

2.0 METHODS

2.1 History of Research

In 2003, Skelly and Loy completed Phase I archaeological investigations for the proposed S.R. 54 Improvements (Gundy and Sams 2003a). The survey area consisted of a corridor centered on the centerline of existing S.R. 54 from the intersection of S.R. 54 with Sound Church Road east to the intersection of S.R. 54 with Keenwick Road, and the Zion Church Road realignment area. Geomorphological studies of the survey area identified 17 potential test areas; however, by the time the archaeological survey was undertaken, four of the 17 test areas had been extensively disturbed by continued development along the roadway and no longer had the potential to contain *in situ* archaeological resources. It was also determined that portions of the remaining 13 test areas had been previously surveyed. This left 11 test areas to be surveyed by Skelly and Loy *via* the excavation of shovel test pits (STPs). The only archaeological remains recovered during the Phase I survey of the original S.R. 54 roadway project consisted of six whiteware sherds. These whiteware sherds do not comprise an archaeological site. Based on the lack of previously identified archaeological sites within the study area and the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

Subsequent to the completion of the original Phase I survey and later in 2003, Skelly and Loy completed Phase I archaeological investigations for two proposed stormwater management areas associated with the S.R. 54 roadway project (Gundy and Sams 2003b). Geomorphological investigations of the two stormwater management areas determined that only one area retained *in situ* soils with the potential to contain archaeological resources. That stormwater management area was surveyed *via* the excavation of STPs. No archaeological remains were recovered during the Phase I survey of the two stormwater management areas. Based on the lack of previously identified archaeological sites within the two stormwater management areas and the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

In 2005, Skelly and Loy completed additional Phase I archaeological survey associated with the S.R. 54 roadway project in two proposed stormwater management swales (Gundy 2005). The proposed locations for the two stormwater management swales were adjacent to and on the same landform as the two previously surveyed stormwater management areas; therefore no additional geomorphological studies were completed. Phase I archaeological survey of the two stormwater management swales consisted of the excavation of STPs along their lengths. No archaeological

remains were recovered during the Phase I survey of the two stormwater management swales. Based on the lack of previously identified archaeological sites within the stormwater management swales, and the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

The Phase I archaeological survey of Stormwater Management Facility No. 46 that is reported on in this document was undertaken as part of the S.R. 54 roadway project in July 2007. The Stormwater Management Facility No. 46 test area is located adjacent to one of the previously proposed stormwater management swales and on the same landform as the previously proposed stormwater management areas and stormwater management swales.

2.2 Background Research

Background research, completed during the original S.R. 54 Improvements archaeological survey (Gundy and Sams 2003a), was broad enough to cover the areas proposed for the stormwater management areas. It included the examination of the Delaware archaeological site files, the National Register of Historic Places (NRHP) files, the historic resources inventory files, reports documenting previously conducted cultural resource studies, relevant state-wide contexts, historic maps, and historic as-built roadway plans housed at the Delaware State Historic Preservation Office (SHPO) and DeIDOT offices, as well as on the internet. Further background research was conducted at the University of Delaware's Morris Library, the University of Pittsburgh's Hillman Library, and the Carnegie Library of Pittsburgh. The specific landuse history of the Stormwater Management Facility No. 46 archaeological APE also included review of historic period maps and aerial photographs, population censuses, and tax assessment and deed records located at the Sussex County Recorder of Deeds Office in Georgetown.

2.3 Fieldwork

Archaeologists from DeIDOT and the SHPO visited the proposed Stormwater Management Facility No. 46 location and identified a few historic period artifacts on the modern ground surface. Based on the location of the proposed stormwater management facility on level, moderately well drained and poorly drained land, and the presence of historic period artifacts, DeIDOT determined that a Phase I archaeological survey of the location was warranted. The Phase I survey fieldwork for the proposed Stormwater Management Facility No. 46 archaeological APE was conducted by Skelly and Loy personnel in July 2007.

Phase I archaeological fieldwork consisted of the pedestrian reconnaissance and subsurface testing of the test area. Six transects of STPs were emplaced at 15.0 m (49.2 ft) transect and STP intervals across the test area. When historic period artifacts were identified, the STP interval was reduced to delimit the boundaries of the artifact distribution. The STPs were designated using the southwest grid coordinates pertaining to their location. The STPs were excavated by arbitrary 10.0 cm (3.9 in) levels within natural strata to a minimum depth of 10.0 cm (3.9 in) into the culturally sterile subsoil. All of the sediments recovered from each excavated STP were screened through 0.64 cm (0.25 in) mesh hardware cloth. Information regarding the soil texture and color, depth of any cultural materials recovered, and any soil disturbance was recorded on Skelly and Loy's standard excavation forms. Daily field notes and STP excavation information were kept by the field director. Field data were supplemented with notes made on the project maps, as warranted, and digital photography was used to document the work. Historic period artifacts, including ceramic, brick, glass, metal, coal, plastic, bone, and shell were recovered during the Phase I archaeological survey of the proposed Stormwater Management Facility No. 46 test area.

2.4 Processing, Analyses, and Curation

The historic period artifacts recovered during the Phase I archaeological survey of the Stormwater Management Facility No. 46 test area were transported to Skelly and Loy's laboratory upon completion of the survey fieldwork. At the laboratory, the artifacts were washed, labeled, and re-bagged. During their analysis, the historic period artifacts were first divided into major categories according to material type. The recovered material was further subdivided into more specific categories within each type. For example, within the glass category a further breakdown for specific type, such as curved glass, table glass, window glass, etc., was identified. Other datable attributes, such as manufacture type, vessel morphology, and color, were also incorporated into the identification process. Functional groups designated by South (1977) were also assigned to the recovered data set where applicable. This system helps to define traits necessary for the reconstruction of past lifeways at a site, and for intra-site comparison when appropriate. Following the identification of an artifact, a date range was assigned to the artifact, if possible, based on criteria such as raw material, manufacturing process, and maker's/trade marks (Beckerman 1984; Brown 1982; Kovel and Kovel 1953; Noël Hume 1969). The specificity of the assigned date ranges is based on the number and type of diagnostic characteristics present for any given artifact. Appendix A contains the artifact provenience and analysis catalogs. The project materials were

prepared for curation at the Delaware State Museum according to their guidelines (Delaware State Historic Preservation Office 1993).