

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The cultural resources documentation study undertaken for the Indian River Bridge project consisted of a compilation of data on known cultural resources within a five-mile radius of Indian River Inlet, a pedestrian reconnaissance of proposed approaches to the bridge, an assessment of the potential effects on submerged archeological resources at the proposed offshore disposal area, the monitoring of geotechnical borings at the proposed new bridge location, an analysis of the potential visual effects of the proposed bridge on selected locations, and Phase I archeological investigations at the proposed Fresh Pond Wetland Mitigation area.

The research design governing the archeological and architectural survey and data collection was sufficient to meet the needs of the project's scope. Given the highly dynamic coastal environment where the study area is situated, pedestrian survey and visual inspection of the surface adequately served the needs of the project, although in the future environments of this nature could benefit from the application of remote sensing techniques. At the Fresh Pond Mitigation Area, archeological methods were adequate to address the presence and/or absence of archeological materials within the footprints of the proposed haul road, borrow pit area, and Option Areas. The project's scope and level of investigation were intended to provide baseline information for planning purposes. As such, the results of the project do not readily lend themselves to the development of new contexts.

There are three National Register-listed properties located within the study area, the Indian River Life Saving Service Station (S-453), the Slough's Gut or Wilgus Site (S-686/7S-K-21), and the Poplar Thicket Site (S-649/7S-G-22). An eligible National Register property, the Bethany Beach Training Site (S-9142) is also located within the study area. A fourth property, the Fire Station Control Tower #2 (S-6049.2), was identified previously as a contributing component of a forthcoming National Register nomination on World War II coastal defense fortifications in Sussex County. A fifth property, the Indian River Inlet, North Jetty, was identified by the U.S. Army Corps of Engineers in 1998. The structure was considered "potentially eligible" for National Register listing, although no evaluation was conducted. Should the present undertaking have the potential to adversely affect this structure, an evaluation would be appropriate. JMA also identified three residential properties that appeared to meet the 50-year age consideration of the National Register. None of these properties appeared to be National Register-eligible. However, should it later be determined that the project will affect these specific properties a formal evaluation of their eligibility should be conducted.

GIS data collection resulted in the compilation of information from the SHPO site files for 326 cultural properties within a five-mile radius of the Indian River Inlet Bridge. The data inventory for these properties is included on CD (Appendix III). No further efforts were requested by the SHPO or DeIDOT for this inventory. However, should it later be determined that the project will affect these specific properties a formal evaluation of their eligibility should be conducted.

A pedestrian reconnaissance of the proposed approach alternatives was undertaken in order to determine the presence and/or absence of cultural materials that may be affected by construction activities. Due to the dynamic nature of coastal environments, the pedestrian survey concentrated on

exposed sand dunes, interdune swales, and wind blown sand planes. These areas were the focus of the survey because they are locations where artifacts, if present, could be exposed due to the removal of sediment cover by wind activity and resulting diminished abundance or ground cover. The results of the pedestrian reconnaissance indicate that no archeological evidence is visible on the ground surface within the area surveyed. JMA does not recommend any further archeological testing in these areas.

The initial baseline study of the two-mile study area determined that the area within approximately 0.5 kilometers (0.31 miles) north and south of Indian River Inlet consists of coastal deposits that possess the potential to contain prehistoric archeological materials. In order to address this issue, two geotechnical borings were monitored and 38 additional geotechnical logs were examined as an additional service. These borings were located on either side of the Indian River Inlet within the proposed footprint of the new bridge. The results of the bridge boring monitoring and the examination of the additional logs indicate that potential landscapes capable of human occupation (and therefore containing archeological potential) are present at a depth of approximately 6.5 to 7 feet below ground surface (approximately 2 to 2.3 meters). However, based on the monitoring and the examination of the additional logs, no artifacts nor evidence for archeological features were recovered nor identified in the geotechnical borings.

The lack of archeological evidence from the geotechnical borings indicates that, while there is evidence for potential landscapes that may have supported human occupation present at various depths below ground surface (and also below mean sea level) within the proposed bridge construction footprint, there is no evidence prehistoric occupation of those landscapes. In addition, it would presently be extremely difficult to extract such evidence, if it exists, due to physical limitations as well as fiscal considerations. Therefore, it is JMA's opinion that no additional archeological investigation of those potential buried landscapes within the footprint of the bridge is necessary.

The purpose of the Phase I field investigations at the Fresh Pond Wetland Mitigation area (consisting of Fresh Pond North, Fresh Pond South, and the Haul Road connecting them) was to determine the presence or absence of archeological deposits within the footprints of the proposed mitigation option areas. Archeological testing at Fresh Pond North extended beyond the limits of the proposed areas of potential effects (APE). The archeological survey identified a potential eighteenth-century historic archeological locus (Locus S), a nineteenth-century locus (Locus R), and partially re-established/re-defined the limits of Locus A of site 7S-K-13 (Figure 48). Other portions of the APE do not contain artifacts or significant archeological deposits that warrant avoidance. A cluster of prehistoric artifacts approximately 25 meters north of the APE are associated with Locus A of 7S-K-13. Loci A, S and R are recommended for avoidance. Along the Haul Road, two of the five Turn-Outs (1 and 5) are clear of archeological deposits and no further archeological work is recommended. At Turn-Out 2 a new locus, Locus T of 7S-K-13, was identified, and it is recommended that construction activities avoid this area if possible. The southern portion of Turn-Out 3 may also be part of Locus K, and it is recommended that construction activities avoid this area as well. Turn-Out 4 also contains historic artifacts and is recommended for avoidance. At Fresh Pond South, no archeological remains were identified. Artifacts and supporting documents related to the Fresh Pond survey will be placed on file with Delaware State Museums.

Generalizations about visual effects were extrapolated from photographs/visualizations, taken from six camera locations throughout the study area. Two of the camera locations were in close enough proximity of historic properties to suggest the appearance of the new bridge from these properties. However, in each case, views toward the bridge would be obscured by intervening residential development and/or vegetation, and the new bridge would be so far removed from the inventoried or known historic properties that the bridge is not likely to obstruct views toward it. No other architectural resources are located in the vicinity of the six camera locations. Therefore, based on the results of the visualization study, no aesthetic or obstructive views are likely to occur or might apply for those properties. Assuming the absence of any physical, atmospheric, or audible impacts, it is JMA's opinion, under SHPO's Draft guidelines in "Assessing Visual Effects on Historic Properties" that visual qualities and characteristics that might be distinguished on known or inventoried historic properties are not anticipated.

Upon completion of the various investigations described in this report, FHWA and DelDOT proposed a finding of No Historic Properties Affected for the project. The SHPO reviewed the various management summaries and supplemental materials available and concurred with the finding in its letter of May 10, 2004 (Appendix V). The concurrence was made with the understanding that five conditions detailed in the letter will be met. This final cultural resources survey report fulfills the fifth condition stipulated in the letter.