MANAGMENT CONSIDERATIONS AND RECOMMENDATIONS

The previous sections of this report have focused on compiling and listing the known and potential cultural resources for the project corridor, and has provided a prehistoric and historic cultural context in which to study them. In this section of the report three issues will be addressed: 1)

consideration of the known and potential significance of the cultural resources; 2) notation of areas of the project corridor that are most "sensitive" in terms of cultural resources; and 3) recommendations about future stages of the cultural resources management process. Specifically, areas of the project corridor that will require intensive archaeological research efforts to mitigate the effects of the proposed highway development will be noted, and potential research methods and mitigation costs will be discussed.

Considerations of site significance is critical for a management study such as this one because the level of site significance in large measure determines the kinds of further archaeological investigations which may be required by Federal law. In particular, the eligibility of a site for listing on the National Register of Historic Places, which is based on significance, needs to be addressed because the eligibility of the site for National Register inclusion ultimately determines the needs for further work. Discussions of site significance, and the potential eligibility for the National Register, are provided below for prehistoric and historic archaeological sites.

PREHISTORIC SITE SIGNIFICANCE

The management section of the Delaware State Plan for the Management of Prehistoric Archaeological Resources (Custer 1983b:Chapter 8), similar plans for the upper and lower Eastern Shore of Maryland, and regional management plans (Custer 1983c, 1987, 1989; Davidson 1982), provide the bases for assessing prehistoric site significance. The Delaware plan

divides the state into various zones which have varying sensitivities for containing significant archaeological sites. Figure 41 shows the location of these zones in relation to the project area. It can be seen that some portions of the project area fall into the highest sensitivity zone while other portions have a lower sensitivity. Although this reveals something of the potential significance of project area sites, a more detailed consideration which addresses individual site type significance is needed.

One way to consider the potential significance of sites within the study area is to use the series of management zones noted in the state plan. Figure 42 shows the management zones and their relation to the study area, while Table 16 identifies the management zones, and Table 17 shows their relation to the sensitivity zones. Three management units, Mid-Peninsular Drainage Divide, Mid-Drainage, and Coastal, are included in the study area. Tables 18-20 list the various site types from different time periods and note their potential significance, the general probability of their occurrence, and the quality of the data relating to them. These listings generally indicate which types of sites are most likely to be significant within the study area.

More specific significance data can be developed for specific sections of the project area by comparing the sites listed in Tables 18-20 with the probability zones mapped in Attachment VI, and their descriptions listed in Appendix I. The descriptions of typical locations and lists of site types included by time periods provide the best match of significant

TABLE 16

DELAWARE MANAGEMENT UNITS

1 - Northern Delaware Management Unit
- 1a - Piedmont Uplands (Archaic - Woodland II)
- 1b - Fall Line (Woodland I and II)
- 1c - Delaware Chalcedony Complex (Paleo-Indian)

2 - Interior Swamp Management Unit
- 2a - Churchmans Marsh - Includes New Castle Contact Study Unit
- 2b - Upper Pocomoke

3 - Interior Management Unit
- 3a - Northern Sub-Unit
- 3b - Southern Sub-Unit

4 - Mid-Peninsular Drainage Divide Management Unit - Includes Mid-Peninsular Drainage Divide
Non-Quarry Paleo-Indian Site Complexes

5 - Mid-Drainage Management Unit
- 5a - Delaware Drainage
- 5b - Nanticoke Drainage

6 - Coastal Management Unit
- 6a - Northern Bay
- 6b - Southern Bay
- 6c - Atlantic Coast

site types and probability zones. In order to determine the types of significant site types that might be contained within any probability zone, the numbered zone from the map in Attachment VI can be compared to the listed description in Appendix I. Then, the site types listed in Appendix I can be compared to the significant site types listed in Tables 18-20.

A quick check of the major probability zones noted in Attachment VI and Appendix I shows that usually the largest high probability zones contain significant micro-band base camps and macro-band base camps. In most cases, the high probability zones along the major drainages contain significant sites that are from the Archaic and later periods. Areas with potential Paleo-Indian

TABLE 17

MANAGEMENT PRIORITIES

Category I (more than 50% in Zone I)

Fall Line sub-unit of Northern Delaware Management Unit
Churchmans Marsh sub-unit of Interior Swamp Management Unit
Atlantic Coast sub-unit of Coastal Management Unit
South Bay sub-unit of Coastal Management Unit

Category II (more than 50% in Zones I and II)

Piedmont Uplands sub-unit of Northern Delaware Management Unit
Upper Pokomoke sub-unit of Interior Swamp Management Unit
Mid-Peninsular Drainage Divide Management Unit
Nanticoke sub-unit of Mid-Drainage Management Unit

Category III (more than 50% in Zone III)

Delaware Chalcedony Complex sub-unit of Northern Delaware Management Unit
Delaware sub-unit of Mid-Drainage Management Unit
Northern Bay sub-unit of Coastal Management Unit

Category IV (more than 50% in Zone IV)

Interior Management Unitsites, which would automatically be significant given their scarcity, as well as later sites are generally restricted to high probability zones that are associated with interior sand ridges.

Medium probability zones along lower order interior drainages most likely will contain micro-band base camps post-dating the Archaic Period. If these sites have not been plowed, or otherwise destroyed, they are likely to be significant. Smaller procurement sites are also likely to be found in these isolated medium probability zones; however, their significance is not likely to be as great. At least, fewer are likely to be undisturbed and significant. Even if they are significant, the costs of their mitigation and excavation is much lower than the

TABLE 18

SITE PROBABILITIES AND DATA QUALITY - MID-PENINSULAR DRAINAGE DIVIDE MANAGEMENT UNIT

Site Types	Site Probabilities	Data Quality
Paleo-Indian		
quarry	L	F
quarry reduction	L	F
quarry related base camp	L	F
*base camp	M-H	F
*base camp maintenance station	M-H	F
*hunting sites	H	F
DATA QUALITY	F	
Archaic		
macro-band base camp	L	P
*micro-band base camp	L-M	P
*procurement site	M	P
DATA QUALITY	P	
Woodland I		
macro-band base camp	L	P
micro-band base camp	L-M	P
*procurement site	M	P
DATA QUALITY	P	
Woodland II		
macro-band base camp	L	P
micro-band base camp	L-M	P
procurement site	M	P
DATA QUALITY	P	
Contact		
general Contact sites	L	P
DATA QUALITY	P	

*Sites likely to yield significant data

KEY:

Site Probabilities	**Data Quality**
L - low	P - poor
L-M - low to medium	P-F - poor to fair
M - medium	F - fair
M-H - medium to high	F-G - fair to good
H - high	G - good

TABLE 19

SITE PROBABILITIES AND DATA QUALITY - MID-DRAINAGE MANAGEMENT UNIT

Site Types	Site Probabilities by Sub-Units Delaware	Data Quality
Paleo-Indian		
quarry	L	P
quarry reduction	L	P
quarry related base camp	L	P
base camp	L	P
base camp maintenance station	L	P
hunting sites	L-M	P
DATA QUALITY	P	
Archaic		
macro-band base camp	M	P
micro-band base camp	M	P
procurement site	M	P
DATA QUALITY	P	
Woodland I		
*macro-band base camp	H	F-G
*micro-band base camp	H	F-G
*procurement site	H	F-G
*major mortuary/exchange sites	H	P-G
*minor mortuary/exchange sites	H	P-F
DATA QUALITY	F-G	
Woodland II		
*macro-band base camp	M	P
*micro-band base camp	M	P
*procurement site	H	F-P
DATA QUALITY	P-F	
Contact		
general Contact sites	L	P
DATA QUALITY	P	

*Sites likely to yield significant data

KEY:

Site Probabilities	**Data Quality**
L - low	P - poor
L-M - low to medium	P-F - poor to fair
M - medium	F - fair
M-H - medium to high	F-G - fair to good
H - high	G - good

TABLE 20

SITE PROBABILITIES AND DATA QUALITY
-COASTAL MANAGEMENT UNIT

Site Types	Site Probabilities By Sub-Units		Data Quality
	North Bay	South Bay	
Paleo-Indian			
quarry	L	L	P
quarry reduction	L	L	P
quarry related base camp	L	L	P
base camp	L	L	P
base camp maintenance station	L	L	P
hunting sites	M	M	P
DATA QUALITY	P	P	
Archaic			
macro-band base camp	L	L	P
micro-band base camp	L	L	P
procurement site	M	M	P
DATA QUALITY	P	P	
Woodland I			
*macro-band base camp	L	L	
*micro-band base camp	M-H	M-H	F-G
*procurement site	H	H	F-G
*mortuary site	L	H	P
DATA QUALITY	P	F-G	
Woodland II			
*macro-band base camp	M	H	F-G
*micro-band base camp	M	H	F-G
procurement site	H	H	F-G
DATA QUALITY	P	F-G	
Contact			
*general Contact site	L	L	P-F
DATA QUALITY	P	P	

*Sites likely to yield significant data.

Key:

Site Probabilities

L - low
L-M - low to medium
M - medium
M-H - medium to high
H - high

Data Quality

P - poor
P-F - poor to fair
F - fair
F-G - fair to good
G - good

larger base camp sites. It should be noted that macro-band base camps may be present in these medium probability areas; however, they will be uncommon.

In the low probability zones, the frequency of any kind of base camps is expected to be quite low. Frequencies of procurement sites will be high, but in general, the low probability zones are the least sensitive with respect to prehistoric cultural resources. Nonetheless, it is possible that a few significant sites will be found in the low probability zones.

In sum, the probability zones can be used as a rough guide to potential site significance and sensitivity. The high probability zones have the greatest sensitivity and the greatest potential for significant sites. Medium probability zones have less potential and a lesser sensitivity and low probability zones have the lowest potential and are the least sensitive.

HISTORIC SITE SIGNIFICANCE

In Appendices II and III the archaeological potential and the archaeological significance of all of the historic resources indentified within the project corridor are assessed on a site specific basis. The significance of the historic standing structures inventoried in Appendix II is not addressed in this report; rather, the potential of archaeological remains associated with the structure is assessed. The archaeological potential in this context refers to the potential of a site to contain undisturbed, archaeologically meaningful cultural remains. The issue of site integrity is incorporated in this

definition. The archaeological potential of a site was evaluated on the basis of information obtained from the BAHP standing structure inventory files, background historic research for the project corridor, and through examination of current editions of USGS 7.5' quadrangle maps. In Appendices II, III and IV the potential of a site is categorized as: 1) (**Y**), yes, exhibits archaeological potential; 2) (**N**), no, exhibits no archaeological potential due to severe disturbance or destruction of the site; and 3) (**U**), unknown, there is at present no basis for making an evaluation of the archaeological potential of the site.

The evaluation of the archaeological significance of a project site is tentative and the evaluations are presented only as management tools. The preliminary character of the data base necessitates a qualifying statement. On the basis of preliminary data compiled for this report, the significance of the potential archaeological remains is evaluated. Four levels of significance are used in the evaluation process: (**H**), high, (**M**), medium, (**L**), low, and (**U**), unknown. The criteria applied in the evaluation integrated temporal, functional, and social-historical data. Table 21 presents the criteria applied to the data base to determine the potential archaeological significance of historic resources (after Wall 1981:146-147; see Schiffer and Gumerman 1977:229; see Custer et al. 1984 for use of these criteria in planning process). The criteria are not presented in any rank order, nor are they intended to be all-inclusive. The evaluation of the historic resources according to the criteria was based on presently available archaeological data. As additional information is obtained more refined determinations of the

TABLE 21

CRITERIA FOR EVALUATING THE ARCHAEOLOGICAL SIGNIFICANCE OF POTENTIAL HISTORIC RESOURCES

1. Age: Sites providing information on early settlement, technology commerce, industry, or lifeways are more significant.

2. Regional Interest: Sites which have impact on regional or local research problems are more significant.

3. National Interest: Sites which have impact on national or universal research problems are more significant.

4. Preservation: Sites containing well-preserved structural, faunal, floral, or skeletal remains are more significant.

5. Multi-function: Sites exhibiting a range of well-defined activity/functional loci are more significant.

6. Uniqueness: Sites containing rare or unique features (technological innovations, slave-related components) are more significant.

7. Previous Knowledge: Site types about which little is known are more significant and those which provide information on poorly understood social-historical contexts are more significant.

8. Public Significance: Sites which may easily be used in public education programs due to site contents and accessibility for public viewing are more significant.

9. Size and Density: Larger sites and those containing dense deposits of material culture are more significant.

10. Famous Events or Persons: Sites associated with a person or event of local, regional, or national interest are more significant.

11. Duration of Occupation: Sites exhibiting discrete temporal loci whether in the context of long-term or short-term occupations are more significant.

significance of historic resources within the project corridor will be possible. Each historic resource assessed is expected to provide additional information on criteria listed in the

Significance column in Appendices II and III. All historic sites within the project corridor have been mapped according to their significance level on 7.5' USGS quadrangle maps (see Attachment V).

MANAGEMENT UNITS

The final step in developing a series of management guidelines for the proposed project area was to combine the spatial data on site significance and develop a series of management units that could be mapped for the entire project area. The term "management units" comes from a Federal guide to cultural resource management planning (Heritage Conservation Recreation Service 1980), and refers simply to spatial areas that exhibit similar distributions of cultural resources of similar types and significance. Management units are usually developed by overlaying maps of known and potential resources of various types, and potential significance. Areas with similar distributions of significant resources are then noted as individual study units. A similar method was utilized in the development of prehistoric management units in the Delaware State Plan for the Management of Prehistoric Archaeological Resources (Custer 1983b).

To generate management units for the Sussex East-West Corridor, the site significance and prediction data presented in Attachments V and VI and in Figures 34 and 37 through 40 were combined to develop management units. For the purpose of this study, management units were chronologically divided into a prehistoric period, a pre-1830 historic period (combining

TABLE 22

MANAGEMENT ZONES

Zone	Prehistoric	Pre-1830	Post-1830
I	H, M, or L	H, M	M, L
II	L	H, M	H
III	M	H, M	L
IV	L	M, L	H
V	M	L	H
VI	L	L	L

KEY:
H = high
M = medium
L = low

KEY TO ZONES:
I = Major Drainages
II = Early Road Network
III = Lower Order Drainages
IV = Secondary Roads
V = Interior Regions, well-utilized
VI = Interior Regions, less-utilized

significance, locational, and predictive data from the first three historic periods), and a post-1830 historic period (combining significance, predictive, and locational data from the last two historic periods). Analysis of overlapping zones showed that there were six basic types of management units, each with a different combination of site types with varied significances. These management units are listed in Table 22. Figure 43 shows an overview of these management units in the project corridor, and Attachment VII shows the distribution of the management zones on each U.S.G.S. 7.5' map for the corridor. The zones used for this study are based on those used by Custer et al. (1984:129) for the Route 13 Corridor, and are defined as follows: Zone 1 are areas related to major drainages, Zone II are areas containing the early road network, Zone III contains areas adjacent to secondary water courses, Zone IV contains areas related to secondary road networks, Zone V contains areas

of fairly well-utilized (i.e., agricultural) interior regions, and Zone VI contains areas of less utilized (i.e., lumbering) interior lands.

The management units noted above can also be viewed as sensitivity zones for cultural resources because, as has been noted previously in this section, the predictive zones mapped in Attachments V and VI are directly related to potential presence of significant sites. Also, the definitions of the management zones noted in Table 22 were developed based specifically on site significance. In general, the Management Units listed in Table 22 are ranked in terms of significance with Unit I having the highest potential for the most significant sites and Unit VI having the lowest.

An examination of Figure 43 and of the maps in Attachment VII shows that most of the higher sensitivity zones are found adjacent to drainages and early road networks (Units I and II). Units with a more moderate significance (Units III-IV) are mainly located near secondary roads and lower order watercourses and the units with the lowest sensitivity (Units V and VI) are located in interior regions.