

## **APPENDICIES**

**APPENDIX I**  
**EXPLANATION OF SITE NUMBERING SYSTEM**

# APPENDIX I

## Explanation of Site Numbering System

Two numbering systems are used to identify archaeological sites in Delaware. The site number is a variant of the Harvard numbering system with the addition of lettered blocks within each county. The Cultural Resource Survey number is unique to Delaware and is applied to all cultural resources in the state, including prehistoric and historical archaeological sites, and architectural and engineering structures (standing structures).

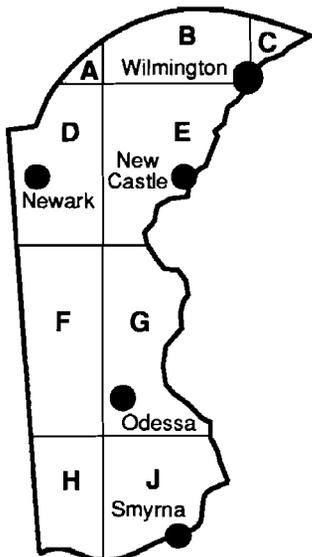
### 7S-F-102

- 7S-F-102 = State Site Number
- 7 = Numerical prefix identifying the state of Delaware
- S = Sussex County; K = Kent County; NC = New Castle County
- F = Each county is divided into lettered divisions; letter F indicates the block in which the site is found in Sussex County, Delaware
- 102 = The 102nd site recorded in block F, Sussex County, Delaware

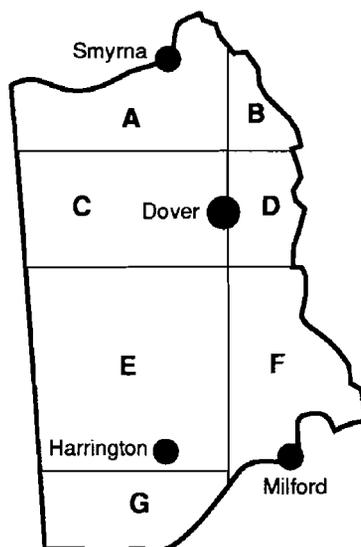
### S-8687

- S-8687 = Cultural Resource Survey Number (CRS number)
- S = Sussex County; K = Kent County; N = New Castle County
- 8687 = The 8687th cultural resource inventoried in Sussex County. Each cultural resource number ties into the aerial photos and management files on repository with the Delaware Division of Historical and Cultural Affairs, Dover, Delaware and/or The Island Field Museum and Research Center, South Bowers, Delaware.

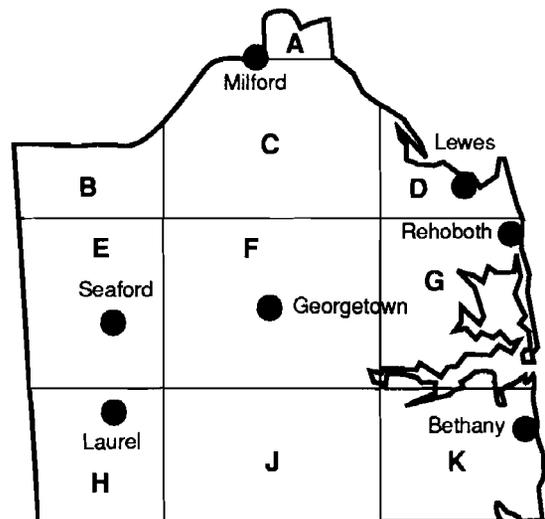
New Castle County -- 7NC



Kent County -- 7K



Sussex County -- 7S



**APPENDIX II**  
**PUBLIC INFORMATION HANDOUT**

APPENDIX II: PUBLIC INFORMATION HANDOUT



STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

OFFICE OF THE  
DIRECTOR

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SUSSEX COUNTY PROJECTS  
RTS. 404-18-9  
AND  
DE-MD BEACH ACCESS ROUTE  
CULTURAL RESOURCES PLANNING



A historic and prehistoric cultural resource planning survey is being conducted by the Delaware Department of Transportation, Division of Highways, and the Federal Highway Administration in conjunction with the University of Delaware, Center for Archaeological Research. The planning is necessitated by the above mentioned projects in Sussex County.

The Route 404 corridor study area (approximately 5 miles N-S by 30 miles E-W) traverses some of the oldest and most important prehistoric and historic settlement areas in the State of Delaware. The earliest known prehistoric peoples lived during the **Paleo-Indian Period**, from about 12,000 B.C. - 6500 B.C. This period overlapped and immediately followed the last great glaciation of North America. These peoples probably lived a nomadic existence, collecting wild vegetal foods and hunting now extinct large game animals such as bison, mastadons, sloths, etc. The project area contains no known sites from this period, but they have been found nearby and may be located during the survey.

The **Archaic Period** (6500 B.C. - 3000 B.C.) saw the establishment of oak and hemlock forests over the landscape, with the peoples adapting to present day plant and animal forms. The adaptation was one of a more generalized hunting and gathering pattern in which plant food resources would have played an increasingly important role. The settlement pattern consisted of large base camps and outlying hunting sites, reflective of a social organization characterized by the seasonal waxing and waning of band groups. Archaic Period sites in the project area include major base camps and hunting and gathering sites.

## APPENDIX II: PUBLIC INFORMATION HANDOUT (Continued)

The Woodland I Period (3000 B.C. - A.D. 1000) saw a flourishing of tool types and a large increase in the number of known sites within the project area. In addition, large sedentary base camps were established, such as the Robbins Farm, Barker's Landing, and Coverdale sites in southern Kent County, and the Hell Island site near Odessa. The intensive harvesting of wild plant foods that may have approached the efficiency of agriculture, and the introduction of broadbladed, knife-like chipped stone tools were important developments during this period. Also seen was the addition of stone, and later ceramic, containers, which allowed for the efficient cooking and storing of foods. Major trade networks are evident from the presence of exotic raw materials utilized for the manufacture of utilitarian and ceremonial objects.

The Woodland II Period (A.D. 1000 -A.D. 1650) contains many similar resource procurement methods and the large base camp settlement system of the Woodland I Period. However, there was an increasing reliance on plant foods and coastal resources, such as shellfish. Social organization changes were evidenced by a collapse of the trade and exchange networks and the end of elaborate cemeteries.

The Contact Period (A.D. 1650 - A.D. 1750) is that period when European settlers entered the area and first made contact with the native peoples. These sites are characterized by a mixing of Indian and European lifeways and artifacts and have much to tell about the acculturation process experienced by the Indians. Unfortunately, no documented Contact Period sites have ever been found in Delaware, although they have been found in Pennsylvania and other surrounding states.

The Historic Period, although only about 350 years in length, is equally as complex. The first permanent settlement in Delaware was the Dutch settlement of Zwaanendael, established as a whaling colony near present-day Lewes in 1629. However, relatively little settlement took place in the project area for the remainder of the seventeenth century. The land was sparsely settled, with scattered subsistence farms and logging, milling, and fur trading operations along the principal water courses, which were the major transportation routes.

The Delmarva Peninsula has long been primarily an agricultural region and its historic development is closely tied to farming practices. When William Penn assumed proprietary rights over the "three colonies on the Delaware" in 1682, settlement was strongly encouraged through the granting of land patents. Most prime agricultural land along the principal transportation routes (navigable streams and a few early cart roads) were occupied by the middle of the 18th century. Also at this time, many marshes were drained to provide for more farmland.

## APPENDIX II: PUBLIC INFORMATION HANDOUT (Continued)

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Most early farm production was of a "subsistence" nature, where products were grown and consumed at the same location. However, toward the end of the 18th century, wheat and timber came to be grown as "cash" crops.

The first three-quarters of the 19th century saw tremendous expansion and development on the Delmarva Peninsula. The increasing demand of large, domestic markets for the agricultural products of the hinterland and the establishment of reliable transportation facilities, including the construction of turnpikes, cartroads, canal and railroad lines, spurred the development and productivity of the "spine" of the Peninsula. The pattern of dispersed farmsteads continued, but extensive local road systems connected farmsteads to transport facilities and towns. Wheat and peaches were the market-oriented crops and many of the wealthy peach growers mansions still stand in the project area.

The late 19th century was characterized by a solidification of previous land use patterns, with small but steady growth in the agrarian towns accompanied by the introduction of light manufacturing, such as tanneries and carriage makers. Also notable within the project area was the growth of numerous black communities. Major technological developments, including advances in agricultural machinery, home construction techniques, and the introduction of gas, electricity, central heat, and indoor plumbing, profoundly affected the lifeways of the time.

The 20th century has seen the shift away from wheat and peaches to the production of soybeans and feed corn to support the lower Delmarva chicken industry. The small farming communities lost their economic importance as storage and redistribution facilities, businesses, and service providers became concentrated in the major population centers outside the project area. New homes were constructed in once predominantly rural areas and new commercial-industrial-service employers supplied jobs to the growing non-agricultural suburban populations.

The systematic survey of the study area is designed to gather information on patterns of prehistoric and historic occupation. The study area encompasses diverse environmental zones and should yield significant new data on a variety of past Delaware lifeways through time as well as refining the concepts of prehistoric and historic cultural development outlined above.

If you request any further information or particulars concerning this cultural resource project, please contact Kevin Cunningham, DelDOT Archeologist at 736-4644 or Jay Custer, Assistant Professor of Anthropology, University of Delaware at 451-2821.

**APPENDIX II: PUBLIC INFORMATION HANDOUT (Continued)**

OFFICE OF THE  
DIRECTOR

**STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
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PUBLIC INFORMATION HANDOUT  
SUSSEX COUNTY CORRIDOR STUDIES**

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**ARCHAEOLOGY FROM 900 KILOMETERS UP IN THE SKY**

Most people associate archaeology with excavations below the earth's surface, but new research by the Delaware Department of Transportation and the University of Delaware Center for Archaeological Research has found ways to use satellites circling the earth at an altitude of more than 900 kilometers to look for prehistoric archaeological sites. Archaeologists have used aerial photographs to look for ruins, mounds, and other signs of prehistoric archaeological sites since the 1920s when Charles Lindberg photographed many Indians of the Southwestern United States. However, use of satellite imagery is a new application in archaeology.

The Delaware Department of Transportation's interest in applying satellite technology to archaeology began when it was faced with the planning and development of a large highway corridor which traversed an area known to have a high potential for prehistoric archaeological sites. In order to minimize the impact of the highway on prehistoric archaeological sites and to minimize excavation and mitigation costs, it was necessary to develop accurate predictions of archaeological sites. These predictions would then be used to guide highway design studies.

## APPENDIX II: PUBLIC INFORMATION HANDOUT (Continued)

Over the past few years, the University of Delaware Center for Archaeological Research had been studying applications of LANDSAT satellite data to archaeological survey techniques. The LANDSAT satellite circles the earth at an altitude of 900 kilometers and records various types of energy reflected from the earth's surface. The data recorded by LANDSAT can then be used to map out various types of environments. In Delaware, LANDSAT data have been used to map out various types of marshes, woodlands, and soil types.

LANDSAT data can then be applied to archaeology by correlating the environments mapped by LANDSAT with known archaeological site locations. After patterns of association between site locations and environments mapped by LANDSAT are noted, other similar environmental zones with high potential for archaeological sites can be noted. Research at the University of Delaware Center for Archaeological Research developed the computer programs needed to analyze the LANDSAT and archaeological data and to map out areas with high probabilities of archaeological site locations.



Delaware Department of Transportation

**APPENDIX III**

**GLOSSARY**

## APPENDIX III

### GLOSSARY

**Aquatic** - Of, or in water; living or growing in water.

**Archaeology** - The study of the people of the past through the recovery and analysis of the artifacts and other material left behind and context of the finds.

**Artifact** - Any object shaped or modified by humans, or as a result of human activity.

**Assemblage** - The contemporaneous objects and associations found at an archaeological site.

**Band-level organization** - Small, confederations of family groups who subsist by hunting and gathering. Bands do not usually have a formal political organization, and their composition is often fluid, or seasonal.

**Base camp** - A prehistoric, hunter-gatherer dwelling site from which resource procurement forays are made.

**Bay/basin feature** - Also known as whale wallows, these shallow ponds, thought to have been formed at the end of the Pleistocene, were favored locations for prehistoric settlement.

**Biface** - A stone tool that has been flaked on both sides.

**Boreal** - Northern forests and tundra.

**Brackish** - Slightly salty; a mixture of fresh and sea water as in an estuary.

**Chalcedony** - Cryptocrystalline quartz or chert; for example, agate.

**Cobble** - A water-worn, or rounded stone, frequently used as raw material for stone tool manufacture by prehistoric people.

**Component** - The occupation of an archaeological site that dates to a particular time period in the past; for example, the Archaic component.

**Core** - A piece of stone from which other pieces of stone are flaked off to make artifacts.

**Cortex** - The weathered exterior of a piece of lithic material, may be either vein or water-worn cortex.

**Culture** - The non-biological mechanism of human adaptation, and rules, traditions, and customs of a particular society.

## GLOSSARY (continued)

- Cultural resources** - Prehistoric or historical structures, archaeological sites, places, or other evidence or material relating to human cultural activities.
- Data recovery investigations** - Excavation to recover the artifacts and record the features and context of cultural material on an archaeological site. The archaeological data are, thus, preserved for the future.
- Deciduous** - Leaf-bearing trees that shed in autumn.
- Diagnostic** - Artifacts with traits that are distinctive of a particular time period.
- Biface discard** - A biface that was used in the early stages of manufacture and then discarded before being more finely finished.
- Early stage biface reject** - A biface that never passed beyond the initial steps of stone tool production due either to flaws in the raw material or manufacturing errors.
- Ecotone** - The transition zone between ecological communities; for example, the border between grassland and forest.
- Edaphic factors** - Environmental factors due to the physical, chemical, and biological characteristics of the soil.
- Estuary** - A semi-enclosed body of water where fresh and salt water mix due to the action of currents and tides.
- Estuarine** - Of, or pertaining to an estuary.
- Extant** - Still in existence.
- Fallow Field** - A plowed but unplanted field.
- Feature** - Any soil disturbance or discoloration that reflects human activity or an artifact that is too large remove from an archaeological site; for example, a house, storage pits, or fire place. A feature may also be a very dense cluster of artifacts; for example, a lithic chipping feature.
- Fire-cracked Rock** - A rock that has fractured and/or discolored due to exposure to heat.
- Flake** - A piece of waste material produced during the manufacture of stone tools.
- Flake tool** - A flake that has been modified for use as a tool by the removal of very small flakes along one or more edge.
- Fluvial** - Produced by the action of flowing water.

## GLOSSARY (continued)

- Formation** - A distinctive unit of rock or sediment, often named by the geologist that first describes it, e.g., the Columbia Formation.
- Gallery forest** - A forest made up of large mature trees, with little underbrush and scrub vegetation.
- Hammerstone** - A rounded stone to be used as a hammer. Sometimes grooved for hafting to a handle. Usually ungrooved, however, it has a variety of forms ranging from a crudely shaped sphere to a finely ground ovoid with a battered end.
- Historical** - The time period after the appearance of written records. In the New World, historical generally refers to the time after the beginning of European settlement at approximately A.D. 1600.
- Historical archaeology** - The study of material culture in an historical perspective.
- Holocene** - The latest epoch of the Quaternary geological period, that began 10,000 B.P. The Holocene epoch is preceded by the Pleistocene epoch and includes the present.
- Hundred** - A subdivision of some English and American counties.
- Hydrophytic** - A plant that grows in, and is adapted to, an aquatic or very wet environment.
- I-house** - A form of dwelling that is two rooms wide and one room deep, and two to two and one-half stories high.
- In situ** - In the original place of deposition.
- Jasper** - Impure, slightly translucent cryptocrystalline quartz. Often red, brown, or green in color.
- Late stage biface reject** - A biface which was either broken during the later stages of manufacture, or which had been reduced improperly, so that further reduction would not produce a usable tool.
- Lithic** - Pertaining to, or consisting of stone.
- Loam** - A loose soil composed of roughly equal parts of silt, clay, and sand, often containing organic matter, as well. Usually very fertile and conducive to plant growth.
- Locus** - A defined archaeological site or testing location.

## GLOSSARY (continued)

- Macro-band base camp** - For a hunter-gatherer society, an archaeological site one hectare or larger in area characterized by a wide variety of tool types, abundant ceramics, semi-subterranean house structures, storage pit features, and abundant debitage from tool manufacture and reduction.
- Material culture** - That segment of the human physical environment that is purposely shaped according to cultural dictates.
- Mean occupation date** - A date obtained from the study of historic ceramics recovered from a site that approximates the median occupation date of the site.
- Megafauna** - Large extinct mammals, including mammoths and mastodons, that lived during the last ice age.
- Mesic forest** - A forest of trees adapted to relatively, wet conditions and a mild climate.
- Mesophytic** - Plants adapted to mesic (mild) conditions of climate and moisture.
- Micro-band** - A component of macro-band, perhaps one or two extended families, that periodically operates independently of the macro-band group.
- Mitigate** - To take care of (through data recovery investigations), or lessen the impacts of construction on cultural resources.
- Mitigation** - In archaeology, refers to minimizing the destruction or disturbance of an archaeological site by a construction project, erosion, farming practices or the like, through excavation of the site and recovery of the information about past life that it contains.
- Orphans Court records** - The County Court responsible for the welfare of orphans when a father died without a will. The Orphans Court watched over the estate until the children came of age. A guardian for the estate was appointed by the Court. When the youngest heir came of age, then the property could be divided among the heirs. The court records are filled with information on income, property, education, repairs of houses and outbuildings, contracts, and other useful material about eighteenth and nineteenth century life.
- Outbuilding** - A building other than the principal building on a property; for example, on an eighteenth or nineteenth century Delaware farm: smokehouses, dairies, stables, and corn-cribs were typical outbuildings.

## GLOSSARY (continued)

- Paleoenvironment** - An environment of the past (which may have no modern analog).
- Pedestrian survey** - The walking and collecting of an archaeological site without the excavation of subsurface units.
- Phase I** - Archaeological research to determine the presence or absence of sites.
- Phase II** - Further archaeological investigation of a site to define its limits and condition, and to determine the site's eligibility for the National Register of Historic Places.
- Phase III** - See **Data recovery investigations** and **Mitigation**.
- Physiographic zone** - Regions or areas that are characterized by a particular geography, geology, and topography.
- Pleistocene** - One of two divisions of the Quaternary geological period, which began 1.6 million years ago. The Pleistocene is characterized by the "Ice Ages" in which large ice sheets covered high latitudes of the earth. Followed by the Holocene epoch.
- Plow zone** - In a plowed field, the upper layer of organic soil which is continually reworked by plowing. In the Middle Atlantic region, plow zones are about 8-12 inches thick.
- Prehistoric** - The time before the appearance of written records. In the New World prehistoric generally refers to indigenous, non-European societies.
- Procurement site** - A place that is visited because there is a particular item to acquire in the vicinity; i.e., lithic outcrops.
- Projectile point** - Strictly speaking, a biface attached to the head of an airborne item of weaponry, like an arrow or a thrown dart. In general usage, refers to any biface.
- Rejects** - Stone tools which have been thrown away due to manufacturing or material flaws.
- Riverine** - Of, or pertaining to a river.
- Scraper** - A form of unifacial stone tool with a steep convex edge used for scraping the flesh from hides, and other such activities.
- Sediment** - Particles of rock and mineral material laid down through the action of wind and water.

## GLOSSARY (continued)

- Shatter** - Small random pieces of stone produced during stone tool making.
- Sherd** - A piece of broken pottery.
- Shovel test pit** - A test hole, about two shovel blades in diameter, excavated to investigate the nature of subsurface deposits, and establish the presence or absence of buried cultural material or artifacts. Shovel test pits are often excavated where ground visibility is low.
- Site** - A place with evidence of human occupation.
- Stemmed point** - A projectile point that has an obvious hafting element for attachment to a shaft.
- Subsoil** - Sterile, naturally occurring soils, or sediments, not changed by human occupation.
- Surface collection** - Collecting artifacts seen on the surface of the ground, such as in an open or plowed field.
- Susquehannock Indians** - Iroquoian people living along the lower reaches of the Susquehanna River during the Woodland II and Contact periods.
- Tool kit** - A collection of artifacts interpreted as being designed for a specific task.
- Topography** - The surface physical features and configuration of land.
- Utilized flake** - A waste flake from stone tool manufacture used, without modification, as a tool for cutting or scraping. Utilization often damages the sharp edges of a flake.
- Wetland** - Marshes, swamps, bogs, or other wet ecosystems characterized by plants adapted to growth in saturated soils or standing water.
- Xeric forest** - A forest characterized by plants adapted to dry conditions, such as grasslands and forests of oak and hickory.