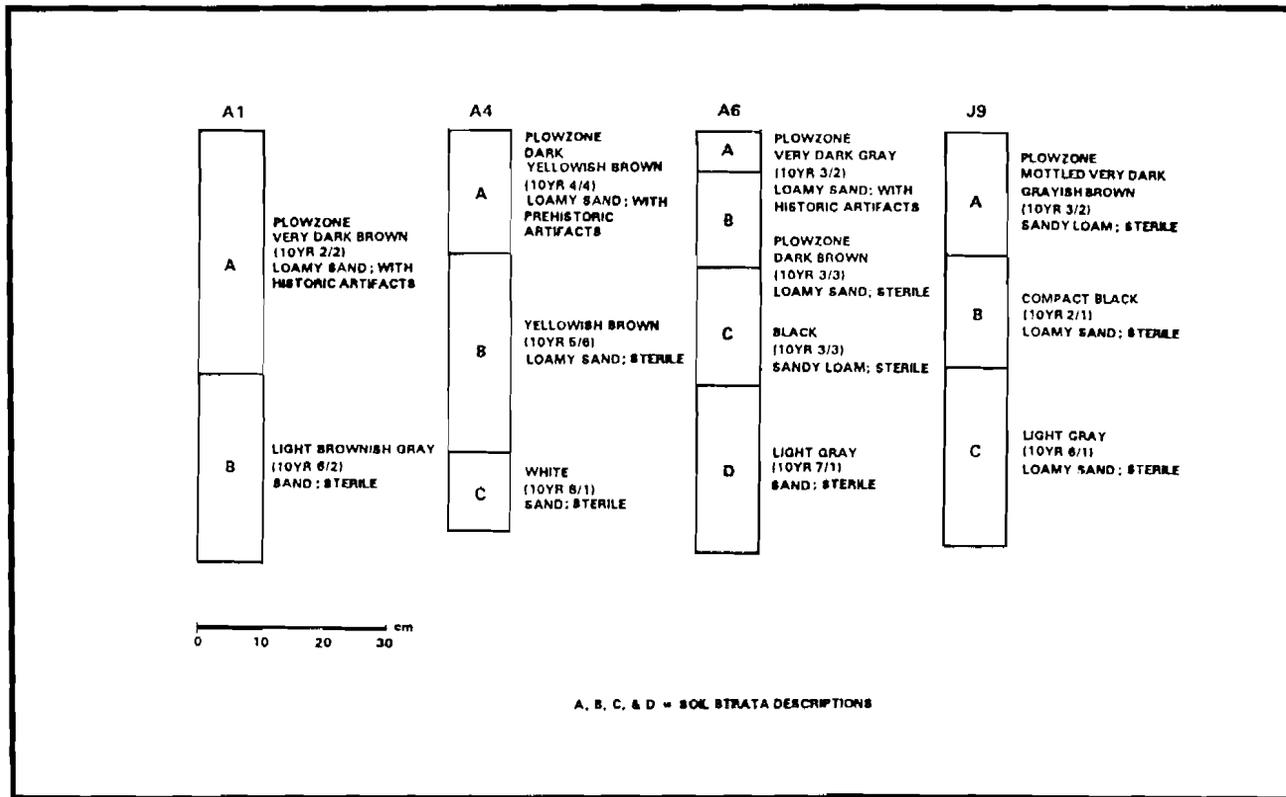


FIGURE 8: REPRESENTATIVE SHOVEL TEST PROFILES, SURVEY AREA 1

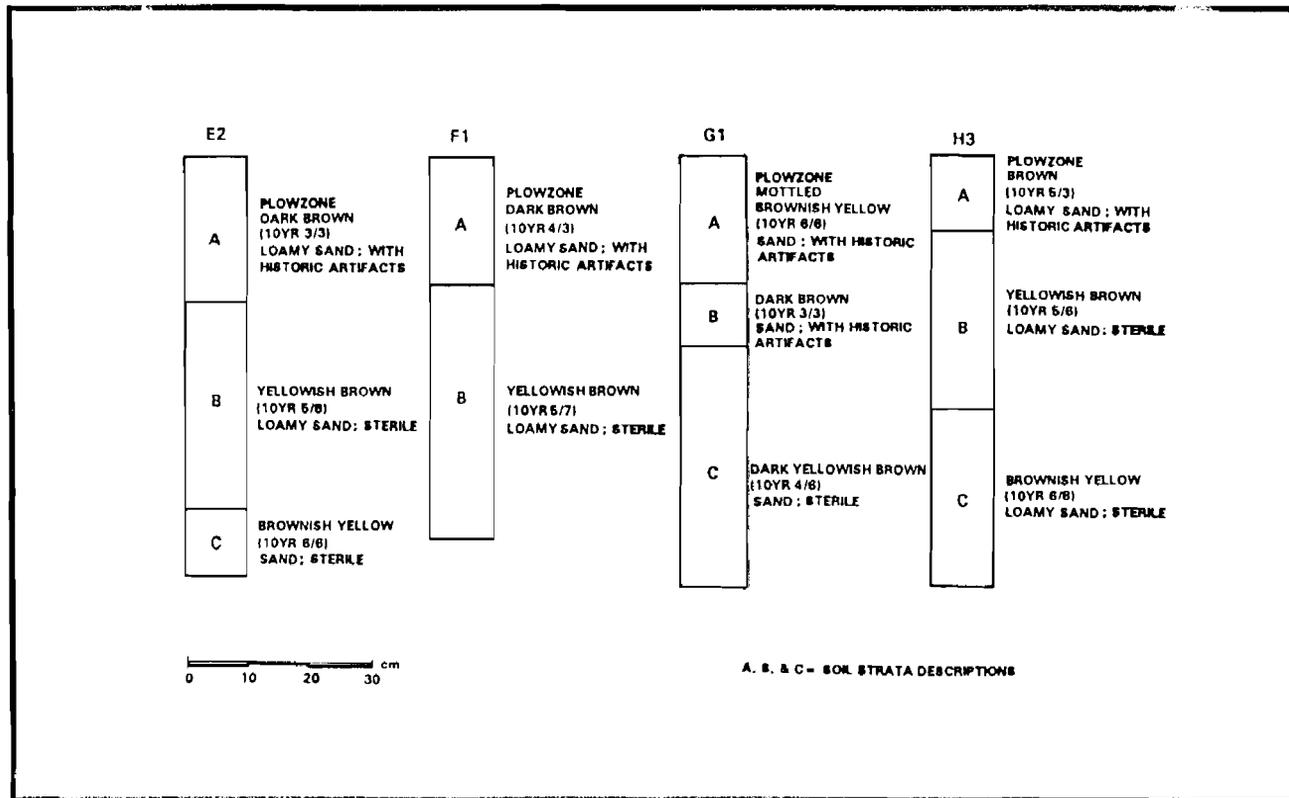


FIGURE 10: REPRESENTATIVE SHOVEL TEST PROFILES, WARD FARMHOUSE REAR YARD

The surface survey indicated that a very light surface scatter associated with the Eskridge residence and Ward House extended over an area measuring more than 125 x 350 meters, but in extremely low density (see Figure 5). A more intensive walkover survey was undertaken in this area, using a 5-meter interval between transects. This secondary walkover indicated that the surface scatter was most concentrated along a small drainage ditch, but that this concentration included only a single transfer-printed whiteware sherd, a glazed redware sherd, a brick fragment, and a milk glass sherd. Five shovel tests were placed in this "concentration", along Transects C and D, and these shovel tests confirmed that the surface scatter was of very low density. The total recovery from the shovel tests consisted of one unglazed redware sherd which was recovered from the plowzone of Shovel Test C3. Stratigraphic profiles displayed a typical pedogenic sequence consisting of plowzone and subsoil horizons.

Based on topography and surface drainage, no areas within the property were assessed as having moderate or high potential for prehistoric occupation. An early twentieth-century topographic map (U.S. Corps of Engineers 1918) showed the headwaters of an unnamed tributary of Ingram Branch to the northeast of the survey area, therefore this area was selected for shovel testing, as it represented the most likely area of potential prehistoric occupation. A total of 15 shovel tests were placed in this area, but none contained either prehistoric or historic material. Figure 11 illustrates the placement of shovel tests in this survey area, designated Survey Area 2. Most stratigraphic profiles seen in the shovel tests displayed the normal sequence of plowzone and subsoil horizons, however a few contained buried A-horizons that reflect the recent clearing and grading of the property. Figure 12 illustrates typical shovel test profiles for Survey Area 2.

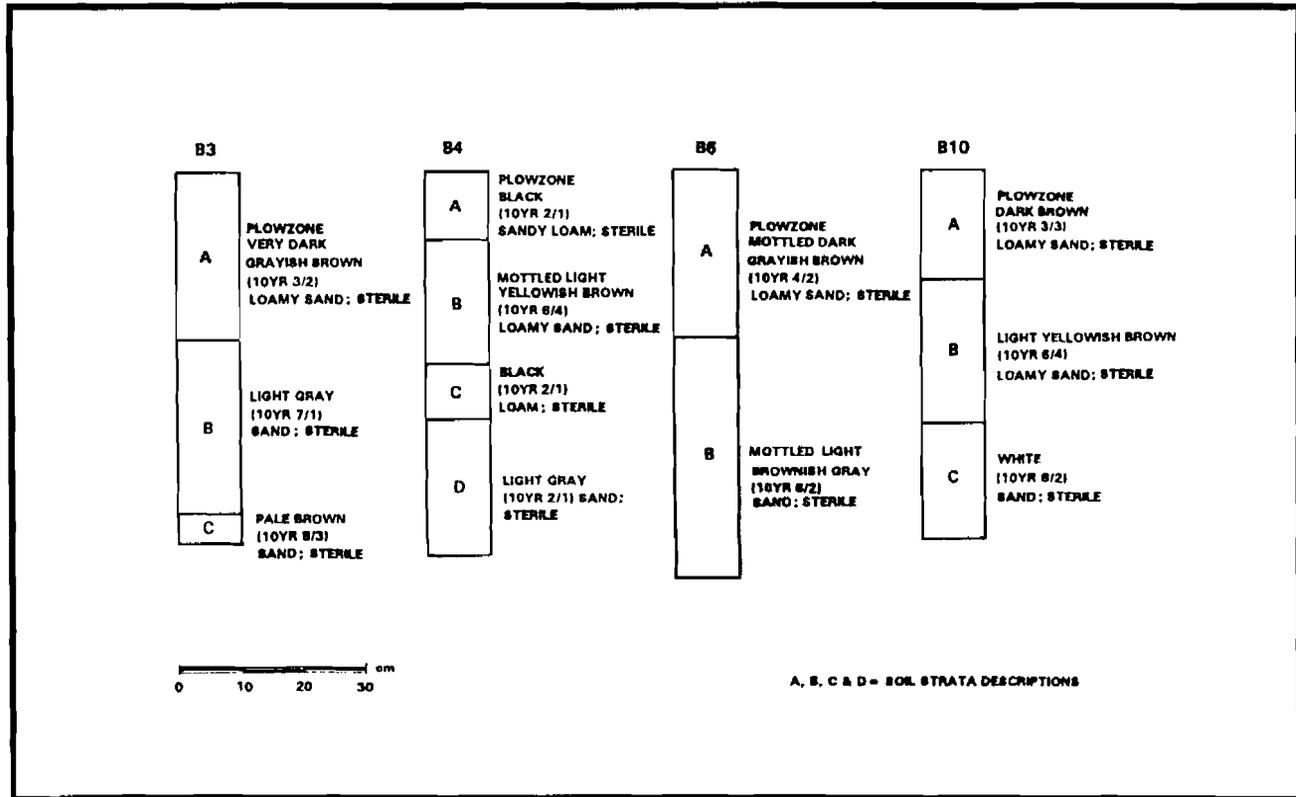


FIGURE 12: REPRESENTATIVE SHOVEL TEST PROFILES, SURVEY AREA 2