

## 4.0 RESULTS

### 4.1 Geomorphology and Lithic Resources

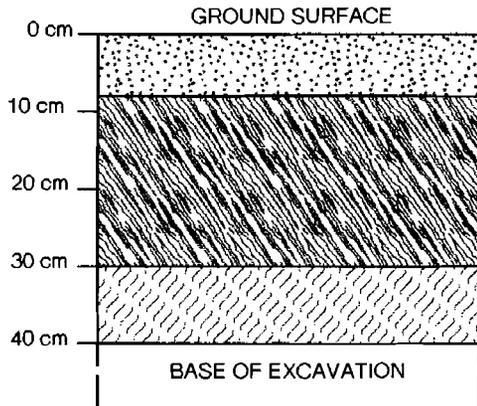
The U.S. 13/U.S. 13A/Road 46 Intersection Improvements archaeological APE was investigated for the presence of landforms and soils which might have the potential to contain intact archaeological resources. Many soil auger borings were taken within the project APE, with many exhibiting disturbed or truncated stratigraphic profiles. The only area which exhibited undisturbed stratigraphic profiles was the area of the proposed connector road between Dolby Road and Road 46. Archaeological survey was recommended for this portion of the archaeological APE. All other portions of the archaeological APE are either paved or exhibit severely disturbed or truncated stratigraphic profiles precluding the possibility of *in situ* archaeological resources. Subsequent to the geomorphological reconnaissance and survey excavations, three soil profiles within the proposed connector road test area were examined and described in detail according to the methods and nomenclature prescribed by the United States Department of Agriculture--Natural Resources Conservation Service (Schoenenberger 2002). Tabular descriptions of these stratigraphic profiles are included in Appendix B.

The intersection improvements project area is entirely within an uplands context of deep, unconsolidated coastal plain sediments. According to the *Soil Survey of Sussex County, Delaware* (Ireland and Matthews 1974), the soil type occurring over a majority of the area is the Evesboro sandy loam, a soil found on convex or level land with little or no drainage restrictions within the internal soil profile. No natural drainageways with associated floodplains occur within the archaeological APE.

The majority of the project area has been previously disturbed from roadway construction, and from commercial and residential development. Within disturbed areas, the entire stratigraphic profile has been excavated and re-graded after the construction of buildings and associated access roadways. Deep drainage ditches, excavated for the collection of roadway and parking lot runoff, lie adjacent to many of the existing roadways.

Three stratigraphic profiles of excavations within the proposed Connector Road Test Area are described in detail as follows. Auger Borings 1 and 2 are comprised of a moderately well developed soil profile which is very high in sand content (Figure 7). The surface horizon (A) in Auger Boring 1 is shallow, being only 8.0 cm (3.2 in) thick and underlain by a deep and highly weathered E horizon. Underlying the E horizon is a dense and brittle Pleistocene subsoil (Bw)

## SOIL PROFILE AUGER BORING 1

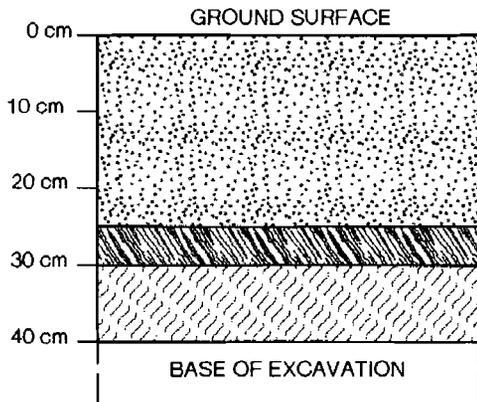


A 10YR 4/2 Dark grayish brown sandy loam.

E 10YR 5/3 Brown loamy sand.

Bw 7.5YR 5/3 Brown sandy loam.

## SOIL PROFILE AUGER BORING 2



Ap 10YR 5/2 Grayish brown sandy loam.

E 10YR 6/3 Pale brown loamy sand.

Bw 7.5YR 5/3 Brown sandy loam.

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SOIL PROFILES AUGER BORINGS 1 AND 2	
FIGURE - 7	<b>SKELLY AND LOY, INC.</b> CONSULTANTS IN ENVIRONMENT - ENERGY ENGINEERING - PLANNING

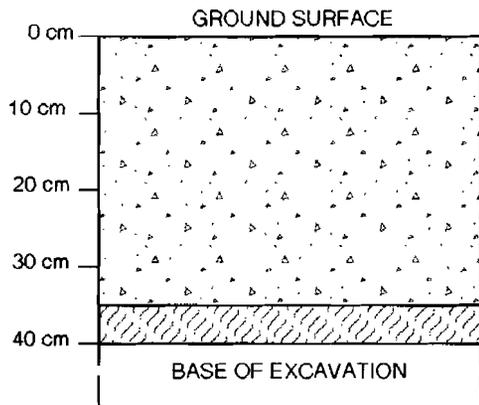
which could not be deeply penetrated by the soil auger due to its compactness. The surface A horizon in Auger Boring 2 is thicker (25.0 cm, or 9.8 in) than that in Auger Boring 1 and is underlain by a thin remnant of the E horizon. The A horizon in Auger Boring 2 has been plowed, incorporating the majority of the underlying E horizon into a mixed plow layer. The dense and compacted Pleistocene subsoil (Bw) is also encountered below the E horizon in Auger Boring 2. Auger Boring 3 is a mixed fill layer overlying the compacted and dense Pleistocene subsoil (Bw) (Figure 8). No remnants of the intact original surface (A or E horizons) is encountered within this profile. This area was excavated in the past, possibly during the construction of the trucking facility which is located to the east, and fill was redistributed over the graded surface. Localized areas of natural soils, plowed soils, or disturbed soils occur across the proposed connector road test area without obvious differences in surface conditions.

Large portions of the Delmarva Peninsula are composed of thick Pleistocene sediments, virtually excluding surficial exposures of bedrock lithic materials; thus, primary sources of lithic material are absent in the vicinity of the project area. Though primary sources tend to be absent, a wealth of secondarily deposited stone occurs throughout the region. Native American knappers had access to raw materials from stream terraces, lag deposits, and gravel bars, including chalcedony, chert, jasper, quartz, and quartzite (Petraglia *et al.* 2002:13.6-13.8). Occasionally, artifacts from primary bedrock sources are found on sites in the region (Petraglia *et al.* 2002:13.6-13.8). Sources of Iron Hill Jasper are located well to the north of the project area near Newark, Delaware. Occasionally identified in the region is ironstone, an iron cemented sandstone located along the Elk River and Herring Island at the upper end of Chesapeake Bay, to the north of the project area (Ward 1988:7). Exotic raw materials encountered on sites in the region include argillite and rhyolite, both with primary outcrops located to the north and northwest of the project area, respectively.

## **4.2 Archaeology**

As illustrated on Figure 2, the majority of the archaeological APE (95.97%, or 6.17 ha [15.24 ac]), associated with the proposed U.S. 13/U.S. 13A/Road 46 Intersection Improvements project is currently paved or has been extensively disturbed by roadway construction and/or commercial development. The area proposed for a connector road is the only portion of the archaeological APE that exhibited undisturbed stratigraphic profiles of appropriate age to

# SOIL PROFILE AUGER BORING 3



**MIXED FILL** 10YR 5/3 Brown and 10YR 6/3 Pale brown loamy sand, mixed with fine gravels.

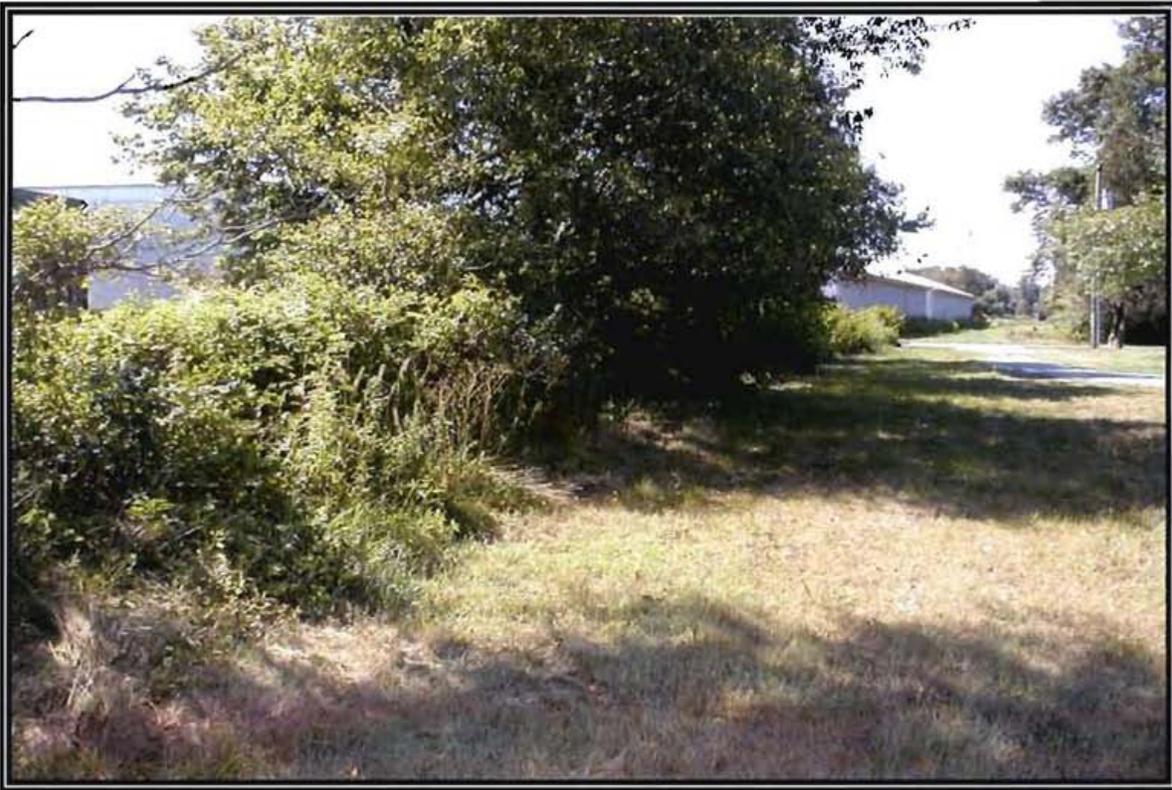
**Bw** 7.5YR 5/3 Brown sandy loam.

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SOIL PROFILE AUGER BORING 3	
FIGURE - 8	<b>SKELLY AND LOY, INC.</b> CONSULTANTS IN ENVIRONMENT - ENERGY ENGINEERING - PLANNING

contain archaeological remains. This Connector Road Test Area measures approximately 19.1 m (62.5 ft) wide and 251.5 m (825.0 ft) long and is located west of and parallel to current U.S. 13A between Dolby Road and Road 46. Currently, the test area is wooded with heavy undergrowth, including opportunistic species (Photographs 1, 2, and 3). Ground surface visibility was poor (<1%) due to the heavy vegetation. Thirteen STPs were excavated at 15.0 m (49.2 ft) intervals along a single transect within the test area.

The stratigraphic profiles of the 13 STPs are similar to one another and are comprised of three natural strata. Stratum 1, the uppermost stratum, is a dark grayish brown (10YR 4/2) or grayish brown (10YR 5/2) sandy loam plowzone. Stratum 1 is present at the modern ground surface, and ranges in thickness from a minimum of 8.0 cm (3.2 in) to a maximum of 25.0 cm (9.8 in). One piece of solarized glass (Isolate 1) was recovered from the uppermost level of Stratum 1 in STP N265 E100. The glass fragment appears to be from a panel bottle and is very light amethyst in color. Glass is naturally light green or light blue in color due to inherent impurities in the raw materials. To obtain colorless glass, an agent must be added to the glass batch. From approximately 1880 to 1915, manganese was the agent added to manufacture colorless glass (Munsey 1970). The manganese, however, oxidized when exposed to the ultraviolet rays of the sun, producing an amethyst color. The degree of solarization is dependent on the amount of manganese in the glass and the amount of exposure time to the sunlight (Munsey 1970). Stratum 1 overlies Stratum 2 by a clear boundary. Stratum 2 is a brown (10YR 5/3) or pale brown (10YR 6/3) loamy sand E horizon. Stratum 2 ranges in thickness from a minimum of 5.0 cm (2.0 in) to a maximum of 22.0 cm (8.7 in) and overlies Stratum 3 by a clear boundary. No artifacts or other cultural materials were recovered from Stratum 2. Stratum 3 is a brown (7.5YR 5/3) sandy loam Pleistocene subsoil. Stratum 3 is culturally sterile.

While the single piece of solarized glass recovered from the connector road test area can be roughly dated to the period between 1880 and 1915, it is not functionally diagnostic, and no other artifacts were found in association with it. Due to localized disturbances in the Connector Road Test Area from roadway construction, and paving and fencing associated with the trucking company facility development, Isolate 1 is most likely a re-deposited artifact not indicative of an *in situ* historic period event. Isolated artifacts are not considered archaeological sites. No other historic period remains or pre-contact period cultural artifacts or features were identified in the Connector Road Test Area during the archaeological survey. Since no previously recorded archaeological sites or NRHP-listed properties are present within the U.S.



*Photograph 1. General view of south end of Connector Road Test Area, facing south.*



*Photograph 2. General view of middle portion of Connector Road Test Area, facing north.*



*Photograph 3. General view of north end of Connector Road Test Area, facing south.*

13/U.S. 13A/Road 46 Intersection Improvements archaeological APE, and only a single historic period isolate was recovered during the archaeological survey, no additional archaeological investigations of the archaeological APE are warranted.

### **4.3 Historic Structures**

Delaware Cultural Resource Survey (CRS) forms have been completed for the two identified structures over 50 years of age, and they are included in Appendix C.

#### **4.3.1 S-10139 -- Service Station, West Side of U.S. 13**

S-10139, a former Service Station (Photographs 4, 5, and 6) located on the west side of U.S. 13, between that highway and U.S. 13A, dates to ca. 1955. The construction date is based on historic as-built plans and maps. As-built plans for the widening of U.S. 13A in 1946 and the construction of U.S. 13 from 1952 do not show the building (Delaware State Highway Department 1946, 1952). A building at the location of the service station does, however, appear on the 1955 Seaford, Delaware quadrangle map (USGS 1955). The facade of the building is also oriented toward U.S. 13, further indication that its construction date coincides with or post-dates U.S. 13 construction.

The former Service Station is tied to the transportation and communication theme of Delaware's history, and the roadside architecture context. It was built as a result of post-World War II upgrades to U.S. Route 13, and is prominently sited on the west side of the highway. The Service Station is an example of roadside commercial architecture specifically developed to service automobile traffic. Automobile service stations began appearing in Delaware in the early twentieth century. The building type was constructed in great numbers, beginning in the 1920s, as Delaware established and improved its state highway system (LeeDecker *et al.* 1992:291-292; Lichtenstein Consulting Engineers 2000:11-12).

To be eligible for the NRHP, a service station building must have integrity and it must be significant under one of the four NRHP Criteria for Evaluation. To be eligible under Criterion A, a service station must have an important association with Delaware or local transportation history (National Park Service 1998:12). For service stations, this



*Photograph 4. Service Station (S-10139), west side of U.S. Route 13, facade and east side, facing southwest.*



*Photograph 5. Service Station (S-10139), west side of U.S. Route 13, facade and west side, facing southeast.*



*Photograph 6. Service Station (S-10139), west side of U.S. Route 13, east side and rear, facing northwest.*

would generally mean it is an early example of its type built during the formative years of automobile travel, or that the building is later but it offered some innovative, and quickly copied, services. To be eligible under NRHP Criterion B, a service station would need to be associated with a person significant in history and the building would have to illustrate that significance (National Park Service 1998:14). To be eligible under NRHP Criterion C for architecture and design, a service station would need to embody the distinctive characteristics of the type, period, or method of construction, possess high artistic value, or be the work of a master (National Park Service 1998:17). Characteristics of service stations changed over time. By the 1930s, one specific, very common type included a rectangular, concrete block building with an office at one end and one or two service bays at the other. To be significant under Criterion C, such buildings would need to be early examples of the type or architecturally significant for its design or designer. To be eligible under NRHP Criterion D, the building would have to convey important information not available through other means. Given the ubiquity of service stations on the American landscape, it is difficult to imagine a circumstance where such a building would reveal this type of information.

S-10139, the Service Station on the West Side of U.S. Route 13, does not meet any of the NRHP Criteria for Evaluation. It was built as a result of the 1952 U.S. 13 upgrade. It is not tied to the formative years of highway development in Delaware, nor is it an early example of a service station. When it was built *ca.* 1955, there were hundreds, if not thousands, of similar service stations in Delaware. Therefore, it is not eligible under Criterion A. There is no evidence it was associated with an important person; therefore, it is not eligible under Criterion B. The service station does not embody the distinctive characteristics of a type, period, and method of construction. The concrete block building was constructed in 1955. Its design -- office on one end and service bays on the other -- was used with great frequency since the 1920s, and was ubiquitous by the mid-1950s. Moreover, the building has lost character-defining elements. The garage bays have been converted into retail space, and the exterior apertures have been in-filled with concrete block and glass. The original door has been moved, and a second door has been added to the facade. The design of the office has changed also, with a window where the corner entrance used to be. Additionally, the windows are replacements, and a pent-like roof now shelters the former office. The cumulative changes compromise the integrity of the building. The building also does not

possess high artistic value, there is no evidence it is the work of a master, and it does not convey information that is not already available through other means.

#### **4.3.2 S-10140 -- Dwelling, 9010 Elks Road**

S-10140, a dwelling at 9010 Elks Road, is a single-story, three-bay wide frame house (Photographs 7 and 8). It is constructed in a common vernacular style used with great frequency during much of the twentieth century. Based on Sussex County Tax Assessment records, historic maps, and architectural style, the construction date of the house is estimated at *ca.* 1940.

The house is built on a concrete foundation. The walls are finished with shake siding. The hipped roof has wide overhanging eaves, a design characteristic of both the Craftsman and Ranch styles, but the vernacular house cannot be characterized as either. The facade features a wide brick chimney flanked by two narrow, two-over-two windows and a two-bay wide wood and screen porch. A partial width back porch is also located at the rear of the house. Other windows on the house are also two-over-two sash of more conventional dimensions. There is also a frame outbuilding on the property (Photograph 9).

Vernacular houses like the dwelling at 9010 Elks Road are very common and undistinguished and, as a consequence, difficult to list individually in the NRHP. The house was constructed *ca.* 1940, and is thus associated with the *Suburbanization and Early Ex-urbanization 1940-1960* theme. To be eligible under Criterion A, a house like 9010 Elks Road would need to be specifically tied to that theme as part of a suburban development or strip development on the edge of farmland or former farmland. To be eligible under NRHP Criterion B, a residence would need to be associated with a person significant in history and the building would have to illustrate that significance (National Park Service 1998:14). To be eligible under NRHP Criterion C for architecture and design, the house would need to embody the distinctive characteristics of the type, period, or method of construction, possess high artistic value, or be the work of a master (National Park Service 1998:17). The ability for a common twentieth century, vernacular style house to do this on an individual basis is difficult. To be eligible under NRHP Criterion D, the house would have to convey important information not available through other means. If it met any of the four criteria, it would also need to have integrity.



*Photograph 7. Dwelling, 9010 Elks Road (S-10140), facade and east side, facing southwest.*



*Photograph 8. Dwelling, 9010 Elks Road (S-10140), facade and west side, facing southeast.*



*Photograph 9. Outbuilding on the property of Dwelling, 9010 Elks Road (S-10139), facade and east side, facing southwest.*

The Dwelling at 9010 Elks Road does not meet any of the NRHP Criteria for Evaluation. It was not built as part of a suburban development or strip development along former farmland. Its construction predates a residential development noted on the 1955 USGS Seaford, Delaware quadrangle (USGS 1955). The development, Lakeshore, was never fully executed, as was evident during the July 15, 2004 field view. The projected development consists of scattered houses, most built in the late twentieth century. These houses do not constitute a historic district as they represent building styles commonly constructed in post-war Delaware and do not reflect a planned community built as a unified whole or the work of a notable community planner, landscape architect, architect, or engineer. Although the few houses built in this area represent a change in demographic and settlement patterns from rural to suburban, they do not represent significant aspects of suburbanization. The dwelling at 9010 Elks Road does not represent the characteristics of historic suburban house types as developed either in the National Register Bulletin 46: *Historic Residential Suburbs* (National Park Service 2003) or in the Wilmington suburbanization context (Chase *et al.* 1993). Therefore, the house is not eligible under Criterion A. There is no evidence the house was associated with an important person; therefore, it is not eligible under Criterion B. The house does not embody the distinctive characteristics of a type, period, and method of construction, possess high artistic value, nor represent the work of a master. It is built to a common design used with frequency in the middle decades of the twentieth century. There is nothing distinctive about its design, construction, or materials. Consequently, it is not eligible under Criterion C. The common nature of the house also means it is not eligible under Criterion D.