

4 Research Design and Methodology

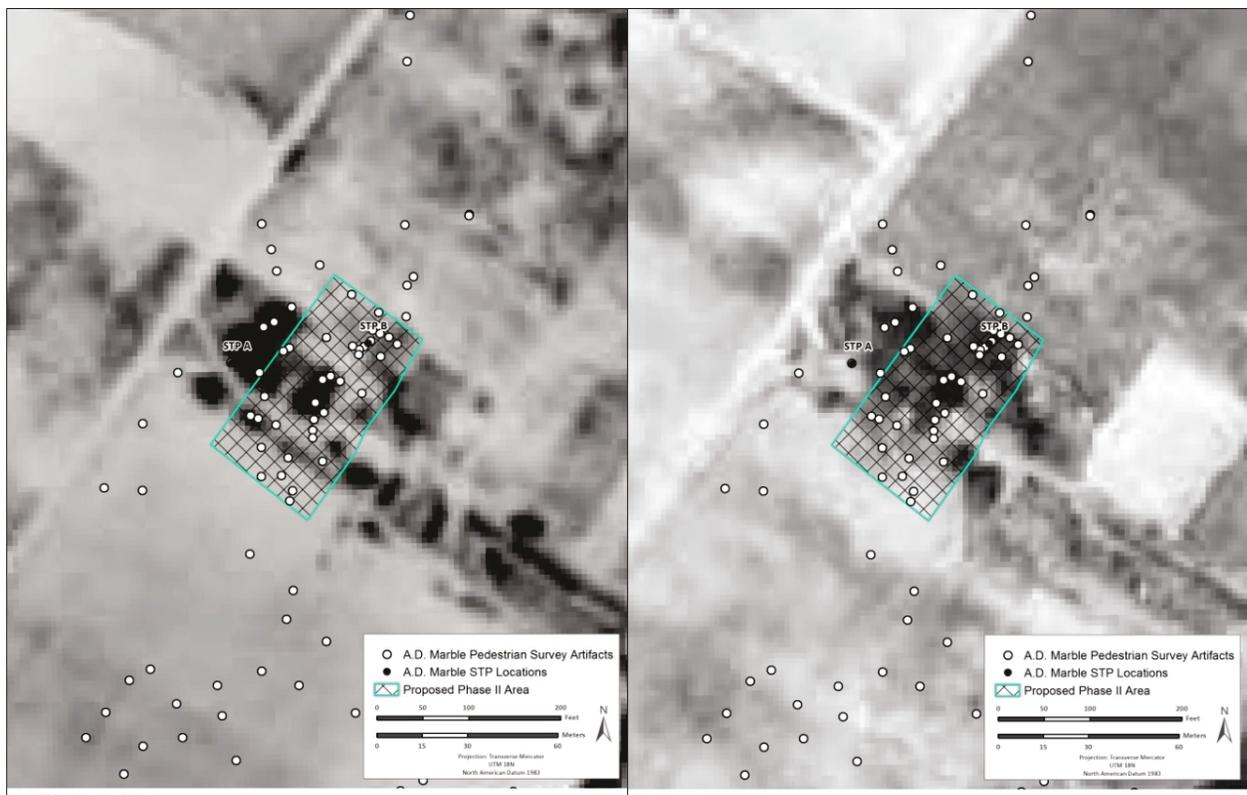
4.1 Research Design

The primary objective of the Phase II archaeological investigation was to make recommendations regarding the NRHP eligibility of the site. The investigation was conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* and the Delaware Division of Historical and Cultural Affairs *Archaeological Survey in Delaware* (2013).

4.2 Field Methods

The investigation area was selected based on the Phase I archaeological survey results and historic aerial photographs (Figure 4-1; Lenert et al. 2014). These results and aerial images suggest that structures and features associated with the Potter Estate Tenant Farmstead would likely be located at the southeast edge of the site area and along the farm lane in the southwest part of the site, and would likely continue outside the project's Limits of Construction (LOC). The Phase I results show a decrease in artifact density to the northwest of the current evaluation area, decreasing along with proximity to the adjacent New Wharf Road.

Figure 4-1. 1937 and 1954 aerial images showing the Phase II evaluation area laid over the Phase I STPs and historical aerials, source Lenert et al. 2014.



The Phase II evaluation of the site employed a staged approach involving shovel test sampling followed by the excavation of 1-meter (m)-by-1-m test units (TUs). A 7.5 m grid was established across the 0.69-acre area; the datum was on the southwest corner of the grid at East (E) 500 North (N) 1100. Shovel test pits (STPs) were excavated at each grid intersection to delineate the boundaries of artifact concentrations, identify potential features and artifact voids, and to determine the extent of differentially composed artifact concentrations. Based on the results of STP excavation, TUs were placed to further define the site's horizontal and vertical extent and integrity.

STPs, approximately 30 centimeters (cm; 12 inches) in diameter, were excavated by natural strata to culturally sterile subsoil. All soil excavated from STPs was sifted through ¼-inch mesh to insure consistent artifact recovery. HDR employed an electronic recording system that enabled documentation of each STP's stratigraphic profile, soil texture and color, artifact contents, and any additional notes on a tablet computer. At the conclusion of each field day, the field data was uploaded to a secure server. The field director downloaded all data for quality control and site evaluation progress each evening. A site map depicting the location of the STPs was prepared as a component of field work. Photographs were taken to document physical features and general field conditions.

Test units were excavated in 10-cm arbitrary levels within natural strata. Soil samples (approximately 10 cm³) were collected from each identified feature. Excavation was terminated when two contiguous culturally sterile levels were excavated or culturally sterile subsoil was encountered. All soil removed from TUs was screened through ¼-inch mesh to aid in artifact recovery. A digitized unit excavation form was completed for each stratum and level. Soil texture and color, upper and lower elevations, and artifact content were recorded. Crew members documented cultural and natural features in plan view sketches, and recorded the full post-excavation soil profile for each unit. All TUs were photographed before, during, and after excavation.

4.3 Laboratory Methods

All artifacts recovered during the field survey were returned to HDR's archaeology laboratory in Vienna, Virginia for processing and analysis. All materials were processed, sorted, and cataloged according to the protocol established by the Delaware SHPO and Delaware State Museums for the processing and curation of archaeological collections. The focus of the laboratory analysis was to determine the occupation span, likely function, and degree of artifact preservation onsite.

Typological analysis of diagnostic artifacts was the principal mechanism for dating the site from material remains. Artifact assemblages were compared with those described in site reports and publications to aid in the identification of both cultural and chronological association. Likely site function was evaluated in terms of the density and types of artifacts present, the physiographic characteristics of the site, the site size, and the presence and nature of any identified archaeological features and/or structures.

Upon acceptance of the final report, all artifacts and supporting documentation (field notes and forms, maps and drawings, other paper records, photographic records, and all other materials associated with project documentation) will be prepared for permanent curation and delivered to the Tudor Park Repository, a Delaware Historical and Cultural Affairs (DHCA) Archaeological Collections repository.