

1.1 Project Description

Archaeological and Historical Consultants, Inc. (A&HC) completed Phase Ib Archaeological Survey for the proposed US 301 Project Development Section 1, located in St. Georges Hundred, New Castle County, Delaware. The proposed undertaking would consist of a limited access tolled facility on new location, extending from existing US 301 at the Delaware/Maryland state line in the southwest to State Route 1 just south of the Chesapeake & Delaware Canal in the northeast. Section 1 of the new highway extends along the highway's main line from its crossing of the Norfolk Southern Railroad in the southwest to an interchange with Route 1 in the northeast, a distance of approximately 5.4 miles (Figure 1).

The proposed Limits of Disturbance (LOD) for Phase Ib survey encompassed the highway's required right-of-way/area of disturbance, and generally extended approximately 150 feet to either side of highway's centerline, for a total width of approximately 300 feet. Along the mainline, variations in the width of the right-of-way/LOD were slight, except at the two proposed interchanges that fall within Section 1. At the Jamison Corner Road interchange, the right-of-way widened to include the on and off ramps, and extended about 600 feet from the highway's centerline. Here, the LOD also included additional right-of-way along Jamison Corner Road, extending approximately 500 feet in either direction from the margins of the interchange. At the interchange with Route 1, the LOD widened to a total width of approximately 400 feet before joining the existing right-of-way/area of disturbance associated with existing Route 1. Along the route, proposed storm water retention basin locations were included within the LOD. In all, the APE encompassed approximately 262 acres (106 hectares).

Design changes resulted in minor changes to the limits of disturbance (LOD) of the proposed alignment between the development of the Phase Ia survey (in October 2008) and the implementation of the Phase Ib survey (in October 2009). The latter LOD was used as the basis for the Phase Ib survey. Differences included the elimination or redesign of storm water management basins, and minor shifts in the alignment. The LOD and its division into survey segments are shown on a set of right-of-way plan drawings (Figures 2a-2f). These maps are derived from Sheets 3-6 of a set of 9 maps covering the entire US 301 project area.

The project is being undertaken under the management of the Federal Highway Administration (FHWA) and the Delaware Department of Transportation (DelDOT). Federal mandates for the proposed work include the Department of Transportation Act of 1966, as amended, the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966, and the Archaeological and Historic Preservation Act of 1974. The guidelines of the Delaware Division of Historical and Cultural Affairs, which acts as the state historic preservation office (SHPO), were followed in conducting the fieldwork, research, and report preparation activities for this project (SHPO 1993).

The archaeological fieldwork for this project was conducted between October 2009 and April 2010. Fieldwork was supervised by Field Directors Scott Padamonsky and James Breneman, who were also responsible for most of the coordination with land owners and tenant farmers.

Geomorphological studies were undertaken by John M. Stiteler. Background research was conducted by Wendy Zug-Gilbert and Melissa Diamanti. Monica Padamonsky directed the artifact analysis. Jeff Mathison prepared the report graphics. The qualifications of key personnel are included in Section 7.1.

This report contains sections on research design, background research, field survey, interpretation of results and identification of cultural resources, followed by conclusions and recommendations. Appendices include the qualifications of key personnel, charts of property histories, Cultural Resource Survey (CRS) forms for the identified resources, and a complete artifact inventory.

1.2 Environmental Setting

US 301 Section 1 lies almost entirely within the Mid-drainage Zone of the Upper Coastal Plain physiographic province, with its westernmost extreme extending into the Midpeninsular Drainage Divide Zone. The Mid-drainage Zone is a relatively narrow strip of Coastal Plain containing the middle reaches of streams that flow from the Midpeninsular Drainage Divide east to the Delaware River. It is a flat to gently rolling region of low relief, with the greatest elevation differences exhibited along the major stream courses. Elevations at the western end of Section 1 are generally 70-75 feet above sea level (asl), gently decreasing to the east to 40-50 feet asl at its northeastern terminus. The lowest point on the Section 1 alignment is the Scott Run floodplain (near the northeast end), which lies at about 30 feet asl. Most of the land crossed by Section 1 is under active cultivation, but a few areas of secondary forest and thick brush are present. Disturbance is limited primarily to existing road crossings at Route 896, Jamison Corner Road, Hyetts Corner Road, and the northeastern end of the alignment where it joins existing Route 1. In the vicinity of the crossing over Scott Run, additional disturbance has resulted from the installation of a sewer main and utility lines.

Six stream crossings occur along the alignment, most of which are flanked by wooded riparian zones. South of Route 896, drainage from the corridor is to the Appoquinimink River, via Drawyer Creek. Crossings in this part of the alignment include an unnamed first-order tributary of Spring Mill Branch, Drawyer Creek (a second-order stream), and a first-order tributary of Drawyer Creek known historically as Taylor Branch. North of Route 896, the alignment passes within 100 m of the source of Scott Run, later crossing a middle reach of Scott Run, at which point it is a second-order stream. A short distance to the northeast, the alignment crosses two unnamed first-order tributaries of Scott Run. Scott Run flows to the Chesapeake and Delaware Canal, joining it just west of where the canal enters the Delaware River.

The area traversed by US 301 Section 1 is underlain by the fluvial sands of the middle Pleistocene Columbia Formation. Along the alignment these may be capped to varying depths by the late Pleistocene Lynch Heights and Scotts Corner Formations, both associated with marine transgressions. Cobbles are present on the surface in several areas in the western half of the project LOD. In all likelihood, these are part of the bedload of fluvial channels associated with the Columbia Formation, exhumed by erosion or by bioturbation (e.g., tree-throws, burrowing animals, human activity, etc.). Soils of the uplands within the Section 1 LOD belong to the Fallsington, Matapeake, Mattapex, Othello, Reybold, and Woodstown series, all formed in

old marine or fluviomarine sediments and, in the case of the Matapeake series, a cap of silty aeolian material. These soils have no potential to contain deeply buried cultural material. In cultivated or fallow fields, they were well suited to testing by surface survey following plowing and disking. In areas of woods and brush, these soils were sampled by shovel tests extending to depths of 30-60 cm below surface.

Geomorphological study during the Phase Ia survey suggested that many short first-order stream hollows within the alignment had been filled by as much as 1 m of historic slope wash, following scouring of pre-contact sediments from the hollow floor (Hay et al. 2009). Both of these processes were, in all likelihood, the result of historic land-clearing and the introduction of intensive agriculture. Precontact sediments on the floors of second- and third-order stream hollows such as Drawyer Creek and Scott Run may also have been scoured out by historic floods and replaced with historic sediment, although augering at the source of the first-order tributary of Scott Run revealed what appeared to be precontact sediments beneath 1 m or more of historic alluvium. This suggests that in such settings – where several small first-order streams combine to form a second-order stream – there may have been insufficient water flow to scour out precontact alluvium or to move the large input of historic alluvium through the system, resulting in burial and preservation of the precontact surface.