

1.0 INTRODUCTION

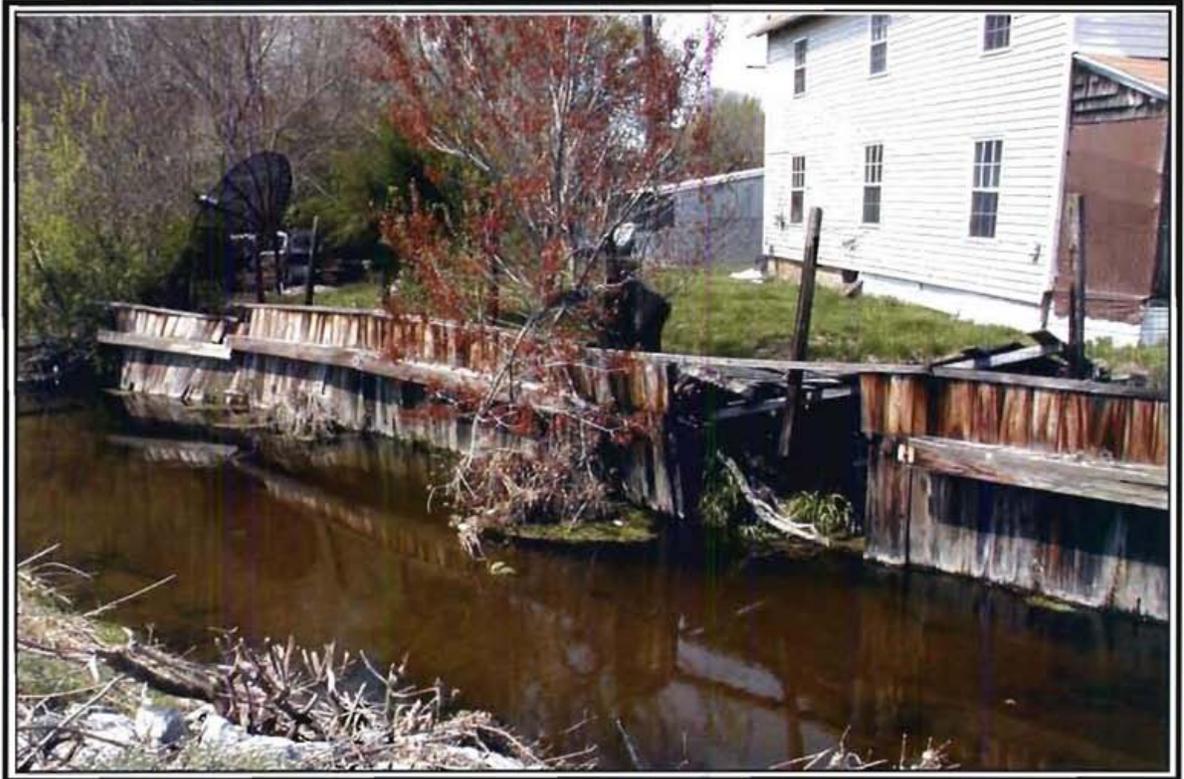
Geomorphological investigations and standing structures research have been completed by Skelly and Loy, Inc. personnel in conjunction with the proposed Delaware Department of Transportation (DelDOT) Bridge 146 Retaining Wall project located in Bridgeville, Sussex County, Delaware (Figure 1).

1.1 Purpose and Need

The Bridge 146 Retaining Wall project geomorphological and standing structures research was performed at the request of DelDOT in order to determine if the project Area of Potential Effect (APE) contains archaeological potential and to assess the house, which is located on the property, for significance. By accomplishing these goals, compliance with state and federal legislation, including Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992; the Federal-Aid Highway Act of 1966, as amended; the National Environmental Policy Act of 1969; Code of Federal Regulations: Advisory Council on Historic Preservation CFR800; Delaware Code Annotated Title 29 § 8705, 7 § 5301-5309, and 7 § 5401-5411; and Delaware Antiquities Act, is assured. *The Guidelines for Architectural and Archaeological Surveys in the State of Delaware* (Delaware State Historic Preservation Office 1993) were followed in preparing the project research design, methodology, and this management summary.

1.2 Project Description

The proposed work includes the removal of a failing retaining wall adjacent to Bridge 146, and in lieu of its reconstruction, the sloping back of the stream bank to avoid future slumping/erosional problems. The project APE is located northwest of the existing bridge and has been determined to be a portion of the lot on which the failing retaining wall is located (Photograph 1). In addition to the retaining wall, a house (S-4387) is present on the lot (Photographs 2, 3, and 4). This house (S-4387) has been determined to be structurally unsound and will be razed by DelDOT as part of the project. In response to the removal of the retaining wall, razing of the house (S-4387), and sloping of the stream bank, discussions between DelDOT, the U.S. Army Corps of Engineers, and the Delaware State Historic Preservation Office (SHPO) resulted in the



Photograph 1. View of the project APE showing the failing retaining wall, facing northwest.



Photograph 2. View of the south and east elevations of the house (S-4387), facing north. Note failing retaining wall at bottom of photograph.



Photograph 3. View of the north and east elevations of the house (S-4387), facing north. Note Bridge 146 at left bottom of photograph.



*Photograph 4. View of the north and west elevations of the house (S-4387), facing north.
Note small shed at right of photograph.*

recommendation that the eligibility of the house (S-4387) be assessed and the potential for archaeology of the property be determined.

The project APE varied slightly for the geomorphological studies and the standing structures research. The geomorphological project APE entailed approximately 0.05 ha (0.14 ac) adjacent to the failing retaining wall and surrounding the house (S-4387), as demonstrated by the limits of construction and temporary construction easement lines present on design mapping supplied to Skelly and Loy, Inc. (Figure 2). This area is analogous to that defined as the permit area by the U.S. Army Corp of Engineers (ACOE). The standing structure project APE for the Bridge 146 Retaining Wall replacement project follows the tax parcel boundary for S-4387, but it also proceeds south across the Bridgeville Branch to include potential effects to historic resources located south of the waterway. The standing structure project APE is larger than that of the geomorphological survey APE, in order to accommodate visual impacts and concerns about potential association of the house (S-4387) with nearby historic districts. The standing structures APE used during this research is documented in Figure 3.

The project area is located in the Atlantic Coastal Plain Physiographic Province, and is drained by the Bridgeville Branch, which is a tributary to the Nanticoke River that in turn drains most of western Sussex County. "Surface water settings have been severely affected by rising sea level and most river systems, including much of the Nanticoke River and its tributaries, ... are tidal in their middle and lower reaches" (Custer 1989:9). Most of the Nanticoke River bank, along its upper reaches, has an associated tidal marsh providing a more varied floral and faunal community than in other non-tidal marsh areas (Custer 1989:9). Custer includes the project APE in his Riverine edaphic zone (Custer 1989:13).

The project area exhibits a continental climate with four distinct seasons. "The Atlantic Ocean has a considerable moderating control on the climate in all seasons, especially in moderating extreme temperatures of adjacent areas" (Ireland and Matthews 1974:2). Elevations within the project APE range from approximately 9.1 to 10.7 m (30.0 to 35.0 ft) above mean sea level (msl) and are not varied enough to affect the weather patterning. There appears to have been marked climatic and environmental change in the project APE over the past 12,000 years (Custer 1989:11). The environmental changes through time include a basic dichotomy between the riverine and interior areas over much of the Holocene and was an important factor in precontact settlement decisions (Custer 1989:12).

Most of southwestern Delaware is underlain by the sands of the Columbia formation, which have been extensively re-worked by various geological processes (Delaware Geological Survey 1976). Soil types mapped within the project APE include Johnston silt loam (Jo), which is very wet, very poorly drained, and located on floodplains and Sassafras sandy loam, 5 to 10 percent slopes eroded (SaC2), which is well-drained, located on uplands, and heavily eroded (Ireland and Matthews 1974:Sheet 24).