6. Alternate 6 (New Four-Lane Bridge to the South, Take Existing Bridge Out of Service)

This alternate would construct a new four-lane bridge with 12-foot lanes, 4-foot inside shoulders, and 12-foot outside shoulders, separating the two directions of travel with a median barrier. The bike/ped option would include a one-way, 10-foot path in each direction. *Alternate 6 was not selected because it would locate the new bridge south of US 301, which is considered unreasonable because it would impact the critical mission of NSF Dahlgren.*

IV. ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

This section summarizes the environmental impacts associated with the proposed action (Modified Alternate 7) and describes efforts to minimize and mitigate impacts to affected environmental resources. Impact values have been updated from the July, 2009 EA to reflect the minor changes to Alternate 7 that were incorporated into Modified Alternate 7. These are reflected in the *Summary of Environmental Impacts* table (***Table 2***).

As stated in Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.27(a), analysis of "significance," as used in the National Environmental Policy Act (NEPA), requires considerations of both context and intensity:

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

- Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
- The degree to which the proposed action affects public health or safety.
- Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
- The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

- Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

While the project will result in some adverse effects, the project will not have a significant impact on the environment based on the above criteria. Detailed analysis of effects, and an evaluation of their significance per the factors in the CEQ regulations, is provided in the following paragraphs.

A. Socio-economic Resources and Land Use

1. Communities and Community Facilities

No residential displacements will occur with the proposed action. Impacts to community facilities include the removal of the Potomac Gateway Welcome Center (which is currently closed) and the relocation of MDTA's Nice Bridge Administration Campus facilities (administration and maintenance buildings).

At the Aqua-Land Marina & Campground, a portion of the gravel parking lot will be displaced, and US 301 will be moved closer to the campground, but no buildings or structures will be displaced. A portion of the entrance road (Orland Park Road) will be relocated, but the Orland Park Road/US 301 intersection will remain unchanged. The reduction in parking area at Aqua-Land could potentially impact the marina operation. Access to Aqua-Land may also be temporarily disrupted during the relocation of a portion of Orland Park Road.

The Nice Bridge Administration Building and the Nice Bridge maintenance building will be relocated with Modified Alternate 7.

Emergency response will improve on the bridge. The provision of 12-foot outside shoulders will facilitate emergency vehicles responding to incidents on the bridge.

All acquisition of property will be based on fair market value and just compensation, in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended, as well as MDTA and Virginia Department of Transportation (VDOT) property acquisition policies. During right-of-way acquisition, MDTA will complete a review of appropriate compensation for private landowners who are affected by the project. To minimize the loss of parking at Aqua-Land, Orland Park Road will be reconstructed as close as possible to the new bridge and MDTA will consider providing replacement parking elsewhere on the Aqua-Land property. Measures to minimize property impacts, such as retaining walls and steeper side slopes will also be considered as the project advances to the final design phase.

The documented effects on the human environment are not highly uncertain and do not involve unique or unknown risks. Effects to the human environment are not considered highly controversial by those who commented on the project. Based on the above analysis, the impacts do not rise to the level of significant.

2. Environmental Justice

The campground at Aqua-Land was identified as an Environmental Justice community, with seasonal and year-round low-income residents residing in mobile homes. Modified Alternate 7 will result in US 301 being closer to the residents, but will not displace any mobile home sites, change their access, or result in noise impacts. Because some of the marina parking lot will be displaced by the project, coordination will be undertaken with Aqua-Land during the project's final design phase to ensure there is adequate parking for vehicles/boat trailers, and that any internal roads between the boat ramp and trailer parking area remain accessible. Therefore, Modified Alternate 7 will not result in disproportionately high or adverse

effects to Environmental Justice communities. There would be no effect to public health or safety resulting from Modified Alternate 7, and these effects do not rise to the level of significant.

3. Visual Quality

The Nice Bridge is a dominant feature in the visual landscape and is visible from a distance of several miles both upstream and downstream along the Potomac River. Modified Alternate 7 will construct a new bridge upstream of the current bridge location, rising to maintain or exceed the elevation of the existing bridge, but with a grade that is not as steep as the existing bridge (3% compared to the existing 3.75%). This will result in a shift in the location of the bridge abutment in Maryland approximately 800 feet east of the existing bridge abutment, and will alter the views of the bridge. On the approaches to the bridge, the new bridge will be up to 25 feet higher than the existing bridge. The greatest change in the view of the bridge will therefore occur from the Aqua-Land Marina & Campground and Morgantown Generating Station. Views from the new bridge are not expected to be substantially different from the existing bridge, as the highest point of the bridge will not change.

During the design phase, aesthetic treatments will be considered for the selected structure type to keep it visually pleasing to adjacent homes, businesses, and motorists. Landscaping and signage appropriate for a gateway to Charles County will be employed as the bridge touches down in Charles County. Visual effects are therefore not expected to be significant.

4. Economic Environment

The proposed action will substantially benefit local and regional business activity by reducing traffic delays and improving mobility throughout the region. The improved mobility will support economic growth by maintaining the ability of residents and travelers along US 301 to support local businesses, and make the area more desirable for future business ventures. The proposed improvements will also create more predictable travel times, which will benefit commercial transport fleets and freight delivery services. Aside from temporary changes to traffic patterns during construction, there will be no economic impact on the two largest employers in the study area, NSF Dahlgren and Morgantown Generating Station. Following construction of the new bridge, commuting to these two employment centers from opposite sides of the river will no longer be delayed by long queues. The benefits from the project on the economic environment will not adversely affect public health or safety, and are not considered significant.

5. Land Use

Modified Alternate 7 will result in the conversion of commercial, forested, and park property to transportation use. However, the overall land use in the study area will not be substantially affected because the proposed project will not increase the capacity of the corridor as a whole; it will merely address a localized bottleneck. The project will not result in new access within the corridor. Modified Alternate 7 will support planned growth and redevelopment within the corridor, consistent with county master plans, by precluding the significant delays that would be a daily occurrence in the design year if no improvements were implemented.

The portion of the proposed improvements in Maryland will occur within a Charles County Priority Funding Area. Therefore, the project is consistent with Maryland's Priority Funding Areas Act, which targets State investments in infrastructure to locally-designated growth areas. The project would not incur changes in land use that would lead to significant impacts.

6. Section 4(f) and Section 6(f) Properties

The project would result in the removal of the NRHP-eligible Nice Bridge and associated Administration Building, and use land from three publicly-owned parks, as follows:

- 2.2 acres from the 146.5-acre Barnesfield Park, resulting in *de minimis* impact;

- 2.2 acres from the 14.7-acre Dahlgren Wayside Park; and
- All 2.1 acres of the Potomac Gateway Welcome Center.

A Final Section 4(f) Evaluation has been prepared pursuant to 23 CFR 774. The Final Section 4(f) Evaluation contains sufficient documentation to conclude there are no feasible and prudent alternatives to the use of the historic Nice Bridge, and that Modified Alternate 7 includes all possible planning to minimize harm. Furthermore, the Federal Highway Administration (FHWA) has determined Modified Alternate 7 will have a *de minimis* impact on Barnesfield Park (***Appendix B***).

Parcel A of Barnesfield Park is protected under Section 6(f) of the Federal Land and Water Conservation Fund (LWCF) Act (16 USC 460). The National Park Service (NPS) must approve the conversion of any portion of this Section 6(f) property from parkland to any other use, including conversion to highway right-of-way, in accordance with the following conditions:

- Replacement property must be of equal fair market value;
- Replacement property must be of reasonably equivalent usefulness, recreational value, and location to that being converted;
- Property proposed for substitution must meet the eligibility requirements for LWCF assisted acquisition; and
- Impacts to the remainder of the park, as a result of the conversion, shall be considered.

Due to the anticipated extended time frame for funding availability and project implementation, MDTA cannot currently secure the specific property, or properties, that will be used for Section 6(f) replacement. Specific replacement property will be identified during the project's design phase, once funding is available. A series of meetings have been conducted with the agencies having jurisdiction over the affected parklands or approval authority for the mitigation. A Memorandum of Agreement (MOA) between MDTA, VDOT, FHWA, NPS, Virginia Tourism Corporation (VTC), Virginia Department of Conservation and Recreation (DCR), and the King George County Board of Supervisors outlines MDTA's commitments to park mitigation. The MOA is included as ***Appendix B***. Based on the above analysis, effects to Section 4(f) and Section 6(f) properties are not considered significant.

B. Cultural Resources

Modified Alternate 7 will result in the removal of the NRHP-eligible Nice Bridge (CH-376) and its original Administration Building, which is a contributing resource to the historic bridge. The removal of the existing bridge and the contributing Administration Building will constitute an adverse effect to historic properties per Section 106 of the National Historic Preservation Act, as amended.

Two archeological sites have been identified. One site with prehistoric materials (18CH797 – a stratified shell midden) was identified in Maryland. In Virginia, one site recovered both historic and prehistoric resources (44KG171 – Barnesfield Plantation). Both sites will be affected by the Nice Bridge project. However, no archeological sites have been determined eligible for the NRHP based on completed investigations.

The Section 106 Area of Potential Effect (APE) could potentially be expanded as a result of the following construction activities: construction staging areas, dredge material dewatering and disposal sites, barge berthing area, transport of bridge rubble and dredge material, causeways, cofferdams, temporary construction haul roads, utility relocations, erosion and sediment controls, and stormwater management controls. If such work involves excavation, these additional impact areas will be investigated for their archeological potential. The selected parkland, forest, and aquatic resource mitigation sites will also be surveyed for the presence of archeological resources.

A Section 106 Programmatic Agreement (PA) has been developed among the FHWA, MDTA, VDOT, the Maryland Historical Trust (MHT), and Virginia Department of Historic Resources (DHR), and to resolve adverse effects to historic properties identified in the future (***Appendix C***). A PA, rather than an MOA, was prepared at the recommendation of DHR with the concurrence of MHT, because all of the potential effects of the project are not yet known. The Advisory Council on Historic Preservation (ACHP) was notified of the PA by letter dated December 9, 2010, and responded on January 6, 2011 that their involvement was not needed.

Of the eighteen federally recognized tribes invited to participate as consulting parties, only the Oneida Indian Nation responded. The tribe requested the opportunity to review the results of any additional cultural resources studies for this project, and to be notified in the event of the discovery of human remains or if Native American cultural materials are encountered during any subsequent phases of the project. The PA incorporates the requirements to coordinate additional cultural resource studies of Native American sites with the Oneida Indian Nation, and to contact them if human remains or Native American cultural materials are discovered.

In determining whether the impacts of the proposed action rises to the level of "significant," consideration was given to the degree to which the proposed action adversely affects the NRHP-eligible Nice Bridge historic site and potential NRHP-eligible archeological sites. MHT and DHR have agreed that the measures in the PA are sufficient to mitigate the effects caused by removal of the historic bridge and administration building. Based on this analysis, the impacts to cultural resources do not rise to the level of significant.

C. Natural Environmental Resources

1. Geology and Soils

The Virginia portion of the study area is principally underlain by unconsolidated silt, clay, sand, and gravel of the Sedgefield member of the Tabb formation. This formation has the potential to become acidic upon exposure at the surface, creating low pH runoff that can cause premature failure of concrete and metal structures, and negatively affect surface water quality and aquatic life. Since most of the proposed earthwork is fill rather than excavation, the completed roadway should not result in any lasting effects due to exposure of acidic soils. Nevertheless, attention will be given to minimizing the length of time that excavations are exposed. Coordination will continue with the Virginia Department of Mines, Minerals and Energy – Division of Mineral Resources during the project's final design phase to address this issue.

In addition, naturally-occurring levels of arsenic in Virginia soils were identified. No on-site remediation of the soil is required. Any excess soil materials generated during construction on the Virginia side, and not used on-site, will need to be properly handled and disposed in accordance with applicable solid waste regulatory requirements.

Modified Alternate 7 will impact 8.2 acres of Prime Farmland Soils / Soils of Statewide Importance, all in Virginia. These soils are not actively farmed. During design, a sediment and erosion control plan will be developed consistent with the requirements of the *Virginia Erosion and Sediment Control Handbook*, for the Virginia side, and consistent with the requirements of the *Maryland Standards and Specifications for Soil Erosion and Sediment Control*, for the Maryland side. Such controls will be deployed during construction. Therefore, the impacts to soils are not considered significant.

2. Waters of the US, Including Wetlands

Modified Alternate 7 will impact 0.5 acre of tidal open water (for bridge piers), 65 acres of tidal open water for dredging, 3,660 linear feet of ephemeral and intermittent streams (3,360 feet in Maryland and 300 feet in Virginia), and 0.1 acre of non-tidal wetlands (0.08 acre in Maryland and 0.02 acre in Virginia). The impacted streams and wetlands are ditch-type systems with very little flow except following precipitation events (see mapping in ***Appendix A*** for impact locations). Shading impacts are not anticipated as there are no wetlands, streams, or submerged aquatic vegetation (SAV) located beneath the proposed structure. The quantification of impacts is a worst-case assessment, which includes all streams and wetlands located within the limits of disturbance depicted on the mapping of Modified Alternate 7 (***Appendix A***).

The permanent tidal open-water impact to the Potomac River bed from installation of bridge piers will amount to approximately 0.5 acre. The worst-case temporary impact to tidal open water resulting from dredging will be approximately 65 acres. Additional aquatic impacts could potentially result from the following construction activities: construction staging areas, dredge material dewatering and disposal sites, barge berthing area, transport of bridge rubble and dredge material, causeways, cofferdams, temporary construction haul roads, utility relocations, erosion and sediment controls, and stormwater management controls. The additional temporary impacts likely to be attributable to these activities will be determined during the project's final design phase, and will be reflected in the calculation of impacts for the permit applications. Because some of these activities are at the discretion of the contractor, any permits obtained during the final design phase may subsequently need to be modified to reflect any revised impacts that might result from the contractor's choice of construction methods, sequence, or schedule. It should be noted that the regulatory agencies do not typically require mitigation for dredging in open water in cases where SAV is not present.

Modified Alternate 7 reduces some aquatic impacts compared to other alternates:

- The new bridge will be longer than the existing bridge, thus reducing the footprint of fill on the Maryland approach, and avoiding approximately 110 linear feet of stream impact;
- Construction of a single, four-lane bridge rather than two parallel bridges, will reduce the impact to open water attributable to dredging by 22 acres; and
- The incorporation of a single, two-way bike/ped path, rather than two one-way paths, will further reduce the impact to open water for piers and for dredging by 2.1 acres.

Impacts to Waters of the U.S. will be further minimized in later phases of the project as design elements are refined. To the extent practicable, stormwater management measures will be designed to avoid impacting aquatic resources.

Impacts to wetlands and streams located in Virginia in the Lower Potomac River Watershed will be mitigated through the use of wetland mitigation banks, consistent with the U.S. Environmental Protection Agency (EPA) / U.S. Army Corps of Engineers (USACE) *Compensatory Mitigation Rule*. There are no established wetland or stream mitigation banks in the Lower Potomac River Watershed in Maryland. Therefore, MDTA must provide project-specific mitigation for aquatic impacts in Maryland.

Several potential aquatic mitigation sites were identified and coordinated with the regulatory agencies, including both in-kind and out-of-kind mitigation, and are documented in the Conceptual Mitigation Plan included in the EA. At an April 20, 2009 field tour of potential aquatic mitigation sites attended by USACE, Maryland Department of the Environment (MDE), National Marine Fisheries Service (NMFS), and Maryland Department of Natural Resources (DNR) Critical Area Commission (CAC) staff, the attendees expressed unanimous preference for construction of an off-shore breakwater along Maryland's eroding shoreline of the Potomac River. Such mitigation will serve the aquatic needs of the watershed by

reducing the heavy siltation of shallow-water habitat caused by the severely eroding banks. The cessation of erosion will improve water quality and benthic habitat, which will lead to improved fisheries. Although out-of-kind, this mitigation would provide far greater function and value than is currently provided by the impacted ephemeral and intermittent stream/ditch-type systems.

A Joint Permit Application (JPA) will be submitted to MDE and the USACE Baltimore District during the project's final design phase. A JPA for impacts on the Virginia shore will be submitted to Virginia Marine Resources Commission (VMRC), USACE Norfolk District, and Virginia Department of Environmental Quality (DEQ). A U.S. Coast Guard (USCG) permit will also be obtained.

In consideration of the proposed mitigation and the permits that will be obtained, the impacts to waters of the US and wetlands do not rise to the level of significant.

3. Surface Water and Water Quality

Impacts to water quality during dredging and in-water bridge substructure removal could include a temporary increase in turbidity of the Potomac River, and potential release of nutrients and contaminants from bottom sediments. With the proposed action, up to 65 acres of the Potomac River bottom will be dredged for barge access. Dredging to a depth of approximately 4-5 feet below mean low water will be required for barges, and to approximately 9 feet below mean low water for tug boats.

Dredging will be restricted to certain times of the year (see ***Section IV.C.7. Aquatic Habitat and Wildlife***, below). Dredge material disposal sites will be identified during the project's final design phase, pursuant to obtaining a USACE Section 10/404 permit. However, coordination with the U.S. Fish and Wildlife Service (USFWS) has occurred regarding potential disposal sites for dredge material from construction of the bridge. USFWS indicated that they have several islands, all located on the east side of the Chesapeake Bay opposite the mouth of the Potomac, where they would accept dredge material in order to stem erosion. This beneficial re-use of dredge material will be evaluated during the project's final design phase. Additional minimization efforts during design will focus on reducing the number of piers and the required size of the dredge area. Because dredging and disposal is a costly item, the contractor will have an incentive to reduce the extent of dredging to the absolute minimum acreage necessary.

During construction, releases of sediment from land-disturbing activities will be minimized through erosion and sediment controls. Stormwater will be managed to limit downstream erosion and impairment of water quality. Erosion and sediment control plans and stormwater management plans will be submitted for approval by DCR and MDE, pursuant to obtaining National Pollutant Discharge Elimination System (NPDES) permits. Therefore, the impacts to surface waters and water quality do not rise to the level of significant.

4. Floodplains

The Modified Alternate 7 proposed structure will be elevated above approximately 8.4 acres of the Potomac River's 100-year floodplain (see ***Appendix A),*** resulting in a negligible impact to the floodplain**.** Pursuant to obtaining an MDE Waterway Construction Permit, a hydrologic and hydraulic study will be conducted during the projects' final design phase to determine the effect, if any, on Potomac River flood elevations. The project is consistent with applicable local floodplain protection standards. Therefore, the project will be consistent with Executive Order 11988 - Floodplain Management, the National Flood Insurance Act of 1968, and US Department of Transportation (DOT) Order 5650.2 - Floodplain Management and Protection. The impacts to floodplains do not rise to the level of significant.

5. Shoreline Erosion

Shoreline erosion rates of two feet per year have been documented on the Potomac River within the study area. The portion of shoreline that will be affected by the proposed bridge is not currently forested on either side of the river, and the bridge will not pose a constriction in the passage of a 100-year flood. Therefore, construction of the proposed bridge and approach roadway are not expected to accelerate shoreline erosion at the site of the bridge, upstream, or downstream. Potential changes to shoreline erosion rates are therefore not anticipated, and do not rise to the level of significant.

6. Water Supply/Groundwater

Impacts to groundwater are not anticipated since the proposed action will not involve substantial excavation. Best Management Practices (BMPs) will be employed to substantially reduce the potential for contaminants to enter the groundwater. Therefore, the impacts to groundwater do not rise to the level of significant.

7. Aquatic Habitat and Wildlife

Overwintering waterfowl (diving ducks, dabbling ducks, and Canada geese) may be affected by construction activities. Potential dredging and blasting timeframes have been coordinated with the DNR CAC and the DNR Environmental Review Unit in an attempt to protect waterfowl that might overwinter in the area. Cormorants have been nesting on the bridge for several years, but DNR has been relocating their nests to discourage their use of the bridge.

Essential Fish Habitat for summer flounder, juvenile bluefish, and their prey occurs within the project area. During the design phase, additional coordination will be undertaken with the NMFS to discuss their conservation recommendations, which relate to measures to mitigate the effects of pile driving and subaqueous blasting on anadromous fish.

SAV has not been documented on either state's shoreline from 2000 to the present; therefore, no impacts to SAV are currently anticipated by the project. If SAV is documented during a five-year period preceding the design phase, avoidance/minimization/mitigation measures will be developed, and appropriate time-of-year restrictions imposed.

Typical time-of-year restrictions imposed for anadromous fish, in combination with the time-of-year restrictions typically imposed for Historic Waterfowl Concentration Areas, would have prohibited construction in the Potomac River during the entire year. In addition, while dredging is normally conducted between October 16 and February 14, this time period may coincide with the presence of federally endangered shortnose sturgeon (*Acipenser brevirostrum*), which overwinter in the vicinity of the Nice Bridge.

In an October 6, 2010 email, the NMFS Northeast Region, Protected Resources Division commented that although shortnose sturgeon are likely to be present in the project area throughout the year, the most sensitive life stages are likely to be pre-spawning adults that may migrate through the project area on the way to upstream spawning grounds, and overwintering adults which may be less responsive to disruptions. Therefore, time-of-year restrictions were developed to afford maximum protection to the shortnose sturgeon. Coordination in 2011 between MDTA, FWHA and NMFS regarding the Section 7 Biological Assessment for the shortnose sturgeon resulted in time-of-year restrictions for bridge construction and demolition. The Biological Assessment and time-of-year restrictions were revised in June 2012 to reflect the April 6, 2012 listing of five Distinct Population Segments (DPS) of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered. The resulting time-of-year restrictions continue to restrict work in the river to emphasize protection of pre-spawning migrations and sturgeon

that may be overwintering near the bridge site. ***Figure 3*** shows the Nice Bridge project's time-of-year restrictions that were proposed to NMFS in the Revised Biological Assessment (June 2012).

These time-of-year restrictions will be revisited with NMFS and other resource agencies during the project's final design phase. The time-of-year restrictions will limit the impact to aquatic habitat and wildlife, and therefore ensure impacts do not rise to the level of significant.

8. Terrestrial Habitat and Wildlife

Modified Alternate 7 will impact 2.7 acres of forest, of which 1.6 acres occur in Maryland and the remainder in Virginia. The increase in forest impact compared to the EA is attributable to the manner in which forest impacts were calculated, and is not attributable to any increase in the project footprint.

There are no specimen or champion trees within the project area in Maryland or Virginia. No direct impacts to Important Bird Areas or habitat for Forest Interior Dwelling Species (FIDS) are anticipated.

In Virginia, VDOT projects are exempt from the forest mitigation requirements of the Chesapeake Bay Preservation Act. In Maryland, mitigation for forest impacts will be governed by both the Chesapeake Bay Critical Area Act and the Maryland Roadside Tree Law. To comply with both laws, MDTA will provide a total of approximately 4.1 acres of reforestation. Numerous reforestation sites have been identified in Charles County and presented to the regulatory agencies in the July 27, 2010 Preferred Alternate/Conceptual Mitigation report. The DNR CAC favors sites which may extend FIDS habitat and can provide habitat for rare, threatened, or endangered species. Potential reforestation sites will be evaluated and coordinated with DNR CAC again during the project's final design phase.

Based on the above analysis, the impacts to forests from the project will not be significant.

9. Rare, Threatened, and Endangered Species

The federally endangered Shortnose sturgeon (*Acipenser brevirostrum*) and the (*Acipenser oxyrinchus oxyrinchus*) may be affected by the project. FHWA, in accordance with the Endangered Species Act (ESA), has been consulting with National Marine Fisheries regarding the project and the potential impacts to the ESA listed species. FHWA submitted a Section 7 Biological Assessment (BA) for the Shortnose sturgeon to NMFS with a "not likely to adversely affect" determination in December 2011. FHWA submitted a Revised BA (June 2012) that reflected the April 2012 listing of the Atlantic sturgeon on the endangered species list and determined the Nice Bridge Improvement Project is not likely to adversely affect either species of sturgeon. NMFS responded on September 24, 2012 that a Final BA will be required during the final design phase of the project before NMFS could concur with the effect determination. NMFS acknowledged the path forward described in the Revised BA will minimize effects to listed species. The consultation process to date, including this letter from NMFS, has provided us reasonable assurance that we can fulfill our ESA Section 7 requirements for the project. The information from the Final BA will be used to complete the Section 7 consultation which will be part of the re-evaluation of the environmental document during final design. MDTA is aware that delaying the completion of the ESA Section 7 process until final design could result in significant project delays and potential additional costs to the project. If any federal funds are used for this project, FHWA approval will be required prior to awarding any construction contract and any advanced work contract that may affect the listed Shortnose sturgeon or Atlantic sturgeon, such as in-water geotechnical work.

Figure 3: Time-of-Year Restrictions

PILE DRIVING											
January	February	March	April	May	June	July	August	September	October	November	December
All pile driving will employ construction techniques to limit pressure waves to 4 psi, and to satisfy the Underwater Noise Standards (UNS). Pile driving will be prohibited during the spring migration (Feb 15-Jul 14) if the deep water area cannot be maintained below 150 dB.											

DREDGING											
January	February	March	April	May	June	July	August	September	October	November	December
12/16 – 7/14 (muck removal from inside a cofferdam is permitted)							7/15 – 12/15				12/16 to 7/14

SUBAQUEOUS BLASTING											
January	February	March	April	May	June	July	August	September	October	November	December
12/16 – 7/ 14							7/15 – 10/31 (must be inside a double-wall dewatered cofferdam)			11/1 – 12/15	12/16 to 7/14

DEBRIS REMOVAL, RUBBLE REMOVAL, DROPPING / DISMANTLING PORTIONS OF TRUSS*											
January	February	March	April	May	June	July	August	September	October	November	December
12/16-7/14							7/15-12/15				12/16 to 7/14

JETTING OF PILES											
January	February	March	April	May	June	July	August	September	October	November	December
12/16-7/14							7/15-12/15				12/16 to 7/14

If peregrine falcons are present and nesting, the prohibition period would be extended through August 31st.

COLOR KEY:

Prohibited	Restricted	Permitted

MDTA coordinated extensively with FHWA and NMFS to identify a number of protection measures that could be implemented during the project's construction phase. These protection measures include construction techniques to reduce pressure waves during pile driving similar to those successfully employed on the Woodrow Wilson Bridge (WWB) project; requirements for demolition, blasting, dredging, and jetting; and a plan to monitor underwater noise levels during installation of test piles to determine a structure type and foundation pattern that minimizes noise impact to the endangered sturgeon species. Construction specifications and a sequence of construction will be developed to ensure recommended noise thresholds are met during the spring migration. For detailed descriptions of the protection measures and time-of-year restrictions, please refer to the June 2012 *Revised Biological Assessment for the Shortnose and Atlantic Sturgeon*.

Further coordination with NMFS will be conducted, including submittal of a final BA, when the type of bridge has been determined, and the design details and construction requirements have been identified. Furthermore, FHWA and MDTA have not made any irreversible and irretrievable commitments that would foreclose the further consideration of reasonable and prudent alternative structures and/or measures. Early and continued coordination with NMFS during design will preserve the flexibility to consider alternative construction methods to minimize the risk of impacts to the endangered sturgeon.

Based on the available scientific data, the experience gained in successfully minimizing resource impacts on other bridge projects, and commitments to minimize any potential effects, impacts to the shortnose and Atlantic sturgeon do not rise to the level of significant.

Bald eagles are present along both shorelines, and there are concentration areas on the Virginia shore, north of the bridge, and on the Maryland shore. The bald eagle is no longer protected under the Endangered Species Act, but continues to be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, and remains a state threatened species in Virginia. Bridge construction activities will be managed to comply with the USFWS's May 2007 *National Bald Eagle Management Guidelines*, and the Virginia Department of Game and Inland Fisheries (DGIF) May 15, 2000 *Bald Eagle Protection Guidelines for Virginia* which restrict certain construction activities within 330 feet of a nest. Currently, there are no nests that are within 330 feet of the limit of disturbance. A new survey of bald eagle nest sites would be conducted during the project's final design phase. The prohibition of dredging and blasting between December 16 and July 14, which was imposed to protect the federally endangered shortnose sturgeon, will also minimize disturbance during the bald eagle nesting season.

Peregrine falcons (*Falco peregrinus*), which are protected under the Migratory Bird Treaty Act, and are listed as a state threatened species in Virginia, are nesting and breeding on the Nice Bridge. Disturbance of the nest is prohibited from mid-April through August. There will be no dismantling of the bridge during this period, so as not to impact the falcons.

Further discussions with NMFS on construction methodology and time-of-year restrictions will limit the impact to rare, threatened, and endangered species, and therefore will not rise to the level of significant.

10. Unique and Sensitive Areas

No impacts to Natural Heritage Areas or Green Infrastructure will occur in either Maryland or Virginia as a result of the proposed action.

11. Chesapeake Bay Critical Areas

Modified Alternate 7 will impact 24.2 acres of land subject to the Maryland Chesapeake Bay Critical Area Act and 2.2 acres of land subject to the Virginia Chesapeake Bay Preservation Act. In Virginia,

VDOT-owned public roads are exempt from the *Chesapeake Bay Preservation Area Designation and Management Regulations*, provided erosion and sediment control plans and a stormwater management plan have been approved by DCR.

In Maryland, any earth disturbance within the 100-foot Critical Area buffer of the Potomac River will be mitigated with reforestation equal to three times the acreage disturbed. From the 100-foot buffer to 1,000 feet inland, the project is located within an Intensely Developed Area (IDA). Trees that are removed within the IDA will be replaced at a 1:1 ratio. Construction in this area is also subject to the 10% rule, which requires phosphorus loads in highway runoff from impervious surfaces to be reduced to a level at least 10% below the pre-development conditions. The project design will include the use of stormwater BMPs such as dry swales, infiltration trenches, sand filters, bioretention, wet swales, and grass swales to satisfy the 10% rule.

Based on the above analysis, impacts to Critical Areas will not rise to the level of significant.

D. Noise

A noise impact is deemed to occur when the projected design year noise levels approach or exceed the Noise Abatement Criterion (i.e., 66 dBA for Category B locations), or when the projected design year noise levels are at least 57 dBA and exceed the ambient noise levels by 10 dBA or more. Under the proposed action, a noise impact is projected to occur in Dahlgren Wayside Park at the picnic, beach, and lawn areas, where the noise will increase by as much as 12 dBA to a level as high as 74 dBA at this location. Consideration of noise mitigation is appropriate.

A sound barrier is considered to be both feasible and reasonable to mitigate noise at Dahlgren Wayside Park. The barrier will need to be approximately 430 feet long with an average height of 10.5 feet in order to meet current noise abatement criteria. A decision to build this barrier has not yet been made. It is MDTA's policy to make final decisions on the construction of noise abatement during preliminary design, after final horizontal and vertical engineering alignments are determined and detailed engineering evaluations of barriers can be made. The desires of the property owner (in this case, King George County) are also considered when making a decision to proceed with noise mitigation. MDTA will coordinate with VDOT concerning any noise mitigation proposed on future VDOT property. Noise analysis findings and recommendations will be re-evaluated during design for consistency with the Final Rule 23 CFR 772 published by FHWA on July 13, 2010 and current noise policies for VDOT. Consideration of noise mitigation will not be limited to construction of barriers; landscaping and berms will also be considered.

Land uses that are sensitive to vehicular noise will also be sensitive to temporary construction noise, which could be substantial. Sensitive land uses located 100 feet from the construction could expect to experience noise levels between 78 dBA and 83 dBA. Construction activity will generally occur during normal working hours on weekdays. However, some construction could potentially occur at night, such as work that requires a lane closure, to take advantage of lighter traffic volumes. The Charles County noise ordinance limits construction noise to 90 dBA on residential properties weekdays from 7:00 a.m. to 10:00 p.m., and to 50 dBA on residential properties from 10:00 p.m. to 7:00 a.m. The King George County noise ordinance exempts highway construction projects; however, VDOT's 2007 *Road and Bridge Specifications* limits construction noise to 80 dBA at an adjoining property that has noise-sensitive activities. Noise will be monitored and managed during construction to ensure local noise ordinances are not exceeded at sensitive receptors.

The portion of Dahlgren Wayside Park located in proximity to US 301 will be impacted by noise and could be shielded from noise by a reasonable and feasible mitigation measure (i.e., wall, berm, or landscaping). Therefore, the effect of the noise impact at Dahlgren Wayside Park is not considered to be significant.

E. Air Quality

1. Carbon Monoxide (CO) Micro-Scale Evaluation

The EPA CAL3QHC (1993) dispersion model was used to predict carbon monoxide (CO) concentrations for air quality sensitive receptors for the Open-to-Traffic Year (2015) and Design Year (2030). Modified Alternate 7 will result in no violations of one-hour (35 ppm) or eight-hour (9.0 ppm) State and National Ambient Air Quality Standards (S/NAAQS) for CO at any receptor locations.

2. $PM_{2.5}$ Regional and Hot-Spot Conformity Determination

King George County, Virginia is not designated as a non-attainment area for particulate matter ($PM_{2.5}$). However, Charles County, Maryland is in the Washington, DC-MD-VA $PM_{2.5}$ non-attainment area; therefore, a project-level $PM_{2.5}$ Conformity Determination is required.

The Nice Bridge Improvement Project is included in Maryland Department of Transportation's (MDOT) 2012-2017 Consolidated Transportation Program (CTP) (pg. MDTA-31), MDOT's Draft 2013-2018 CTP (pg. MDTA-29), 2012 National Capital Region Constrained Long Range Plan (CLRP) (Project ID: CLRP 2617), and FY 2013-2018 Transportation Improvement Program (MTIP) for the Metropolitan Washington Region (MTIP ID: 5527) for Air Quality Conformity. The CLRP is a comprehensive plan of transportation projects and strategies that the National Capital Region Transportation Planning Board realistically anticipates can be implemented over the next 30 years. The MTIP is a six-year program that describes the time-frame for federal funds to be obligated to state and local projects. US DOT determined that the 2012 CLRP and the 2013-2018 MTIP met the systems level $PM_{2.5}$ conformity requirements of the Clean Air Act; therefore, the current conformity determination is consistent with EPA's Transportation Conformity Rule (40 CFR Parts 93). The project's inclusion in the TIP as a Regionally Significant project is referenced in Maryland's 2013 Statewide Transportation Improvement Program (STIP), which is a four-year, fiscally constrained, program containing Federally funded projects plus regionally significant State and local projects, all which have been identified as "high priority" through Maryland's planning process and qualify to receive available transportation funding.

The project is not "a project of air quality concern" for particulate matter, as defined under 40 CFR 93.123(b)(1), because the project is an expansion (minor widening) of an existing highway to relieve congestion and will not have a significant increase in the number of diesel vehicles. Therefore, a project level hot-spot analysis is not required. Since the project meets the requirements of 40 CFR 93.109, the project will not be expected to cause or contribute to a new violation of the $PM_{2.5}$ NAAQS, or increase the frequency or severity of a violation.

By email dated November 10, 2010, the $PM_{2.5}$ analysis was approved by MDTA, and was sent to FHWA. By email dated December 13, 2010, the analysis was approved by FHWA and forwarded to EPA, MDE and Metropolitan Washington Council of Governments (MWCOG) for interagency consultation. On December 14, 2010, a minor comment was received from MDE, which was addressed on December 15, 2010. On January 24, 2011, approval was received from EPA. The respondents agree with the conclusion that the Nice Bridge Improvement Project **is not a project of air quality concern under 40 CFR 93.123(b)(1).** The $PM_{2.5}$ Conformity Determination was placed on MDTA's website for a 15-day public review and comment period. No comments were received.

3. Qualitative MSAT Analysis

Modified Alternate 7 will be considered a project with low potential Mobile Source Air Toxics (MSAT) effects because it is an example of a minor widening project where 2030 design year traffic is not projected to exceed 150,000 vehicles. For such projects, FHWA's September 30, 2009 *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* indicates that a qualitative assessment of emissions should be conducted.

The amount of MSAT emissions will be proportional to the vehicle miles traveled (VMT). Compared to the year 2030 No-Build traffic projection of 35,000 vehicles per day, Modified Alternate 7 will result in 43,300 vehicles per day in 2030. This increase in VMT will lead to slightly higher MSAT emissions along the highway corridor. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. According to EPA's MOBILE 6.2 model, emissions of all of the priority MSATs, except diesel particulate matter, decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future. Therefore, the effects on the human environment are not highly uncertain and do not involve unique or unknown risks. For additional information on the project-specific MSAT Health Impacts Analysis, refer to ***Appendix D***.

4. Ozone (O_3)

The Metropolitan Washington Region [DC-MD-VA] is in moderate non-attainment for the 8-hour ozone (O_3) standard. The 1-hour O_3 standard was revoked on June 15, 2005. The approved State Implementation Plan (SIP) for the Region includes a mobile source emissions budget for precursors of O_3 (volatile organic compounds and nitrogen oxides) and a plan to improve air quality in the region to meet the NAAQS for O_3 by June 15, 2010. However, the region is actually required to demonstrate attainment of the standard by the end of the last ozone season before that date, which is September 2009. Therefore, the actual date for planning purposes was September 2009. The 2012 CLRP and FY 2013-2018 MTIP demonstrate that attainment is achieved within the required timeframe[1].

The SIP consists of a Reasonable Further Progress (RFP) Plan, 2002-2008; an attainment plan; an analysis of reasonably available control measures; an attainment demonstration; contingency plans for RFP and attainment; and mobile budgets for 2008, 2009, and 2010. The plan also presents a Base-Year Inventory for 2002 and projected inventories for 2008 and 2009. The plan is intended to show the progress being made to improve air quality in the Metropolitan Washington Region nonattainment area and the efforts underway to assure that all necessary steps are taken to reach the federal health standard for ground-level O_3 by 2009. The plan was prepared by the Metropolitan Washington Air Quality Committee (MWAQC).

[1] On March 27, 2008, EPA issued a Final Rule [73FR16436] revising the Primary and Secondary Ozone Standards from 0.08 ppm to 0.075 ppm. The Final Rule further stated that "*Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) * * * as expeditiously as practicable, but in no case later than 2 years from the date of promulgation. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.*" On January 6, 2010, EPA extended the deadline for designating areas for the March 2008 NAAQS for ground-level ozone. The new deadline for area designations was March 12, 2011. The 2008 standard does not apply to this project since the 2008 designations are not finalized. In addition to the above, on January 19, 2010 EPA issued a Propose Rule [75FR2938] to further reduce the 8-hour Ozone stand to a range of 0.06 to 0.07 ppm. This rule was to have been finalized prior to August 31, 2010, but the Final Rule has been delayed and has not yet been issued.

5. Construction Emissions

During the construction period, all appropriate measures would be incorporated to avoid impacts to the air quality of the area (COMAR 26.11.06.03D). Specifically, applying water or appropriate liquids during land clearing, grading, and construction operations can minimize fugitive dust. At all times when in motion, open-body trucks transporting materials should be covered, and all excavated material should be removed promptly.

Mobile source emissions can be minimized during construction by not permitting idling trucks or equipment during periods of unloading or other non-active use. The existing number of traffic lanes should be maintained, to the maximum extent possible, and construction schedules should be planned in a manner that would not create traffic disruption and increase air pollutants. Applying these measures would ensure air quality would not be degraded during construction.

6. Summary

No air quality impacts are projected to occur as a result of the proposed action; therefore, the project will not result in significant air quality effects. The documented effects on the human environment are not highly uncertain and do not involve unique or unknown risks. Effects to the human environment are not considered highly controversial by those who commented on the project. The proposed action will not establish any precedent for future actions with significant effects. The project will not violate Federal, State, or local laws for protection of the environment. Based on the above, the impacts do not rise to the level of significant.

F. Hazardous Materials

Based on an Initial Site Assessment (ISA) prepared in December 2008, one hazardous material site, NSF Dahlgren, was identified within the limit of disturbance for the proposed action. Areas determined hazardous within the NSF Dahlgren site will not be affected by the proposed action. The results of the ISA also documented the presence of naturally-occurring levels of arsenic in the soils on the Virginia side; however, no on-site remediation of the soil is required. Any excess soil materials generated during construction on the Virginia side, and not used on-site, will be properly handled and disposed in accordance with applicable solid waste regulatory requirements. In addition, the Health and Safety Plan prepared for construction will include information on arsenic management and avoidance.

Potential hazards associated with munitions and explosions of concern (MEC) in the study area were evaluated. Results of land-based MEC investigations did not identify any significant MEC. Investigations for MEC in the Potomac River will be initiated prior to construction of the project.

The health of area residents and employees, including construction workers, will be safeguarded to ensure that there is no impact to public health or safety. If MEC are discovered, safe handling and disposal procedures outlined in an approved work plan to protect the people residing and working in the vicinity of the site. These measures will be sufficient to ensure that significant impacts do not occur.

G. Indirect and Cumulative Effects Analysis

The Indirect and Cumulative Effects (ICE) Analysis documented in the *Nice Bridge Improvement Project Indirect and Cumulative Effects Analysis Technical Report* and summarized in the EA concluded that no major indirect or cumulative effects are anticipated with the proposed action. Refer to ***Section II.G.2*** of the *Nice Bridge Improvement Project Indirect and Cumulative Effects Analysis Technical Report* for a more detailed assessment of potential indirect and cumulative effects.

1. Indirect Effects

Indirect effects are effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Indirect effects could include changes in temperature, volume of runoff, erosion, and water quality effects that typically accompany added impervious surface; dredging-related turbidity effects on downstream populations of benthic invertebrates; or invasive species colonization of cleared roadside areas.

The wider bridge would better accommodate and facilitate the commuting trend and bring growth pressure to these fast growing areas in both states. Both Maryland and Virginia have laws and regulations in place to direct development to priority areas. Additionally, local jurisdictions responsible for growth management within the ICE boundary have zoning and other planning strategies in place to guide development into areas that can accommodate it while preserving more sensitive areas that might be otherwise vulnerable to growth.

The indirect effects of impervious surface could be minimized through compliance with State laws. For example, erosion and sediment controls and stormwater management will be implemented in compliance with MDE and DCR requirements. Compliance with the CAC's 10 percent rule will ensure that the pollutant levels in runoff are at least 10 percent below pre-existing levels. Supplement 1 (dated April 2009) to the *2000 Maryland Stormwater Design Manual* emphasizes environmental site design, which includes the use of small-scale stormwater management practices (such as rain gardens, micro bioretention, infiltration berms, dry wells, rainwater harvesting, and green roofs), non-structural techniques, and improved site planning to mimic natural hydrologic runoff characteristics (such as sheetflow to conservation areas). The Supplement also requires water quality treatment for a minimum of 50 percent of the existing impervious area within the limit of disturbance, versus 20 percent under the original Manual.

Although benthic organisms will be impacted during dredging, benthic organisms typically re-colonize an area after construction ceases; however, the assemblages are likely to change as opportunistic species are the first to re-colonize. Invasive species will be minimized by seeding disturbed areas before volunteer invasive vegetation becomes established.

The increase in the profile of the bridge and approach road on the Maryland shore could disrupt the setting at Aqua-Land, as the highway becomes a more dominant feature of the landscape. Changes in access could result in a change in the number of future visitors to Aqua-Land Marina, Barnesfield Park and Dahlgren Wayside Park. Increases in traffic volumes, changes in access, and the loss of park acreage could potentially impact future park usage. Vegetative buffers and replacement acreage will minimize these impacts.

2. Cumulative Effects

Cumulative effects relate to the incremental impact of the Nice Bridge Improvement Project in the context of other past, present, and reasonably foreseeable future actions. Therefore, cumulative effects take into account impacts associated with past and future transportation and development projects within the ICE boundary, regardless of whether they are related to the Nice Bridge project. There are 267 development projects and 34 transportation projects that are currently planned within the ICE boundary, totaling more than 51,000 acres; none are dependent upon the Nice Bridge project.

In general, resources within the ICE boundary have experienced cumulative effects over the past few decades from urban development. These cumulative effects have been more prominent in Maryland due

to the greater development pressures that exist, compared to Virginia. It is expected that these trends would continue as additional growth occurs.

The highest concentrations of development that would have the greatest effect on natural resources in Maryland are anticipated around Waldorf (which is designated a Development District in the Comprehensive Plan), La Plata, Swan Point, and Morgantown. The highest concentrations of development in Virginia include Weedonville, Carmel Church, Bowling Green-Milford, and Ladysmith.

Most impacts to environmental resources are regulated by applicable state, local, and federal laws that mandate avoidance, minimization, and/or mitigation measures which reduce the overall contribution to cumulative effects associated with this project, as well as other future residential, commercial, industrial, and transportation projects within the project area. Therefore, the overall contribution to cumulative impacts on resources within the ICE analysis boundary resulting from this project was determined to be minimal. Future development and growth within the ICE area would be regulated by state and county land development plans. MDTA would support local governments and agencies to promote beneficial controls and suggest that local jurisdictions develop resource preservation plans. However, efforts to avoid, minimize, and mitigate impacts caused by cumulative development within the ICE Analysis boundary would be beyond the control and funding authority of MDTA.

Indirect and cumulative effects will be minimized through state and federal environmental laws and local environmental and zoning ordinances. In light of the impact analysis presented in this section, as well as in the EA, and the agency agreement with the coordination efforts and decision-making conducted to date, the indirect and cumulative effects have not been identified as significant.

V. PUBLIC INVOLVEMENT AND AGENCY COORDINATION

Outreach strategies were implemented to gather input and inform citizens and regulatory agencies about the project, including public meetings, informational publications, and a project website. A summary of the public involvement activities conducted since the publication of the EA in July 2009 is provided below. For a complete summary of all public and agency coordination prior to this date refer to ***Chapter IV*** of the EA. Public and agency coordination will continue during the project's final design phase to ensure all stakeholders have the opportunity to provide input and have their questions answered.

A. Public Hearings and Additional Outreach

Public hearings were held on September 17, 2009 at Dr. Thomas L. Higdon Elementary School in Newburg, MD, and on September 24, 2009 at Potomac Elementary School in Dahlgren, VA. A total of 158 individuals offered oral or written comments. The most common themes included:

- Supported the Bike/Ped Option (89, mostly from the Wash DC/Oxon Hill area)
- Supported a build alternate (82); with Alternate 7 (24), Alternate 6 (22), and Alternate 4 (10) most frequently supported
- Offered design suggestion (27)
- Requested acceleration of project and funding (21)
- Concerned for existing and future traffic congestion (20)
- Concerned about safety (17)
- Concerned about environmental impacts (13)
- Concerned about cost (11)
- Noted emergency evacuation (11)
- Recognized economic impacts (10)
- Noted impacts to NSF Dahlgren (9)

- Noted impacts to Parkland (7)
- Supported retaining existing bridge (7)

Responses to the public hearing comments are provided in ***Appendix E*.**

Additional outreach has been conducted since the public hearings. Project presentations were made to the following groups:

- King George County Chamber of Commerce on October 13, 2009;
- La Plata Business Association on December 10, 2009;
- South Potomac Community Relations Council on August 5, 2010 and November 16, 2011;
- King George County Board of Supervisors on October 19, 2010;
- Southern Maryland Delegation in Annapolis on March 11, 2011; and
- King George County Board of Supervisors on July 19, 2011.

B. Agency Coordination

1. Coordination for Park Properties in Virginia

On September 14, 2009 and November 16, 2010, meetings were held with the public agencies that have interest in Virginia properties affected the project. These agencies included: FHWA, NSF Dahlgren, NPS, VDOT, DCR, VTC, King George County, and MDTA. The purpose of the meetings was to present the project, alternates and potential impacts, public hearing comments, and to initiate discussion on resolution of property impacts. The discussion focused on right-of-way and mitigation and the process to begin identifying mitigation requirements for the property impacts in Virginia. These meetings led to an MOA, executed in September 2011, outlining MDTA's park mitigation commitments (refer to ***Appendix B***).

Comments dated October 16, 2009 from the U.S. Department of the Interior (DOI) advised that DOI would consider approving a Section 6(f) conversion provided the uses and impacts are minimized, and mitigation includes replacement lands of equal acreage, appraised value, and recreation usefulness.

2. Preferred Alternate/Conceptual Mitigation

MDTA presented Modified Alternate 7 as the Preferred Alternate at an Interagency Review Meeting in May 2010. A Draft *Preferred Alternate/Conceptual Mitigation* report was distributed at this meeting and circulated to other regulatory agencies not in attendance. The following federal and state offices supported the identification of Modified Alternate 7 as the Preferred Alternate (see copies of correspondence in ***Appendix E***):

- US Environmental Protection Agency
- US Army Corps of Engineers
- National Marine Fisheries Service, Chesapeake Bay Program Office (also concurred on the time-of-year restrictions)
- US Fish and Wildlife Service
- Virginia Department of Historic Resources
- Virginia Department of Game and Inland Fisheries
- Maryland Department of Planning
- Maryland Department of Natural Resources
- Charles County Department of Planning and Growth Management
- The commanding officer of NSF Dahlgren stated at the September 17, 2009 public hearing that NSF Dahlgren cannot agree to an easement for Alternates 2, 3, or 6, and, while Dahlgren is fully supportive of Alternates 4, 5, or 7, they would prefer Alternate 7.

The Preferred Alternate/Conceptual Mitigation report was completed by MDTA and approved by FHWA in August 2010.

3. Coordination on Threatened and Endangered Species

By email dated October 6, 2010, NMFS Northeast Region concurred with the proposed time-of-year restrictions for working in the Potomac River. By letter dated December 12, 2011, FHWA requested NMFS' concurrence with the finding that the Nice Bridge Improvement Project "is not likely to adversely affect" shortnose sturgeon. By letter dated August 10, 2012, FHWA submitted the June 2012 Revised BA to NMFS to include the Atlantic sturgeon which was listed as endangered in April 2012, and requested NMFS' concurrence that the commitments outlined in the Revised BA are sufficient to ensure the project is not likely to adversely affect either species of endangered sturgeon. NMFS responded by letter dated September 24, 2012 that the path forward described in the Revised BA would minimize effects to the endangered sturgeon species.

4. Coordination on Cultural Resources

By letter dated June 7, 2010, MDTA requested the concurrence of MHT and DHR in the adverse effect determination for the Governor Harry W. Nice Memorial Bridge and the Potomac River Bridge Administration Building, and determinations of no effect for Marshall's Rest, Ravens Crest, and the Naval Surface Warfare Center, Dahlgren Laboratory. On August 10, 2010, MDTA requested the concurrence of MHT in a determination of National Register eligibility and a no effect determination for Pasquahanza. By letter dated August 31, 2010, MHT concurred with both requests, and advised that an underwater archeological survey of the proposed project will be needed. By letter dated December 12, 2009, the ACHP was notified of the adverse effect determination and invited to participate in the consultation to resolve adverse effects. On January 6, 2011, the ACHP declined to participate. Comments from MHT dated November 24, 2010, and from DHR dated December 30, 2010, were incorporated into the Section 106 PA. The PA was executed in July 2011 (refer to ***Appendix C***).

C. Project Website

In an effort to obtain public feedback and keep the public informed throughout the project planning process, the MDTA created a Nice Bridge project website. The website can be accessed at www.nicebridge.maryland.gov. The website provides the EA, the public hearing displays and brochure, a project timeline, and information on how to ask questions, request information, and submit comments.

VI. PROJECT COMMITMENTS

Full funding for the design, right-of-way acquisition, and construction phases of this project is not expected to be available within the foreseeable future. Therefore, mitigation and other commitments that were relied upon in making this Finding of No Significant Impact are being carefully documented to ensure that these actions will be implemented when project activities resume.

A. Socio-economic

1. During design, further minimization of property impacts will be evaluated through measures such as retaining walls, MSE walls, steeper side slopes, U-wing abutments on the approaches to the bridge, etc.

2. Any property acquisition will be based on fair market value and just compensation, in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended, as well as MDTA and VDOT property acquisition policies.

3. To minimize the impact of the loss of parking at Aqua-Land, Orland Park Road will be designed to be as close as possible to the new bridge and MDTA will consider providing replacement parking elsewhere on the Aqua-Land property. Coordination will be undertaken with Charles County Department of Planning and Growth Management and Aqua-Land to minimize any impact to the County's planned public boat launch facilities at Aqua-Land, including considerations related to increased boater access (e.g., trailer access along Orland Road, additional trailer parking, internal circulation to and from the boat ramp, etc).

4. Aesthetic treatments for the bridge will be considered in coordination with Charles County Department of Planning and Growth Management. Landscaping and architectural treatments appropriate for a gateway to Charles County, as well as visual screening/signage of Morgantown Generating Station, will be considered.

5. Commitments related to parkland are documented in the Parks MOA (***Appendix B***).

6. Coordination will continue with Charles County Department of Planning and Growth Management and King George County during the project's final design phase concerning whether to locate the bike/ped path on the north or south side of the proposed bridge.

7. Additional coordination will be undertaken with the Virginia Outdoors Foundation to determine whether the Foundation has subsequently acquired any property or easements that could be affected by the project.

B. Cultural

1. The commitments of the Section 106 PA (***Appendix C***) will be implemented.

C. Natural Environment

1. During design, a sediment and erosion control plan will be developed that is consistent with the requirements of the *Virginia Erosion and Sediment Control Handbook*, and in accordance with the Virginia Erosion & Sediment Control Law and Regulations, and the requirements of the *Maryland Standards and Specifications for Soil Erosion and Sediment Control* (Maryland).

2. Any disturbance of river and stream banks for construction access or for temporary stream crossings will be stabilized during construction. Upon removal of the access, the disturbed area will be planted with native tree species (subject to approval of the property owner).

3. Stormwater management plans will be developed. To the extent practicable, the design of stormwater management measures will avoid aquatic resources. The use of low impact development techniques (LID) will be considered for this project.

4. Time-of-year restrictions have been developed to prohibit and/or restrict work in the Potomac River as appropriate, emphasizing protection of pre-spawning migrations and overwintering populations of shortnose sturgeon near the bridge site, as well as Atlantic sturgeon which may migrate through the area. Please refer to MDTA's June 2012 *Revised Biological Assessment for Shortnose and Atlantic Sturgeon* and ***Figure 3*** of this FONSI. All time-of-year restrictions will be revisited with the

regulatory agencies during the final design phase, to ensure assumptions that led to the establishment of the restrictions are still applicable.

5. During the design phase, further minimization efforts will focus on limiting the amount of dredging required for barge access, and the disturbance of the river bottom for pier placement. Techniques will be considered to minimize the amount of sediment released to the water column during dredging.

6. Impacts to wetlands and streams located in Virginia will be mitigated through the use of approved mitigation banks, consistent with the EPA/USACE mitigation regulations. Aquatic impacts in Maryland will likely be mitigated by constructing an off-shore breakwater along an eroding stretch of the Potomac River. Prior to selecting a final mitigation site, the preferred breakwater site will be investigated for the presence of MECs in the river bed, underwater archeological resources, submerged aquatic vegetation, and proximity to leased oyster beds. If the breakwater location is determined to be within 1,500 feet of an oyster bed, the breakwater construction may be subject to time-of-year restrictions. Coordination will be undertaken with the appropriate regulatory agencies, and the necessary permits obtained.

7. During the project's final design phase, coordination will continue with the Virginia Department of Mines, Minerals, and Energy – Division of Mineral Resources to address the issue of acidic soils.

8. During the project's final design phase, an environmental reevaluation will be prepared. Consideration will be given to any additional environmental impacts associated with mitigation sites for forest, parkland, and aquatic resources, as well as construction activities such as: construction staging areas; dredge material dewatering and disposal sites; barge berthing areas; boat ramps; areas to stockpile earthwork, construction materials, and bridge rubble; transport of bridge rubble and dredge material; causeways/cofferdams; riprap; bulkheads; temporary haul roads; utility relocations; erosion and sediment controls; stormwater management controls; and other permanent or temporary measures which could not be considered during project planning. FHWA will ensure coordination of a reevaluation with MDTA and the regulatory agencies, as needed.

9. Coordination will be undertaken with DNR's Maryland Reef Initiative to determine whether DNR has a preferred site for the disposal of the rubble from the dismantled bridge and the availability of private matching funds to defray the added expense of barging the rubble to a disposal site.

10. The USFWS, NMFS, DGIF, DCR's Division of Natural Heritage, and DNR's Wildlife and Heritage Service will be contacted to determine whether any newly listed threatened or endangered species are in the vicinity of the project, including within the expanded limit of disturbance and proposed mitigation sites.

11. Prior to construction, bald eagle nests will be surveyed and further coordination undertaken with the DGIF, DNR, and USFWS. Bridge construction activities will be managed to comply with the USFWS May 2007 National Bald Eagle Management Guidelines, and May 15, 2000 Bald Eagle Protection Guidelines for Virginia. Compliance with these guidelines may result in time-of-year restrictions, or activity modifications, for some construction operations such as tree clearing, grading, and blasting.

12. Coordination with the USFWS, DGIF, and DNR will be undertaken prior to construction to evaluate potential impacts of the bridge removal on nesting peregrine falcons (Falco peregrines) and to determine the most appropriate time-of-year to dismantle the existing bridge. Disturbance of falcon nests is prohibited from mid-April through August.

13. Additional coordination of bridge construction techniques will be undertaken with the NMFS to obtain their approval of the conservation recommendations for Essential Fish Habitat and to re-evaluate the best available technologies for protecting fish from the effects of bridge construction and demolition, pursuant to completing Section 7 consultation for the shortnose and Atlantic sturgeon. Underwater noise monitoring will be conducted during the installation of test piles. The resulting information will be considered in the selection of a bridge type, and development of a foundation plan, to ensure NMFS' Underwater Noise Standards will be met during the spring migration of sturgeon (February 15 through July 14). Consultation will continue with NMFS regarding construction techniques that will be employed to reduce fish mortality during pile driving, dredging, demolition, and jetting. These commitments and a sequence of construction will be documented in a final BA, which will be submitted to NMFS to conclude Section 7 consultation.

14. If SAV has been documented during the five-year period preceding the conclusion of the design phase, avoidance/minimization/mitigation measures will be developed and coordinated with NMFS, DNR, and DGIF.

D. Noise

1. Noise analysis findings and recommendations will be re-evaluated during design for consistency with the Final Rule 23 CFR 772 published by FHWA on July 13, 2010 and current noise policies for VDOT.

2. During design, MDTA will re-evaluate the cost and feasibility of noise mitigation for Dahlgren Wayside Park, and will coordinate their recommendations with VDOT and King George County.

3. A number of measures will be considered to limit construction noise. The project will comply with local noise ordinances and the noise provisions of the VDOT and Maryland State Highway Administration (SHA) road and bridge specifications. The contractor will prepare a plan for minimizing construction noise and monitor compliance with the plan throughout construction. The plan will include measures such as the following:

   - Equip any internal combustion engine used for any purpose with a properly operating muffler;
   - Conduct truck loading, unloading, and hauling so that noise is kept to a minimum;
   - Route construction equipment and vehicles in areas that will cause the least disturbance to nearby receptors;
   - Place continuously operated diesel-powered equipment, such as compressors and generators, in areas as far as possible from, or shielded from, noise-sensitive locations.
   - Wherever possible, noise barriers to be constructed as part of the project will be constructed as soon as possible to allow the barriers to protect noise-sensitive areas from construction noise.

E. Hazardous Materials

1. Underwater investigations for MECs will be initiated prior to construction.

2. Support services will be provided to identify MECs prior to conducting any subsurface disturbance on land or in the water, such as archeological investigations and construction activities. These services will include identification of potential site hazards, safety briefings, subsurface anomaly detection, emergency response procedures, reporting, and coordination with local response personnel. If MECs are discovered, recommendations will be developed for its safe handling and disposal, to protect the people residing and working in the vicinity of the site.

3. In Virginia, exposed slopes will be promptly stabilized to manage runoff from acidic soils. Due to the naturally occurring levels of arsenic in the soil on the Virginia side, any excess soil materials generated during construction and not used on-site will need to be properly disposed in accordance with applicable solid waste regulatory requirements. In addition, the Health and Safety Plan prepared for construction will include information on arsenic management and avoidance.

F. Permits and Approvals

1. During design, an interagency review team will be established to facilitate coordination of the many permits and approvals (discussed below) that are required to construct this project.

2. A Joint Permit Application (JPA) will be submitted to MDE for review by MDE and the USACE Baltimore District during the project's final design phase. A JPA for impacts on the Virginia side will be submitted to Virginia Marine Resources Commission (VMRC), for review by VMRC, USACE Norfolk District, and Virginia Department of Environmental Quality (DEQ). The permit application will include an Avoidance, Minimization, and Mitigation Report (AMMR) which identifies the permanent and temporary impacts to wetlands, streams, and river bottom within the footprint of the Modified Alternate 7 limit of disturbance, the additional minimization efforts that have been undertaken during the design phase, and the proposed mitigation. The report will also identify any temporary construction impacts to aquatic resources needed to construct the bridge. The permit application will also identify the dredge material disposal site(s). Beneficial re-use of dredge material will be considered during the design phase. A final Compensatory Mitigation Plan will be prepared with the permit application.

3. Pursuant to obtaining an MDE Waterway Construction Permit, a hydrologic and hydraulic study will be conducted during the project’s final design phase to determine what effect the construction of the new bridge will have on Potomac River flood elevations.

4. A Section 9 permit application will be submitted to USCG early in the design phase.

5. During design, the project will seek an NPDES General Permit for Discharges of Stormwater Associated with Construction Activities, and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to address water quality and quantity. Approvals of stormwater management plans will be obtained from DCR and MDE, pursuant to obtaining NPDES permits. Stormwater management plans in Maryland will be developed in accordance with approved MDE specifications, while stormwater management plans in Virginia will be developed in accordance with the DCR-approved VDOT SWM annual specifications.

6. Reforestation in Maryland will comply with the Critical Area Commission (CAC) requirements that are in effect at that time. Preference will be given to forest mitigation sites which are within the Critical Area, expand FIDS habitat, or provide habitat for protected species. The project will include the use of stormwater BMPs to reduce phosphorus loads in stormwater by at least 10% below pre-construction conditions, in conformance with the Critical Area 10% rule.

7. Mitigation for forest impacts in Maryland outside the Critical Area will be mitigated in accordance with Maryland’s Roadside Tree Law, administered by DNR.

8. Pursuant to Section 7 of the Endangered Species Act, a final BA will be submitted to NMFS to determine the project’s effect on the shortnose sturgeon and Atlantic sturgeon.

9. During construction, the contractor will be responsible to obtain permits/approvals for any additional impacts which are identified subsequent to the permits/approvals obtained by MDTA during the project's final design phase.