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## Archaeological Survey Report Form

(For use when NO archaeological sites were identified; see *Guidelines and Instructions*.)

- 1. Report title:** Phase I Archaeological Identification Survey for the St. Anne's Church Road Realignment Culvert Construction Project; Appoquinimink Hundred, New Castle County, Delaware
- 2. Date:** 10/13/2008
- 3. Author(s):** Robert H. Eiswert
- 4. Consulting firm name and address:** McCormick Taylor, Inc. 200 Continental Drive Newark, DE 19713
- 5. Client agency:** Delaware Department of Transportation

### LOCATION

- 6. County (check as many as apply):**  New Castle  Kent  Sussex
- 7. Nearest town(s):** Middletown, DE
- 8. Physiographic and geographic zone(s):** High Coastal Plain Section of the Atlantic Coastal Plain Physiographic Province

### PROJECT DESCRIPTION

- 9. Dates of fieldwork:** July 9-21, 2008
- 10. Size of area covered: unit used:**  acres  hectares  
**project area:** 13.63 **surveyed area:** 2.35
- 11. Project description (describe location and nature of project):** The St. Anne's Church Road Realignment Culvert Construction Project involves the construction of a new culvert that will carry the headwaters of Deep Creek beneath the proposed new alignment of St. Anne's

Church Road. The new culvert will be constructed approximately 130 feet east of existing Levels Road (S.R. 15) and approximately 5000 feet to the south of the intersection of S.R. 15 and S.R. 301. Although no federal funding is involved in the St. Anne's Church Road Realignment project, the procurement of an Army Corps of Engineers permit at the culvert replacement location has necessitated the archaeological studies at this location, therefore the archaeological APE includes the areas of ground disturbance associated with the culvert replacement project. Disturbances associated with the temporary realignment of the stream channel, a construction stockpile area, and a staging area were included within the archaeological APE. The archaeological APE reaches a maximum of approximately 475 feet in length (southeast to northwest) and approximately 400 feet in width (northeast to southwest). The entire APE is located on an upland landform that serves as an agricultural field. The headwaters of Deep Creek flows through the APE. Soils within the APE include Othello silt loam (Ot) and Sassafras sandy loam 2-5% slopes, moderately eroded (SaB2).

## RESEARCH DESIGN

12. **Survey objectives:** The objective of the survey was to identify all archaeological sites that may exist within the APE.
13. **Survey methods (describe both field and background research methods):** Prior to the archaeological fieldwork, background research was undertaken to assess the potential for findings sites. This involved the review of site data obtained at the Delaware SHPO, historic maps obtained at the Delaware Public Archives, aerial photographs provided by DeIDOT, and published works and CRM reports relevant to archaeological site locations. Based on the results of this research, prehistoric archaeological potential was considered high, therefore the APE was investigated through the excavation of STPs at a 15 meter interval. (Ground surface visibility was low due to the presence of corn.) Areas exhibiting modern disturbances were not subjected to subsurface archaeological investigations. All of these tests were hand excavated by natural stratigraphy. The STPs measured 0.57 meter in diameter. All of the excavated soils were screened through ¼ inch hardware cloth. All subsurface excavations extended to at least 0.10 meters (0.3 feet) into the sterile subsoil.
14. **Expected site types for this area (cite earlier surveys & known nearby resources, information from historic maps or research):** Based on the results of the background research, no previously recorded archaeological sites were found to exist in Culvert Construction APE. The nearest recorded archaeological sites in the vicinity of the APE are 7NC-F-32 and 7NC-F-33. These sites are located between 1.7 and 2.7 kilometers (1.7 and 2.7 miles) east of the APE on lower slope settings within 100 meters (328 Feet) of Deep Creek, a third-order tributary of the Appoquinimink River. Although both sites produced Native American artifacts, temporally diagnostic artifacts were not recovered. In order to assess the likelihood that a Native American site would be located within the APE, data on 21 archaeological sites mapped in the Appoquinimink drainage on the Middletown U.S.G.S. quadrangle was examined. This sample includes 17 Native American sites which were all identified through surface collection. The temporal affiliation of most of these sites is unknown (N=11). For the remaining six sites, Woodland I occupations are known for two, unspecified Woodland period

occupations are known for three, and Archaic occupations are known for one. In terms of site setting with respect to permanent streams, 10 of the 17 sites are located within 100 to 300 meters (328 to 984 feet) of first-order Appoquinimink River tributaries. Landscape settings for these 10 sites include lower and middle slopes (N=6) and interfluvial flats overlooking these tributary streams. The APE for the Culvert replacement includes lower slopes within 100 meters (328 feet) of Deep Creek. Regional models of site location suggest that landforms such as this were favored Native American settlement areas if they were well drained. In terms of previous predictive models for Native American site locations, the APE is mapped in an area of high site probability in Custer et al. (1984). Based on LANDSAT imaging, this predictive model assigned higher probability values to areas of well drained soils adjacent to 1) poorly drained soils (i.e. wetlands, bay/basin features), and 2) permanent water sources. A more recent GIS-based predictive model (Baublitz et al. 2006) utilized many of the same criteria. Highest probability weighting was assigned to areas with 150 meters (492 feet) of a permanent stream, areas within 100 meters (328 feet) of a springhead, areas within 100 meters (328 feet) of a confluence, and areas within 100 meters (328 feet) of a wetland. Although the current APE would not receive the highest probability ratings within Baublitz et al's model, it should be noted that this model has not been thoroughly evaluated through field testing. The background research regarding the potential for locating historic archaeological resources focused on the history and development of the project area. Review of the 1849 Ray and Price map of Appoquinimink Hundred, the 1868 Beers maps of Appoquinimink Hundred, and the 1931 Smyrna, Delaware USGS Quadrangle indicate that no historic buildings lie within APE. Other than a field scatter of historic artifacts, the the potential for locating historical archaeological resources was considered to be low.

## RESULTS and RECOMMENDATIONS

15. **Fieldwork (describe survey; add maps as needed):** A total of 36 STPs were excavated within the APE during the survey. Shovel tests 1-21 exhibited a typical upland profile consisting of a yellowish brown (10YR 5/4) silt loam Ap horizon overtop the brownish yellow (10YR 6/6) silty sand subsoil. As excavations proceeded to the north and with increased proximity to the Deep Creek, some variability associated with hydric soils was noted in the STP profiles. Shovel test 22, for example, contained the initial Ap horizon which was underlain by a dark yellowish brown (10YR 4/6) sandy loam and a wet, dark grayish brown (10YR 4/2) sandy loam, which in turn, rested on a thick package of poorly drained gleyed sand. Shovel tests 27, 31, 33, and 34 exhibited an initial dark grayish brown (10YR 4/2) silty sand Ap that overlaid a wet, gleyed and mottled yellowish brown (10YR 5/6) and brown (10YR 4/3) silty sand subsoil.
16. **Artifacts (describe any found; identify location; explain why determined not to be a site):** Just three artifacts were recovered from the STPs. These included one piece of modern bottle glass from STP 31, one coal fragment from STP 33, and one piece of aluminum from STP 34. These finds were not considered to constitute an archaeological site and were discarded in the field.

**17. Recommendations:** No archaeological sites were identified within the St. Anne's Church Road Realignment Culvert Construction project APE, therefore no additional archaeological investigations are recommended for the project.

<b>ATTACHMENTS</b>
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**18. Attachments checklist:**

- a.  **bibliography**
- b.  **location map (USGS or equivalent)**
- c.  **detailed map(s) (project plans and/or field survey map)**
- d.  **historic map(s) (list)** 1849 Rhea & Price; 1868 Pomeroy and Beers; 1931 Smyrna, DE  
USGS Quadrangle
- e.  **photographs of general project/surveyed area**
- f.  **table of collection units and/or excavated tests**
- g.  **soils map(s)**

**Others (list, if any):**

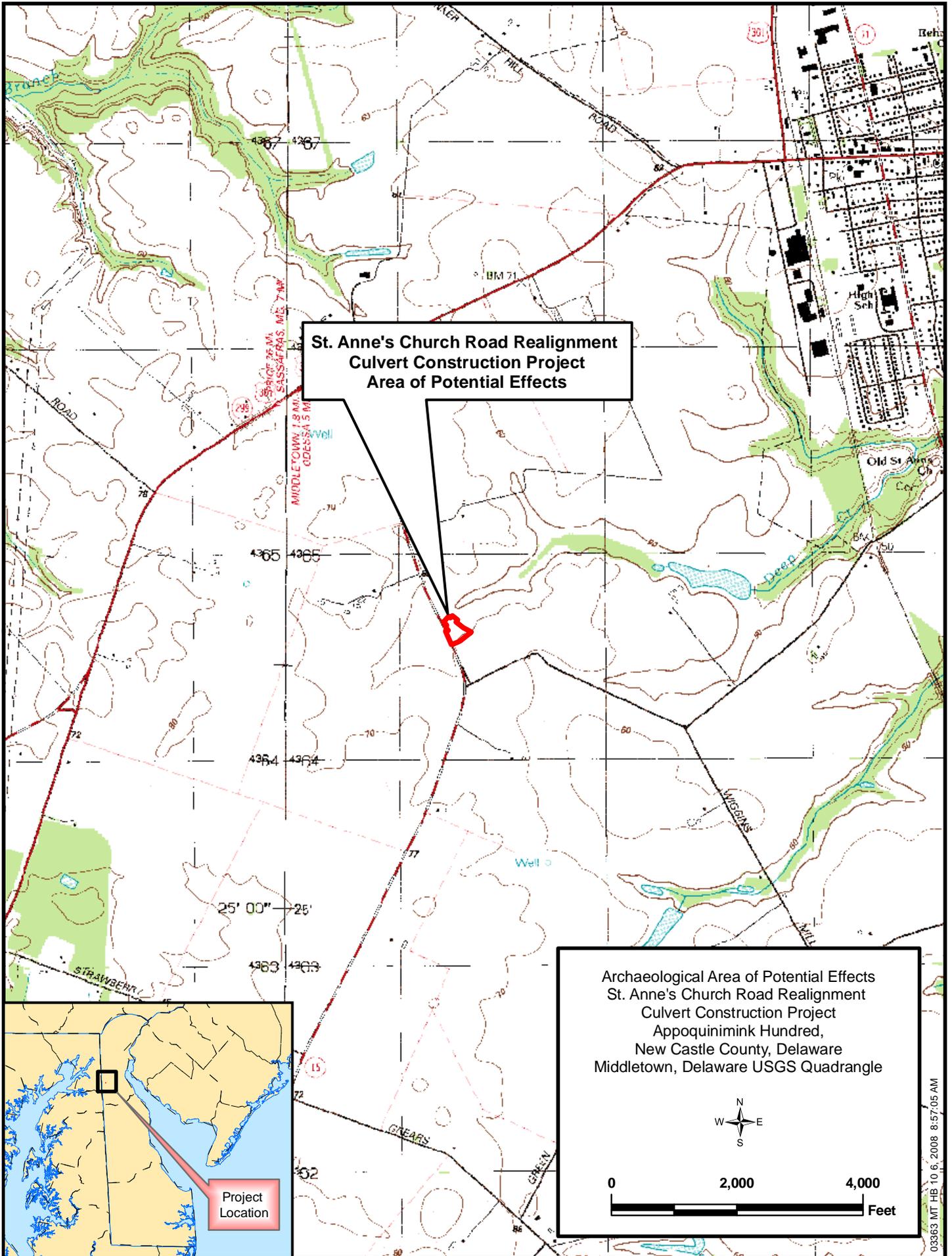
# **Attachment A**

## **Bibliography**

## V. References

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- Scharf, J. Thomas  
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**Attachment B**  
**Location Map**



**St. Anne's Church Road Realignment  
Culvert Construction Project  
Area of Potential Effects**

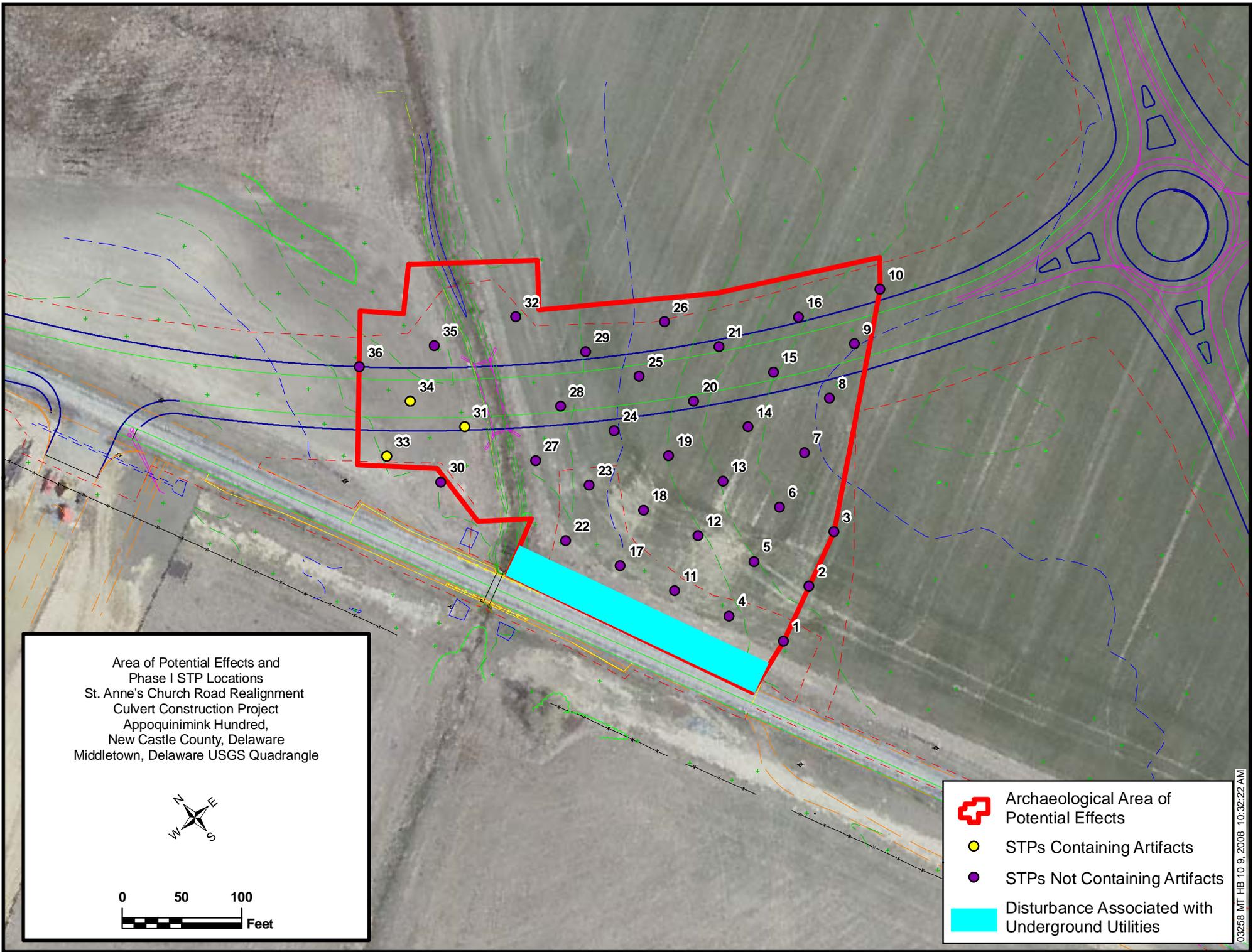
Archaeological Area of Potential Effects  
 St. Anne's Church Road Realignment  
 Culvert Construction Project  
 Appoquinimink Hundred,  
 New Castle County, Delaware  
 Middletown, Delaware USGS Quadrangle

0 2,000 4,000 Feet

N  
W E  
S



**Attachment C**  
**Detailed Survey Map**



Area of Potential Effects and  
 Phase I STP Locations  
 St. Anne's Church Road Realignment  
 Culvert Construction Project  
 Appoquinimink Hundred,  
 New Castle County, Delaware  
 Middletown, Delaware USGS Quadrangle

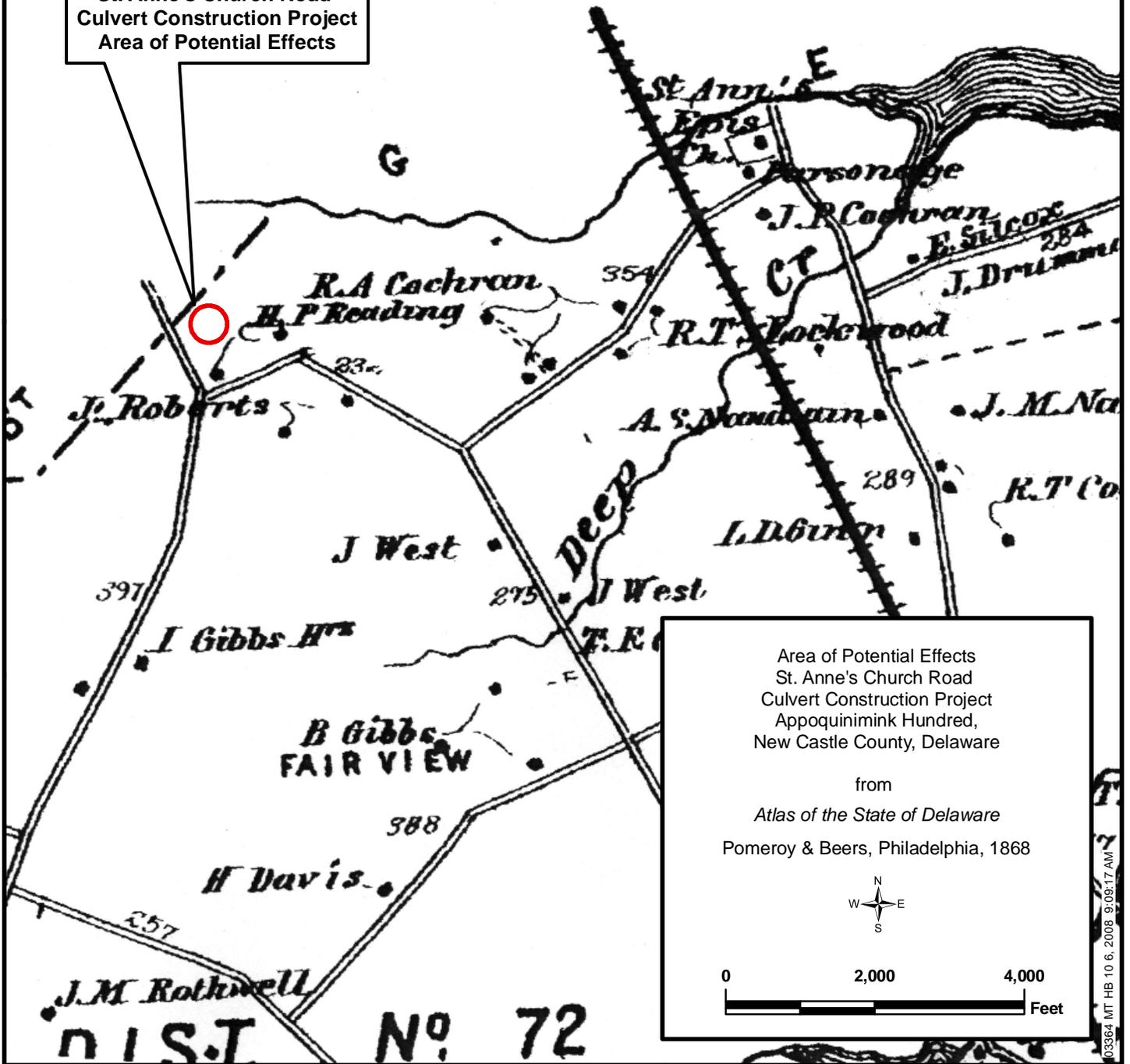


-  Archaeological Area of Potential Effects
-  STPs Containing Artifacts
-  STPs Not Containing Artifacts
-  Disturbance Associated with Underground Utilities

**Attachment D**  
**Historic Maps**

# POQUININK

General Location of  
St. Anne's Church Road  
Culvert Construction Project  
Area of Potential Effects



Area of Potential Effects  
St. Anne's Church Road  
Culvert Construction Project  
Appoquinimink Hundred,  
New Castle County, Delaware

from  
*Atlas of the State of Delaware*  
Pomeroy & Beers, Philadelphia, 1868



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**Attachment E**  
**Photographs of the Project Area**



Photograph 1: View of southern portion of Levels Road Culvert APE, facing east.



Photograph 2: View of northern portion of Levels Road Culvert APE, facing east.

# **Attachment F**

## **Table Summarizing Testing Results**

## Attachment F: Table of Collection Units and Excavated Tests

**Project:** Phase I Archaeological Identification Survey for the St. Anne's Church Road Realignment Culvert Construction Project; Appoquinimink Hundred, New Castle County, Delaware

Survey Unit/Test Type*	Testing Interval	Representative Unit/Test	Representing Units/Tests	Data
STP	15 meter	STP 1	STPs 1-21	10YR5/4 silt loam Ap; depth 0-0.30 meter bgs. 10YR6/6 silty sand C; depth 0.30-0.40 meter bgs
STP	15 meter	STP 22	STPs 22-26, 28-30, 32, 35, 36	10YR5/4 silt loam Ap; depth 0-0.13 meter bgs 10YR4/6 sandy loam B; depth 0.13-0.30 meter bgs 10YR4/2 sandy loam B; depth 0.30-0.53 meter bgs Poorly drained gley sand; depth 0.53-1.0 meter bgs
STP	15 meter	STP 27	STPs 27, 31, 33, 34	10YR4/2 silty sand Ap; depth 0-0.27 meter bgs 10YR5/6 mottled with 10YR4/3 gley silty sand C; depth 0.27-0.41 meter bgs

\*Controlled Surface Collection (CSC), Shovel Test Pit (STP), Test Unit (TU), Mechanical Strip (MS), Backhoe Trench (BT), Below Ground Surface (bgs)

**Attachment G**  
**Soils Map**

