

1.0 INTRODUCTION

Long ago, groups of people lived on the edge of a wide and shallow basin in the woods of central Delaware at a place we now call the Black Diamond archaeological site (7NC-J-225). At various times the basin was a large pond, surrounded by marshy vegetation that provided food and other needs. The site is located on a broad ridge that forms the spine of the Delmarva Peninsula. In modern times, major transportation corridors have followed this ridge to connect the southern end of the peninsula with major population centers to the north along what is now Interstate 95. During the upgrading of one of these routes, U.S. Highway 13/State Route 1, archaeologists working as part of a federally mandated environmental review process discovered the Black Diamond site. This report presents the results of studies these archaeologists conducted at the site, describing the artifacts and other remains found there. The information from the excavations is used to piece together the story of the lives of people who lived overlooking the basin long before the arrival of Europeans to the region.

1.1 Project Description and History

Federal legislation known as the National Historic Preservation Act of 1966 (NHPA), 16 U.S.C. §§ 470a to 470w-6, is the primary federal law governing the preservation of cultural and historic resources in the United States. The law provides for the identification and protection of significant archaeological and architectural sites on federal lands and within federally funded development projects, the latter including road construction conducted by State Departments of Transportation. The archaeological investigations at the Black Diamond site were carried out for the Delaware Department of Transportation (DelDOT) in compliance with this legislation. In formal terms, archaeological site evaluation (Phase II) and data recovery (Phase III) investigations were conducted at the Black Diamond prehistoric and historical archaeological site, situated in New Castle County, Delaware, for DelDOT (Figure 1-1). The Black Diamond site is located within the Smyrna-to-Pine Tree Corners segment of proposed State Route 1 (SR1), an interstate standard relief route for the existing US Highway 13. The Smyrna-to-Pine Tree Corners corridor is approximately 5 miles long, with the proposed right-of-way varying in width from 91–151 meters (m) (300-to-500 feet). The archaeological components of the Black Diamond site were initially identified during a 1984 survey of portions of the SR1 corridor conducted by the University of Delaware Center for Archaeological Research (UDCAR) (Custer and Bachman 1986a). The area was further tested by the Cultural Resource Group of Louis Berger & Associates, Inc. (LBA), in 1997 (Bedell and Jacoby 1998).

The archaeological investigations detailed here were conducted by archaeologists from the Cultural Resources Division at Versar while the group was associated with Parsons. As of 2005, the group was transferred to Versar. To ease potential confusion, these archaeologists are simply referred to in the remainder of this report as the Cultural Resources (CR) Division. Archaeological studies and documents completed prior to the transfer in 2005 are still referred to as having been performed by Parsons.

the National Register of Historic Places (NRHP). The prehistoric component at the site was determined eligible for nomination to the NRHP under Criterion D, as containing information important to an understanding of Delaware prehistory. A Memorandum of Agreement (MOA), developed in 1987 by the Advisory Council on Historic Preservation (ACHP), provided for the mitigation of adverse effects to significant properties and sites within the SR1 right of way if alternative measures such as avoidance were not feasible. Highway construction plans, as proposed, were to have a direct, adverse effect on the sites. The sites could not be avoided, and in accordance with the MOA, data recovery excavations were recommended. A Data Recovery Plan was developed to address specific research concerns at the sites, and data recovery investigations were undertaken in the fall of 1999.

The cultural resource investigations at the Black Diamond site were conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The archaeological investigations were carried out according to the standards of the ACHP, and the National Park Service (36CFR800; 36CFR66). All work was conducted under the "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation" (48 FR 44716-44742). Fieldwork was conducted in close consultation with the DelDOT and the Delaware State Historic Preservation Office (DESHPO). The work conformed to DESHPO standards as outlined in the *Guidelines for Architectural and Archaeological Surveys in Delaware* (DESHPO 1993). Several reports were used as guides to address prehistoric and historic contexts, including *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989); *A Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1986a); *A Management Plan for the Prehistoric Archaeological Resources of Northern Delaware* (Custer and DeSantis 1986); and *Management Plan for Delaware's Historical Archaeological Resources* (DeCunzo and Catts 1990).

In compliance with the Code of Federal Regulations (36 CFR Part 61), CR Division staff members chosen for the project met or exceeded the professional qualifications in archaeology. Michael D. Petraglia, Ph.D., served as Principal Investigator; Chris Egghart served as Field Supervisor; and Seth Hopkins, Don Sharp, and Robert Meyer served as Crew Chiefs. Cynthia Auman and Bernard K. Means, Ph.D., served as Principal Investigators during the analysis and reporting segments of the project. A complete listing of personnel is included in Appendix A.

1.2 Previous Archaeological Survey and Research

Ten previous archaeological investigations have been undertaken in the SR 1 corridor from Smyrna-to-Pine Tree Corners. Initial Phase I surveys were conducted in 1984 (Custer and Bachman 1986a) and 1992 (Bedell and Busby 1997). The remaining eight studies included additional Phase I survey of portions of the SR 1 corridor, and site evaluation (Phase II) and data recovery (Phase III) investigations of sites identified as a result of the various surveys (Bedell 1996a, 1996b, 1996c; LeeDecker 1996; Bedell 1997; Bedell et al. 1997a; Bedell et al. 1997b; Bedell and Jacoby 1998).

LBA identified the Black Diamond site in a wooded area in the south-central portion of the Smyrna-to-Pine Tree Corners segment of the SR1 corridor (Bedell and Jacoby 1998). The site was defined by positive shovel tests in an area measuring 75-x-45 m. The presence of

artifacts in seemingly undisturbed subsurface contexts led LBA to recommend further testing at the site. The CR Division conducted site evaluation (Phase II) field investigations in June 1999, and following analysis of the data, recommended the site eligible for inclusion in the NRHP. The site represented a specialized lithic reduction area that featured an unusual appearing gray and reddish quartzite. Preliminary diagnostic artifact analyses suggested that the site was predominantly single component, related to the latter end of the Late Archaic period. The site was situated on a low, crescent-shaped dune adjacent to a small bay/basin in an area that had been plowed but not extensively. The combination of these factors suggested that the site provided an exceptional set of research opportunities for increasing our understanding of prehistoric Native American lifeways in economic, social, and sacred or religious contexts. Data recovery (Phase III) investigations were initiated in accordance with the MOA.

Several additional documents have been prepared during the course of later archaeological investigations at the Black Diamond Site, including:

- *Management Summary: Phase II Evaluation of 7NC-J-225, New Castle County, Delaware* (Auman and Egghart 1999).
- *Determination of Eligibility for the National Register of Historic Places, Black Diamond Site, 7NC-J-225* (Auman 1999a).
- *Data Recovery Plan, Black Diamond Site, 7NC-J-225* (Auman 1999b).
- *Phase III Closeout Summary, SRI: Smyrna to Pine Tree Corners, Black Diamond Site, 7NC-J-225* (Parsons 2000).

1.3 Report Organization

This technical report details the results of the site evaluation and data recovery investigations at the Black Diamond archaeological site. Following the current introductory material, a detailed Research Design for the data recovery investigation is introduced in Section 2.0. Sections 3.0 and 4.0 summarize environmental and cultural contexts associated with the site location, while Section 5.0 presents Field and Lab Analysis Methods. The findings of the site evaluation are briefly summarized in Section 6.0 followed by a federal compliance-related statement regarding the NRHP eligibility status of the site. Section 6.0 continues with in-depth analyses of the prehistoric component comprising the site based on information from the data recovery investigation. Section 7.0 examines the site in terms of the research questions posed as the basis for the project, and further, considers the relevance of the site in regional contexts. Finally, an assessment of the research conducted at the site is included in Section 8.0, along with concluding recommendations for further treatment of cultural resources under DelDOT management. A series of appendixes contain additional supporting material: Appendix A, the qualifications of project personnel; Appendix B, a summary of historical findings; Appendix C, prehistoric feature descriptions; Appendix D-F, consultant reports; and Appendix G, the artifact inventory.