APPENDIX B

PUBLIC PARKS
MEMORANDUM OF AGREEMENT (MOA)

MEMORANDUM OF AGREEMENT

Among the
MARYLAND TRANSPORTATION AUTHORITY,
VIRGINIA DEPARTMENT OF TRANSPORTATION,
FEDERAL HIGHWAY ADMINISTRATION,
NATIONAL PARK SERVICE,
VIRGINIA TOURISM CORPORATION,
VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION, and the
KING GEORGE COUNTY BOARD OF SUPERVISORS

Regarding
MITIGATION OF EFFECTS TO PUBLIC PARKS from the
GOVERNOR HARRY W. NICE MEMORIAL BRIDGE IMPROVEMENT PROJECT in
KING GEORGE COUNTY, VIRGINIA

WHEREAS, the Maryland Transportation Authority (MDTA), in cooperation with the Virginia Department of Transportation (VDOT), and the Federal Highway Administration (FHWA), proposes to construct a new four-lane bridge and approach roadways that would carry US 301 over the Potomac River between Maryland and Virginia and replace the existing Governor Harry W. Nice Memorial Bridge (MDTA Project No. NB543-000-006), herein referred to as the PROJECT; and

WHEREAS, federal funding administered through the FHWA has been identified by MDTA as a potential funding source for the PROJECT and FHWA is functioning as the lead federal agency; and

WHEREAS, the FHWA DelMar Division is the lead FHWA office for the PROJECT; and

WHEREAS, the FHWA has determined the provision of financial assistance for the project would be an action of the US Department of Transportation which is subject to Section 4(f) of the US Department of Transportation Act (23 CFR §774); and

WHEREAS, the MDTA has identified Modified Alternate 7, which would construct a new four-lane bridge north of the existing bridge, as the PROJECT's Preferred Alternate, as shown in **Attachment A**; and

WHEREAS, the PROJECT's Preferred Alternate would require acquisition of 2.2 acres of Barnesfield Park, 2.1 acres and displacement of the Potomac Gateway Welcome Center property, and 2.2 acres of Dahlgren Wayside Park, which are considered Section 4(f) uses of those properties per 23 CFR § 774.17, shown on **Attachment B**; and

WHEREAS, Barnesfield Park and Dahlgren Wayside Park are located in the Commonwealth of Virginia in the County of King George and owned by the King George County Board of Supervisors (KGC), and the Potomac Gateway Welcome Center is likewise

located in the Commonwealth of Virginia in the County of King George and is owned by the Virginia Tourism Corporation (VTC); and

WHEREAS, an Environmental Assessment/Draft Section 4(f) Evaluation was signed by FHWA in July 2009 and a Final Section 4(f) Evaluation is expected to be completed to demonstrate there is no feasible and prudent avoidance of the use of Section 4(f) property, and, in conjunction with the execution of this Memorandum of Agreement (MOA), all possible planning has been done to minimize harm to those Section 4(f) properties; and

WHEREAS, Barnesfield Park, Dahlgren Wayside Park and the Potomac Gateway Welcome Center were donated from the United States in 1972 as part of the Federal Lands to Parks Program (FLPP) which is administered by the National Park Service (NPS), and use restrictions are included in the deeds for each property in accordance with the FLPP; and

WHEREAS, Barnesfield Park received grant funding from the National Park Service (NPS) through the Land and Water Conservation Fund, and Parcel A of the property (shown on **Attachment B**) is subject to Section 6(f) of the LWCF Act (36 CFR § 59) which is administered by the Virginia Department of Conservation and Recreation (DCR) and NPS; and

WHEREAS, the parkland impacted by the PROJECT is presently used as undeveloped woodland in Barnesfield Park; a paved and unpaved parking lot, trail, waterfront recreational area, small craft boat launch, picnic areas, and open areas in Dahlgren Wayside Park; and lawn adjacent to the Potomac Gateway Welcome Center building. These conditions will be taken into account during the development of mitigation options; and

WHEREAS, the MDTA, with input from the other signatories, has identified that parkland replacement and resolving deed restrictions are appropriate mitigation measures to address PROJECT parkland property impacts subject to Section 4(f), FLPP, and Section 6(f) requirements; and

WHEREAS, the MDTA currently has not programmed funding for PROJECT final design, right-of-way acquisition, construction, or mitigation, including parkland replacement, and funding for future PROJECT phases may not be available for several years; and

WHEREAS, the MDTA completed the Preferred Alternate / Conceptual Mitigation (PACM) report in September 2010 (**Attachment C**) which includes an example of parkland replacement site search criteria. Through development of the PACM, the MDTA has coordinated with the other signatories of this Agreement to identify preferred criteria for parkland replacement sites; and

WHEREAS, the MDTA shall not own any land within the Commonwealth of Virginia;

NOW, THEREFORE, the MDTA, VDOT, FHWA, NPS, VTC, DCR, and KGC agree to implement the following stipulations as an expression of commitment to Section 4(f), FLPP, and Section 6(f) of the LWCF Act mitigation. This Agreement does not resolve any regulatory obligations by the signatories for Section 4(f), FLPP, or Section 6(f) of the LWCF Act approval of the PROJECT.

STIPULATIONS

MDTA shall ensure the following measures are carried out once funds are programmed prior to construction of the PROJECT:

I. Parkland Replacement Site Search

MDTA shall determine the area of parkland needed from Barnesfield Park, Dahlgren Wayside Park, and the Potomac Gateway Welcome Center for PROJECT appurtenances based on final engineering design plans. The area needed for the PROJECT shall be the basis for identifying replacement requirements. Other impacts to any remaining parkland, as a result of the conversion from park to transportation use, shall also be considered in determining the replacement requirements. A no less than 2:1 ratio of replacement parkland to impacted parkland shall be used when identifying replacement parkland needs.

MDTA will prepare and conduct a site search for potential parkland replacement sites at its sole cost. Example parkland site search criteria originally identified in the PACM (**Attachment C**) will first be reviewed to determine if these criteria remain reasonable. MDTA, in coordination with KGC, will then identify additional appropriate criteria, and recommend potential mitigation sites for review. MDTA, in coordination with KGC and VDOT, will contact the landowners of potential sites to determine their interest in providing replacement parkland. As part of the site search, riverfront properties that provide open area for the public to enjoy and have minimal impact to adjoining property owners shall be considered. MDTA will coordinate the site search with all Agreement signatories, and identify one or more preferred replacement site(s) based on input from the Agreement signatories.

MDTA and VDOT will follow the Federal standards for right of way appraisal and acquisition as outlined by the Uniform Appraisal Standards for Federal Land Acquisition (the UASFLA "Yellow Book"), as well as procedures which will be agreed to by MDTA and VDOT prior to the future right-of-way acquisition phase for the PROJECT. To satisfy requirements of Section 6(f) of the LWCF Act, the value of land needed from Barnesfield Park Parcel A by the PROJECT will also be established using this method. King George County may choose to have an additional separate and independent appraisal(s) performed at their expense.

Coordination among the signatories will ensure the proposed replacement parkland would be acceptable under an LWCF Program Section 6(f) conversion of use request (for Barnesfield Park, Parcel A) and an FLPP land exchange (for all impacted park properties). The process for acquiring the replacement parkland is outlined in Stipulation II. Replacement parkland for Barnesfield Park Parcel A shall be of at least equal fair market value to the appraised value of parkland converted from Parcel A. The replacement property for Barnesfield Park Parcel A shall also be of reasonably equivalent usefulness, recreational value, and location as the parkland converted from Parcel A.

II. Parkland Replacement

Following identification of potential replacement parkland as described in Stipulation I, MDTA will coordinate with the signatories to develop and implement a process for acquiring replacement parkland. As owner of Barnesfield Park and Dahlgren Wayside Park, it will be KGC's responsibility to determine which of the potential replacement parklands identified in

Stipulation I would be most beneficial to its needs. The proposed process for acquiring replacement parkland is described below.

1) A Level 1/Phase 1 environmental investigation shall be prepared and paid for by the MDTA for the preferred replacement parkland to identify environmental effects that might limit the property's ability to provide equivalent recreational value, and to determine whether the site(s) are environmentally clean and safe for public park use. The LWCF Proposal Description and Environmental Screening Form (PD/ESF) shall be completed for any property submitted for NPS approval as well as the entire park proposed for partial conversion.
2) MDTA shall provide funding to VDOT for acquisition of the identified replacement parkland, in accordance with the procedures that will be agreed to by MDTA and VDOT prior to the future right-of-way acquisition phase for the PROJECT.
3) KGC will formally propose to DCR and NPS a land exchange which would substitute the replacement parkland for the existing parkland needed for the PROJECT. DCR and NPS will approve the land exchange if the appropriate Section 6(f) of the LWCF Act and FLPP conditions are met.
4) Subject to paragraph 2) above, VDOT shall acquire the replacement parkland.
5) The FLPP deed restrictions on the use of the land would be removed from the portions of Barnesfield Park, Dahlgren Wayside Park, and the Potomac Gateway Welcome Center properties needed for the PROJECT, pursuant to Virginia law and after the required advertisement, public hearing, comment and vote. The removal of the public park and recreation use restriction in the properties' quitclaim deeds will occur in a release and transfer deed, which will be prepared by the NPS. At no time will there be a reduction of acreage of protected parkland at Barnesfield Park, Dahlgren Wayside Park, or the Welcome Center without a simultaneous replacement of similar parkland. The deed for the replacement parkland property must contain protections per Section 6(f) of the LWCF Act.
6) KGC and VTC will convey the unrestricted former parkland (now impacted by the PROJECT) to VDOT for PROJECT purposes.
7) VDOT will donate the replacement parkland to KGC, which will be restricted pursuant to any applicable State and Federal laws and deed restrictions.
8) MDTA shall complete any additional NPS and DCR administrative requirements (e.g., property descriptions, forms and coordination) which NPS and DCR usually need from conversion applicants prior to Section 6(f) approval.

The general steps described above are subject to minor revision based on circumstance at the time of implementation of Stipulation II. Should significant alteration to these steps be required, a signatory may request an amendment to this MOA per Stipulation VII.B.

III. Park Enhancement and Landscape Design

MDTA shall prepare a landscape plan for the portions of Barnesfield Park, Dahlgren Wayside Park, and the Potomac Gateway Welcome Center property, which are adjacent to the proposed roadway, including areas that are currently within VDOT right-of-way as part of project final design activities, at its sole cost. The plans shall be developed by a professional landscape architect registered in the Commonwealth of Virginia and be approved by VDOT and KGC. The landscape plan shall be in keeping with the recreational character of Barnesfield Park and Dahlgren Wayside Park. Plantings proposed in the landscape plan will have the intent to provide

screening between US 301 and park properties. MDTA shall implement the final landscape plan during construction of the PROJECT.

The landscape plan shall accommodate the change in existing ground elevations caused by construction of the PROJECT, and shall include treatment of surrounding slopes and enhancement and/or replacement of existing landscape features. MDTA shall also construct a new public trail within Dahlgren Wayside Park that would provide access from the park to the bicycle / pedestrian path proposed by the Preferred Alternate across the replacement bridge as part of the PROJECT. The Dahlgren Wayside Park entrance and parking lot shall be relocated. The landscape plan shall recommend, and MDTA shall install, as appropriate, hardscape features such as picnic tables, flagpoles, replacement boat landing (if required) and barbecue grills within Dahlgren Wayside Park.

Also as part of the landscape plan, MDTA, VDOT and KGC will evaluate whether noise abatement measures for US 301 would be desirable adjacent to Dahlgren Wayside Park. If noise abatement at Dahlgren Wayside Park is determined feasible and reasonable per FHWA and VDOT noise abatement criteria during the PROJECT design phase, MDTA shall design appropriate noise abatement measures to be installed during the construction phase of the PROJECT. MDTA will be responsible for the design and installation of any sound abatement measures incorporated in the final design of this project.

MDTA shall provide sixty (60) calendar days for review and comment on the landscape plan by the signatories. MDTA shall ensure all comments received within that sixty (60) calendar day period are considered as appropriate in the final landscape plan.

IV. Potomac Gateway Welcome Center Property

It is anticipated that the entire Potomac Gateway Welcome Center Property would be acquired for the PROJECT, following procedures which will be agreed to by MDTA and VDOT prior to the future right-of-way acquisition phase for the PROJECT. Any remaining land from this property not needed for the PROJECT will be donated to KGC and incorporated into Barnesfield Park for the purpose of recreational use in perpetuity. Donation of the remaining, unneeded portion of the property to KGC will not be considered replacement parkland. Nevertheless, the MDTA is committed to completing this stipulation in conjunction with other mitigation measures.

V. Review of Project Design Plans

MDTA shall provide the signatories an opportunity to review and provide comments on relevant sections of the PROJECT design plans that affect existing park property at two stages of the design phase (semi-final and final) following design review funding procedures which will be agreed to by MDTA and VDOT prior to the future design phase for the PROJECT. If after sixty (60) calendar days following submittal of the design plans no comments are received, MDTA may assume the non-responding party has no comments. MDTA may proceed with implementation of the plans and development of property acquisition documents (i.e., plats). MDTA shall ensure that all comments received within that sixty (60) calendar day period are considered as appropriate in the design plans, including a written response to the responding party.

VI. Subsequent Changes to the Project

If, subsequent to the implementation of Stipulation V, any significant changes to the PROJECT affecting design of the Preferred Alternate or parkland area needed by the PROJECT are proposed, MDTA shall provide the signatories with information concerning the proposed changes. If after sixty (60) calendar days following submittal of project changes no comments are received by MDTA, MDTA may assume the non-responding party has no comments. MDTA shall ensure that all comments received within that sixty (60) calendar day period are considered as appropriate in the proposed changes.

VII. Administrative Stipulations

A. Resolving Objections

The signatories of the MOA shall notify all other signatories in writing of any instance where a signatory objects to the implementation of any of the stipulations set forth above. The signatories shall consult to resolve the objection. If MDTA determines the objection cannot be resolved, MDTA's responsibility to carry out all actions under this MOA that are not the subject of the dispute shall remain unchanged. MDTA shall coordinate with VDOT and FHWA to determine whether the subject of the dispute requires an amendment to this MOA (as described in Stipulation VII.B) or requires termination of the MOA (as described in Stipulation VII.E).

B. Amendments

This MOA may be amended only upon written agreement of the signatories. Any signatory party may request an amendment, whereupon the other signatory parties will respond with any comments within sixty (60) days of the request date.

C. Duration

This MOA shall remain in full force and effect from the date of its execution until five (5) years following commencement of construction for the PROJECT. Prior to five (5) years following commencement of construction, MDTA may consult with the other signatories to consider an extension to the MOA. Such an extension shall be treated as an amendment in accordance with Stipulation VII.B.

D. Review of Implementation

MDTA shall review the PROJECT annually to monitor progress of the implementation of the terms of this MOA. Upon completion of each review, MDTA shall submit a memorandum summarizing the status of MOA implementation to the signatories. The review should occur in January each year following implementation of the MOA.

E. Termination

If any signatory to this MOA determines that the terms of this MOA will not or cannot be completed, that signatory may immediately coordinate with the other signatories to draft an amendment to the MOA per Stipulation VII.B. If within thirty (30) calendar days an amendment cannot be drafted, any signatory may terminate its commitments in the MOA upon written notification to the other signatories.

[SIGNATURES APPEAR ON THE FOLLOWING PAGE]

Execution of this MOA by the signatories, and implementation of its terms, is evidence that MDTA is committing to address Section 4(f), Section 6(f) and FLPP effects to parks that result from the Governor Harry W. Nice Memorial Bridge Improvement Project during design and construction of the PROJECT.

SIGNATORIES

MARYLAND TRANSPORTATION AUTHORITY

By: _____ Date: 6/29/11
Randolph P. Brown, Acting Executive Secretary

Approved as to form and legal sufficiency:

_____
Sherita D. Harrison, Assistant Attorney General

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: 9/22/2011
for Hassan Raza, DelMar Division Administrator

By: _____ Date: 8/8/11
for Irene Rico, Virginia Division Administrator

VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____ Date: 7/12/11
Steve Long, Assistant Administrator, Environmental Division

NATIONAL PARK SERVICE

By: _____ Date: 8/20/11
Dennis Reidenbach, Regional Director Northeast Region

VIRGINIA TOURISM CORPORATION

By: _____ Date: 7/27/11
Roy Knox, Vice President, Administration and Revenue

VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

By: _____ Date: 7/20/11
Danette Poole, Director, Division of Planning and Recreational Resources

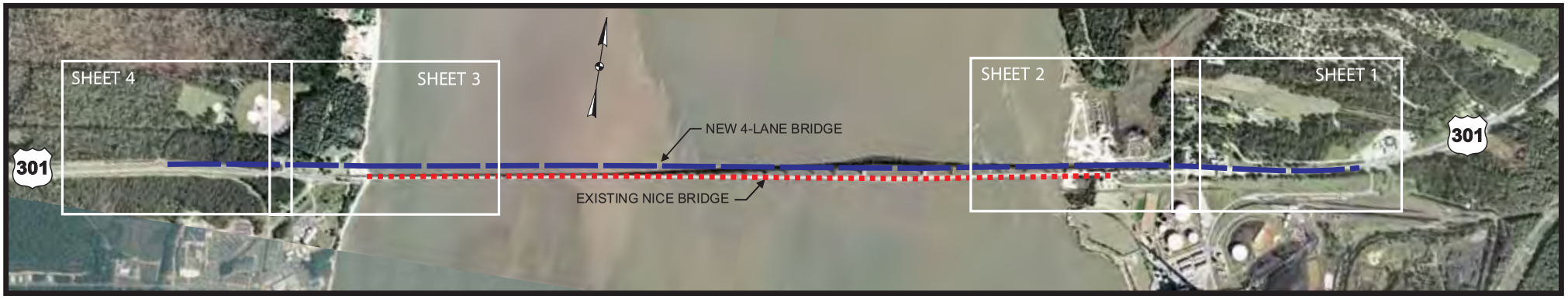
KING GEORGE COUNTY

By: _____ Date: 7/6/11
Travis Quesenberry, County Administrator

Attachment A

Project Location Map and Plans of
the Preferred Alternate (Modified Alternate 7)


Charles County
La Plata
Port Tobacco
Newtown
Dentsville
Bel Alton
MARYLAND
Allens Fresh
Wicomico
Mathias Point
Popes Creek
Budds Creek
Gov. Harry W. Nice Mem. Bridge
Newburg
St. Mary's County
West Hatton
Morgantown
Dahlgren
Woodberry Beach
Swan Point
Rock Point
Colonial Beach
VIRGINIA
Index
Westmoreland County
225
488
231
6
301
257
206
205
HARRY W. NICE BRIDGE
IMPROVEMENT PROJECT
Public Parks MOA
November 2010
Figure 1
Project Location Map
Maryland Transportation Authority
1 in = 3 miles
N



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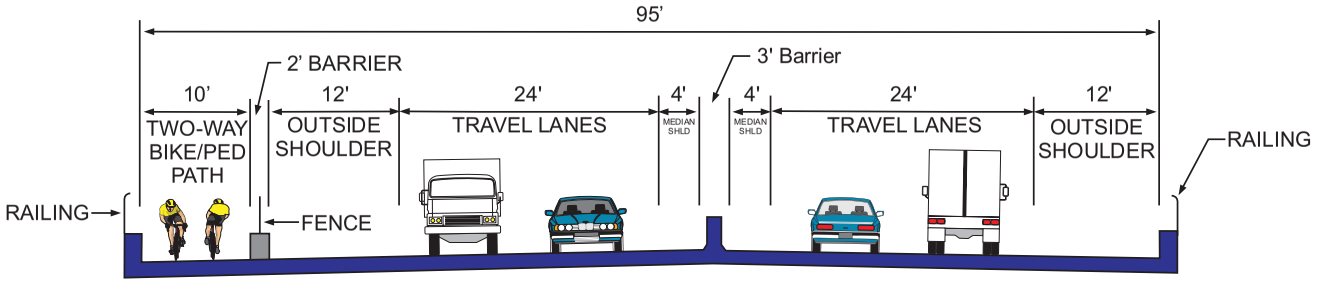


NEW 4-LANE BRIDGE FOR TWO-WAY TRAVEL WITH TWO-WAY BIKE/PED PATH

MODIFIED ALTERNATE 7

Nice Bridge Improvement Project

Appendix A

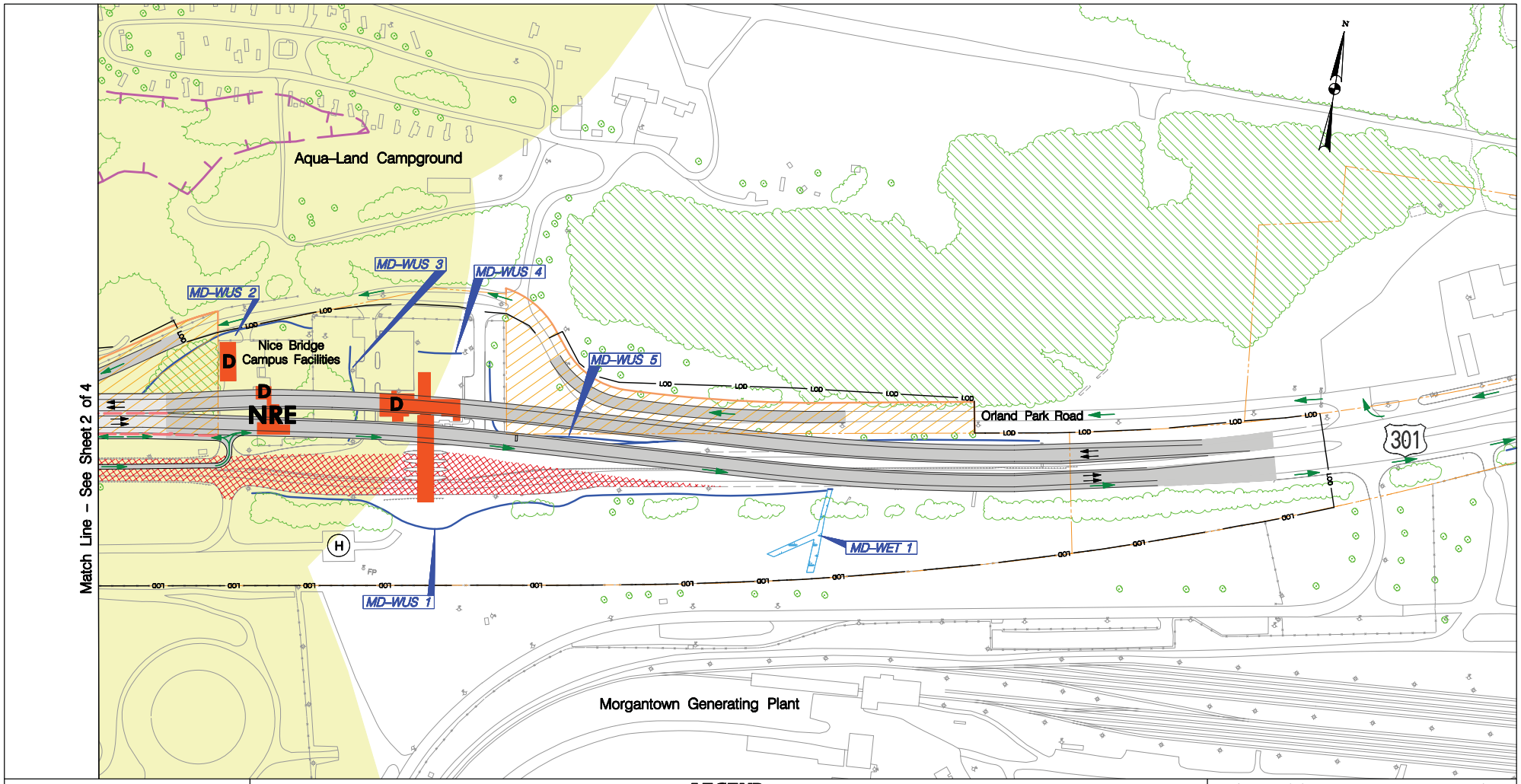
Modified Alternate 7

Index Sheet

November 2010

HARRY W. NICE BRIDGE IMPROVEMENT PROJECT

Maryland Transportation Authority



VA MD

PLATE LAYOUT

0 100 200 300 400

Scale: 1" = 200'

LEGEND

- Bridge Structure
- New Roadway
- Pavement Removal
- Retaining Wall
- Proposed Fence
- LOD — Limit of Disturbance
- Existing Property Line
- Proposed Acquisition
- Traffic Barrier
- Parkland
- Critical Area (MD)
- Forest Stand
- 100 Year Floodplain
- Jurisdictional Wetland
- Jurisdictional Water of U.S.
- NRE / D — National Register of Historic Places – Eligible Potential Displacement
- Bike / Pedestrian Traffic Flow

Nice Bridge Improvement Project

Appendix A November 2010

Preferred Alternate

Modified Alternate 7 (Sheet 1 of 4)

HARRY W. NICE BRIDGE IMPROVEMENT PROJECT

Maryland Transportation Authority

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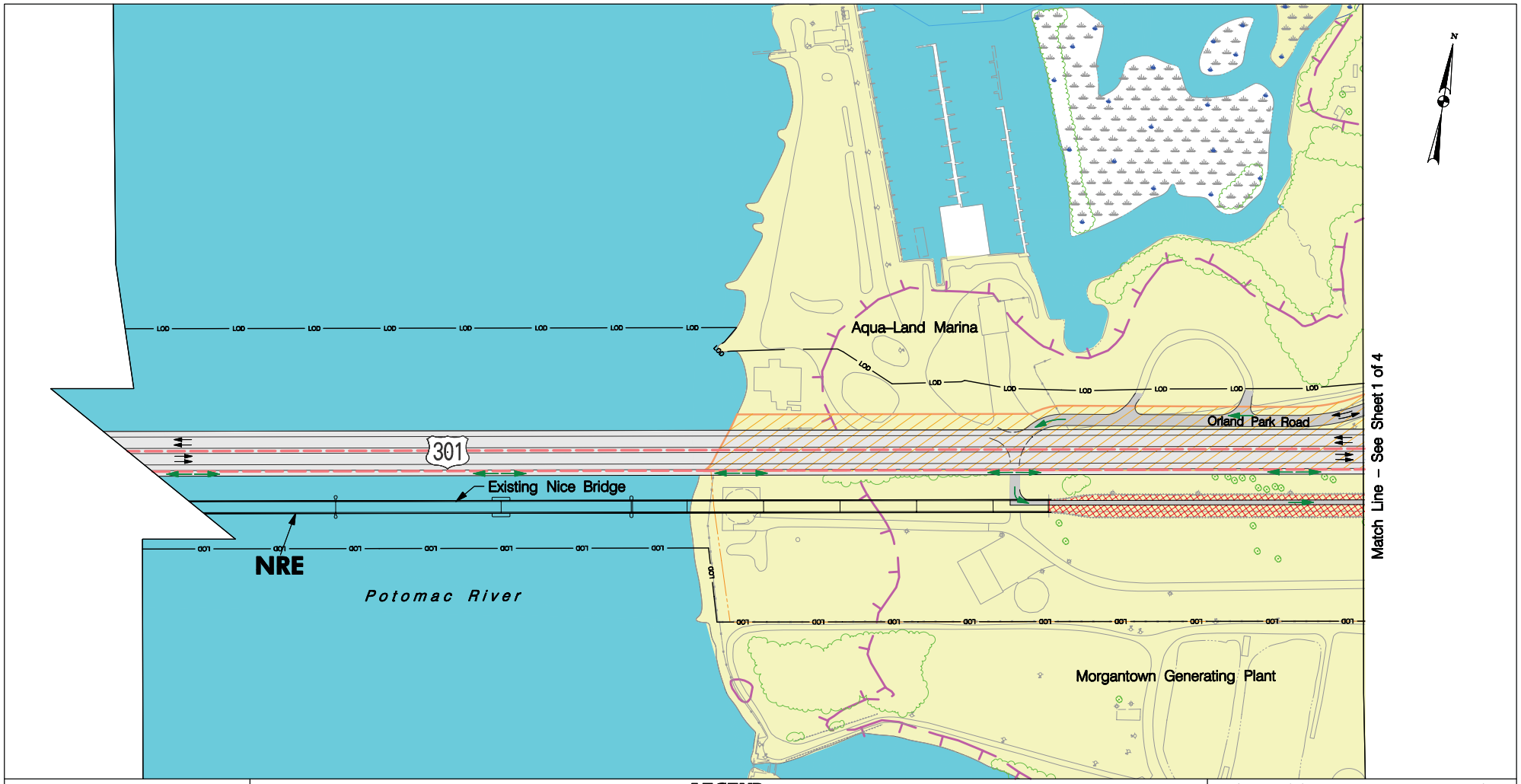

VA MD

PLATE LAYOUT

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Scale: 1" = 200'

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- Proposed Fence
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- Proposed Acquisition
- Traffic Barrier
- Parkland
- Critical Area (MD)
- Forest Stand
- 100 Year Floodplain
- Jurisdictional Wetland
- Jurisdictional Water of U.S.
- NRE — National Register of Historic Places – Eligible
- Potential Displacement
- Bike / Pedestrian Traffic Flow

Nice Bridge Improvement Project

Appendix A November 2010

Preferred Alternate

Modified Alternate 7 (Sheet 2 of 4)

HARRY W. NICE BRIDGE IMPROVEMENT PROJECT

Maryland Transportation Authority

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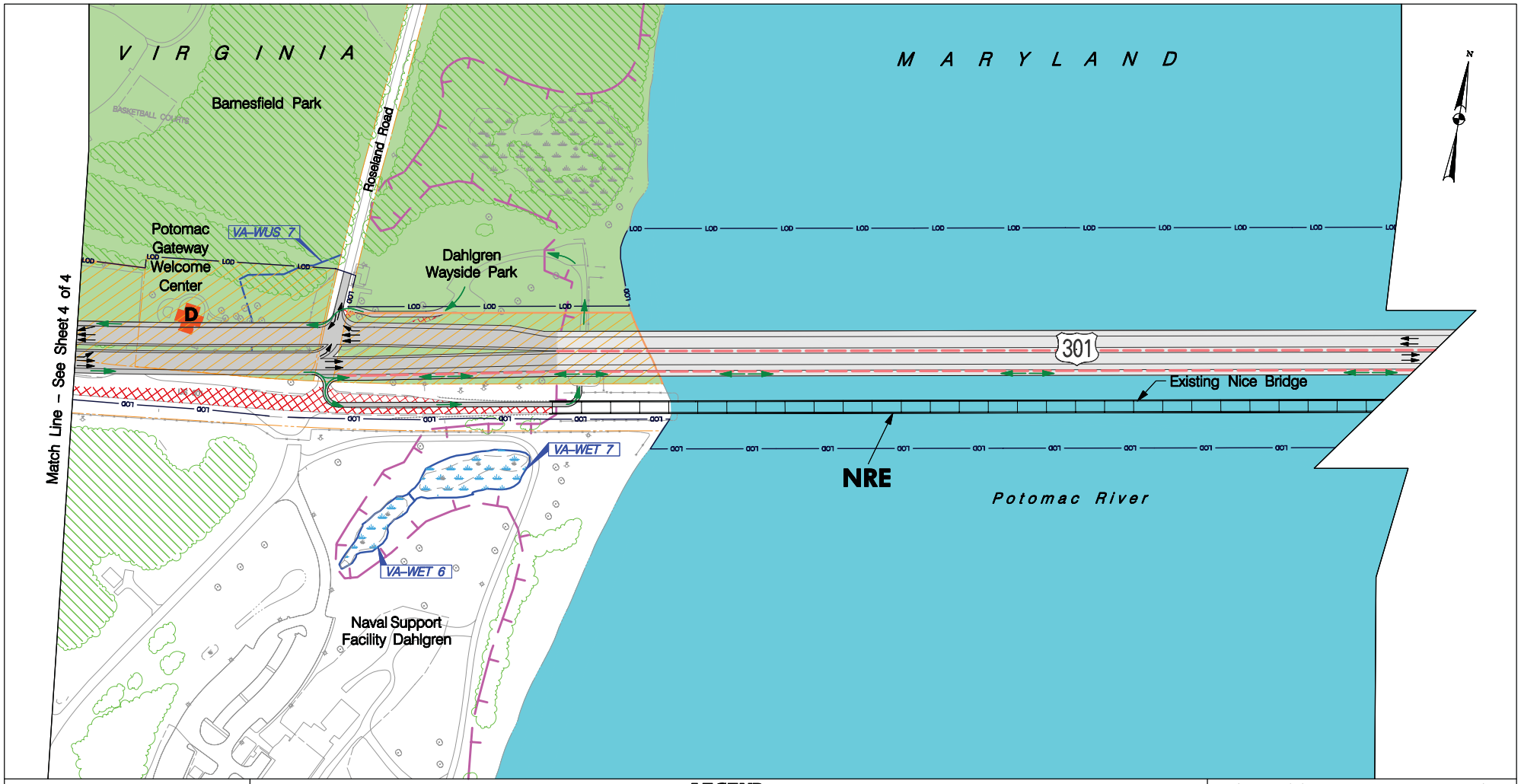

VA MD

PLATE LAYOUT

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Scale: 1" = 200'

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- Forest Stand
- 100 Year Floodplain
- Jurisdictional Wetland
- Jurisdictional Water of U.S.
- NRE — National Register of Historic Places – Eligible Potential Displacement
- Bike / Pedestrian Traffic Flow

Nice Bridge Improvement Project

Appendix A November 2010

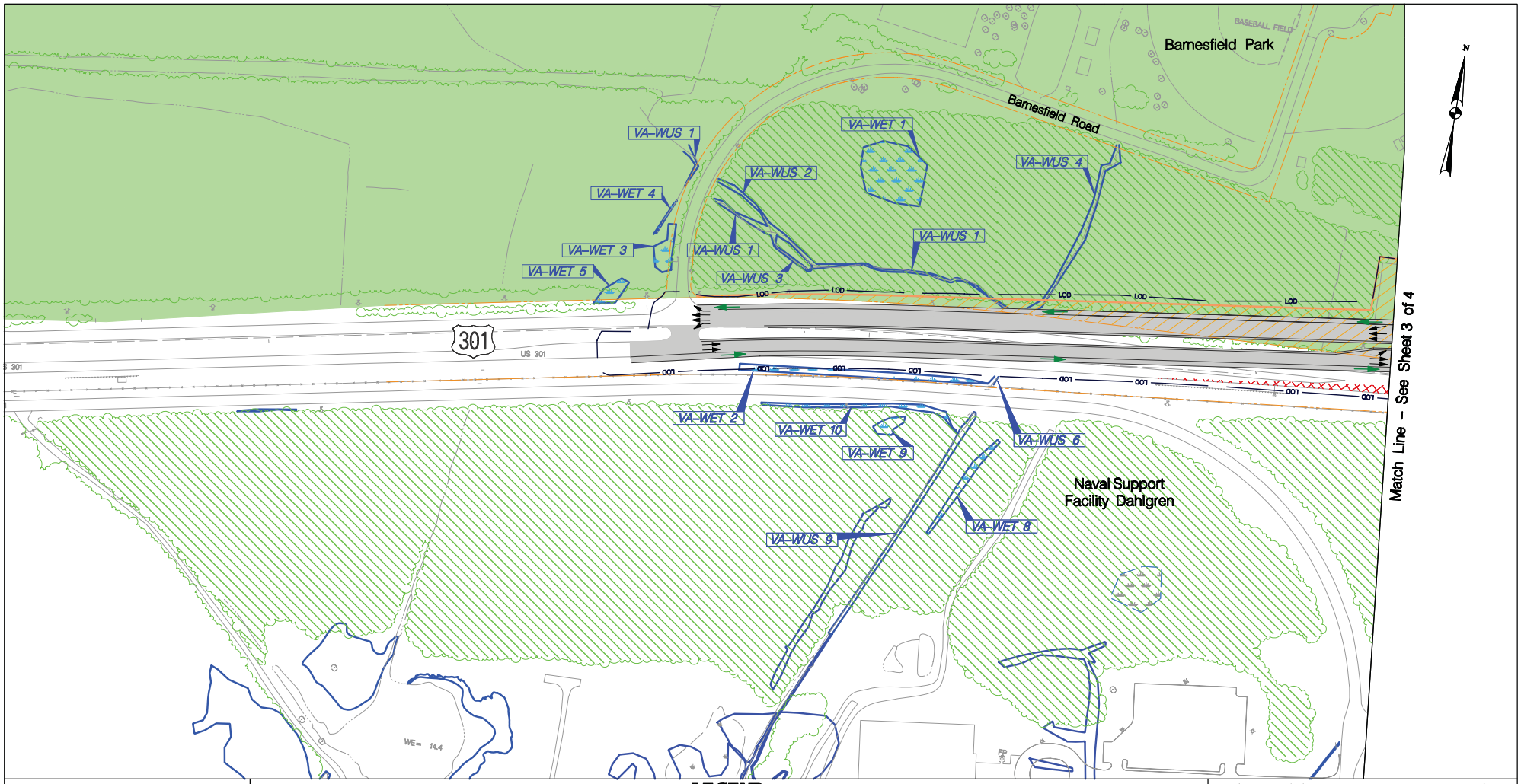
Preferred Alternate

Modified Alternate 7 (Sheet 3 of 4)

HARRY W. NICE BRIDGE IMPROVEMENT PROJECT

Maryland Transportation Authority

T:\Nice Bridge Study\Preferred Alternate\pHD-MODALT7-3.dgn



VA MD

PLATE LAYOUT

0 100 200 300 400

Scale: 1" = 200'

LEGEND

- Bridge Structure
- New Roadway
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- NRE — National Register of Historic Places – Eligible Potential Displacement
- Bike / Pedestrian Traffic Flow

Nice Bridge Improvement Project

Appendix A November 2010

Preferred Alternate

Modified Alternate 7 (Sheet 4 of 4)

HARRY W. NICE BRIDGE IMPROVEMENT PROJECT

Maryland Transportation Authority

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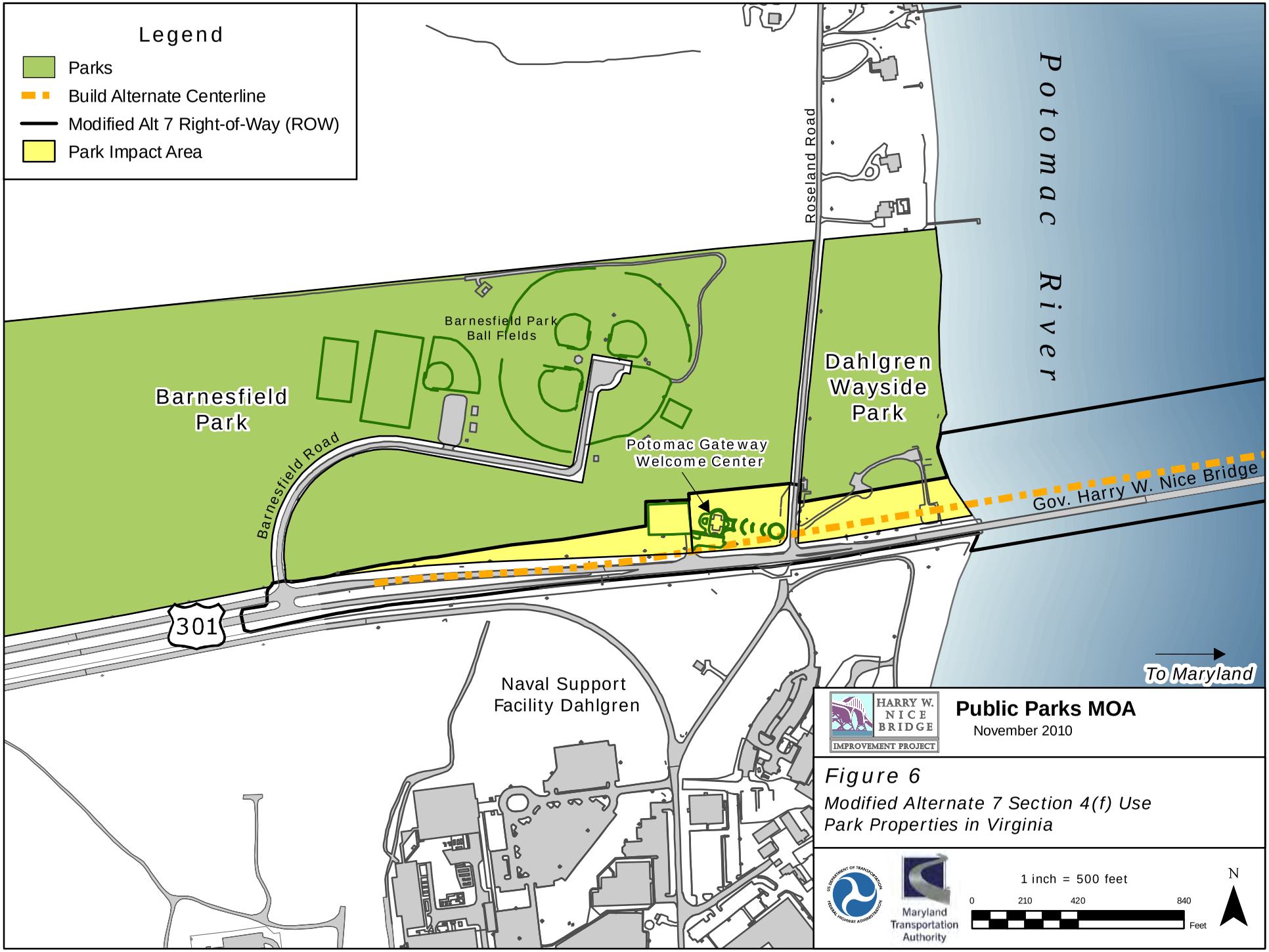
Attachment B

Virginia Parkland Impacts


Legend
Parks
Build Alternate Centerline
Modified Alt 7 Right-of-Way (ROW)
Park Impact Area
Barnesfield Park
Barnesfield Park Ball Fields
Barnesfield Road
Roseland Road
Dahlgren Wayside Park
Potomac River
Potomac Gateway Welcome Center
Gov. Harry W. Nice Bridge
301
Naval Support Facility Dahlgren
To Maryland
HARRY W. NICE BRIDGE IMPROVEMENT PROJECT
Public Parks MOA
November 2010
Figure 6
Modified Alternate 7 Section 4(f) Use
Park Properties in Virginia
Maryland Transportation Authority
1 inch = 500 feet
0 210 420 840
Feet
N

Attachment C

Excerpts from Preferred Alternate / Conceptual Mitigation (PA/CM) Package

NICE BRIDGE IMPROVEMENT PROJECT

Charles County, Maryland and King George County, Virginia

MODIFIED ALTERNATE 7

Preferred Alternate and Conceptual Mitigation (PACM) Package

MARYLAND TRANSPORTATION AUTHORITY — Date 09/20/10
Dennis N. Simpson, Acting Director

FEDERAL HIGHWAY ADMINISTRATION — Date 09/29/10
Nelson Castellanos, Division Administrator, Maryland Division

The Maryland Transportation Authority seeks concurrence from the Federal Highway Administration and the concurring agencies (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and National Marine Fisheries Service) for the selection of Modified Alternate 7 as the Preferred Alternate for the Governor Harry W. Nice Memorial Bridge Improvement Project. The purpose of the Preferred Alternate is to provide a crossing of the Potomac River that is compatible with the approach roadway, increases capacity to accommodate design year traffic, improves safety conditions, and accommodates two-way traffic flow on the bridge during wide-load crossings, incidents, poor weather conditions, and when performing bridge maintenance and rehabilitation work.

All of these public expenditures would be difficult to justify for a bridge that ceases to have any transportation function. In addition, the cost and responsibility for maintaining bridge security would be an unreasonable burden to MDTA.

Consideration was also given to retaining the existing bridge to serve as a bicycle/pedestrian trail. This would allow the bridge to continue to have a transportation function, which would make the annual costs to preserve the bridge somewhat more justifiable as a public expenditure. Furthermore, the elimination of the bicycle/pedestrian trail from the new bridge would result in cost savings which could be used to defray the maintenance of the historic bridge for a number of years. However, at some point in the future, the mounting cost of maintenance would become too great a financial burden for a bicycle/pedestrian trail, and the bridge would be permanently closed, and fall into disrepair. At that time, it would be more costly and structurally challenging to retrofit the four-lane bridge with a trail than it would be to include the trail as part of the initial new bridge construction.

C. Consistency with Section 4(f) and Section 6(f)

1. Section 4(f) (23 CFR Part 774)

Modified Alternate 7 would impact the following significant historic properties and publicly-owned public parks which are protected under Section 4(f) of the US Department of Transportation Act of 1966: the Governor Harry W. Nice Memorial Bridge and Potomac River Bridge Administration Building, Barnesfield Park, Potomac Gateway Welcome Center, and Dahlgren Wayside Park.

In order to address the impacts of the ARDS on these resources, a Draft Section 4(f) Evaluation was completed in July 2009. The evaluation compared all of the ARDS as well as other alternates that avoid or minimize the use of Section 4(f) property. Under 23 USC Part 774, impacts to Barnesfield park were evaluated as *de minimis* in the July, 2009 EA. The Preferred Alternate has greater impacts to Section 4(f) resources compared to the other ARDS. Therefore, in order for FHWA to select Modified Alternate 7, a Final Section 4(f) Evaluation will be prepared to demonstrate 1) there are no feasible and prudent avoidance alternates to the use of Section 4(f) property; and 2) that all possible planning has been done to minimize harm to Section 4(f) property.

Based on the Draft Section 4(f) Evaluation, and coordination with the DOI, National Park Service (NPS), Virginia Department of Conservation and Recreation (DCR), the Virginia Department of Historic Resources (DHR), the Maryland Historical Trust (MHT), King George County (KGC), and the US Navy, it appears that there are no feasible and prudent alternates that avoid use of Section 4(f) property, and that Modified Alternate 7 includes all possible planning to minimize harm. However, this determination cannot be made until the Final Section 4(f) Evaluation is completed and signed by FHWA, which is scheduled for late 2010.

2. Section 6(f) (36 CFR Part 59)

In 1985, King George County received $240,000 from the Federal Land and Water Conservation Fund (LWCF) to improve ball fields, utilities, concessions, restrooms, playgrounds, parking, landscaping, and other support facilities in Parcel A of Barnesfield Park. Consequently, this parcel is protected under Section 6(f) of the LWCF Act (16 USC 460). The NPS must approve the conversion of any portion of this Section 6(f) property from parkland to any other use, including highway right-of-way. To obtain approval, replacement property must be provided which meets 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.

It is the MDTA's intent to also provide replacement lands of equal or greater acreage to those impacted.

To meet Section 6(f) requirements, MDTA has completed a map search of potential replacement park sites. Example replacement properties are discussed in **Section VII. A.** Due to the anticipated extended time frame for funding availability and project implementation, MDTA cannot currently secure the specific property, or properties, that would be used for Section 6(f) replacement. Specific replacement property will be identified during the project's design phase, once funding is available. However, a Memorandum of Agreement will be implemented in the coming months with NPS, DCR, KGC, VDOT, VTC, and FHWA to formalize the process which will be followed to obtain approval for a Section 6(f) conversion. Based on the large number of potential parkland mitigation properties identified, it is expected that suitable replacement parkland will be secured to ensure compliance with Section 6(f).

D. Consistency with Section 404 of the Clean Water Act

The U.S. Environmental Protection Agency's (EPA's) *Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material* [40 CFR 230] allow the U.S. Army Corps of Engineers (USACE) to authorize a Section 404 permit for impacts to waters of the US, including wetlands, only for the practicable alternative which results in the least adverse impact to the aquatic ecosystem, unless that alternative has other significant adverse environmental consequences. This alternative is often referred to as the "Least Environmentally Damaging Practicable Alternative" (LEDPA).

As discussed above under **Section V. C. 1. Section 4(f)**, Alternate 1 would not satisfy the stated purpose and need; therefore it is not a practicable alternative. Alternates 2, 3, and 6 would result in encroachment onto NSF Dahlgren property, resulting in an unacceptable decrease in the required standoff distance between the public right-of-way and several unique facilities that are critical to the Navy's mission. Therefore, Alternates 2, 3, and 6 are not practicable alternates.

Of the three northern alternates (Alternates 4, 5, and 7), Alternate 4 is not preferred because it would only partially meet the purpose and need by failing to address the safety deficiencies, capacity limitations, and operational inefficiencies of the existing bridge and not fully satisfying the requirements of STRAHNET. While Alternate 4 would result in a minor reduction in aquatic impacts (including dredging) compared to the Preferred Alternate (see ***Table 2***), this reduction in aquatic impacts is not sufficient to justify choosing an alternate that would compromise the engineering, operational, safety, and capacity benefits of the Preferred Alternate. Therefore, Alternate 4 is not practicable.

Table 2: Natural Environmental Impacts of the Northern Alternates

Environmental Resource	Alt 4	Alt 5	Mod Alt 7
Prime farmland soils and soils of statewide importance	7.2 Ac	7.5 Ac	8.2 Ac
Streams	3,640 LF	3,670 LF	3,660 LF
Wetlands	0.1 Ac	0.2 Ac	0.1 Ac
Open water pier impacts	0.4 Ac	0.7 Ac	0.5 Ac
Temporary dredge impacts	63 Ac	89 Ac	65 Ac
Chesapeake Bay Critical Area (MD)	24.4 Ac	24.5 Ac	24.2 Ac
Chesapeake Bay Preservation Area (VA)	2.3 Ac	2.3 Ac	2.2 Ac
RTE Species	0-1	0-1	0-1
100-year FEMA designated floodplain	8.4 Ac	8.7 Ac	8.4 Ac
Forests	1.0 Ac	1.0 Ac	2.7 Ac

Alternate 5 would have higher cost and greater aquatic impacts (with 89 acres of dredging) than Alternate 7 (67 acres dredging) or Modified Alternate 7 (65 acres dredging). In addition, the construction of two bridges with Alternate 5 would require a longer period of construction, requiring a second season of dredging and pile driving to construct the second bridge. This would prolong the period aquatic species would be exposed to the detrimental effects of increased turbidity and shock waves. Therefore, in terms of aquatic impacts, Alternate 5 has no advantage over the Preferred Alternate.

Based on the above discussion, Modified Alternate 7 is the LEDPA. Although a USACE Section 404 permit will not be sought at the conclusion of the planning phase, with this document MDTA seeks formal concurrence from USACE that Modified Alternate 7 is the LEDPA. A *Draft Compensatory Mitigation Plan* for unavoidable impacts to aquatic resources was included in the EA and has been coordinated with the resource agencies (for further details, see **Section VII. C.**)

VI. ENVIRONMENTAL IMPACTS OF PREFERRED ALTERNATE

As a result of comments received during the 2009 Public Hearing comment period, minor modifications were made to Alternate 7 to create a more cost-effective, and less environmentally-impactive alternate. The minor modifications made to Alternate 7 include the consolidation of two one-way bicycle/pedestrian paths into a single two-way path, and the paths on each shore that are needed to transition the bicyclists/pedestrians from the bridge to the appropriate shoulder of US 301.

This section provides a summary of environmental impacts associated with the Preferred Alternate (Modified Alternate 7) and describes efforts to minimize impacts to affected environmental resources. Impact values have been updated from the July, 2009 EA to reflect the minor changes to Alternate 7; however, the qualitative discussions of the impacts of Alternate 7 described in the EA remain valid.

A. Socioeconomic Resources

1. Communities and Community Facilities

No residential displacements would occur with the Preferred Alternate. Impacts to community facilities include the demolition of the Potomac Gateway Welcome Center and the MDTA's Nice Bridge Administration Campus facilities, and acquisition of land from Dahlgren Wayside Park, Barnesfield Park, and Aqua-Land Marina and Campground. The Preferred Alternate would acquire 2.2 acres of the 146.5-acre Barnesfield Park, 2.2 acres of the 14.7-acre Dahlgren Wayside Park, and the entire 2.1-acre Potomac Gateway Welcome Center (which is considered to have a public park and recreation purpose).

The acquisition required from Barnesfield Park would be from a wooded area, and would not affect the ball fields, playground, concessions, park facilities, or entrance. Acquisition of property from Barnesfield Park must comply with Section 6(f), as described in Section V.C.2 of this document.

The 2.2-acre acquisition from Dahlgren Wayside Park would include a portion of the park entrance on Roseland Road, a parking area, a portion of the picnic area, and a portion of the beach area. Access would be improved with the provision of a left turn storage lane in the northbound direction of US 301 at Roseland Road.

At the privately-owned Aqua-Land Marina and Campground, a portion of the entrance road (Orland Park Road) would be relocated, a portion of the gravel parking lot would be displaced, and US 301 would be moved closer to the campground, but no buildings or structures would be displaced and the intersection of US 301 and Orland Park Road would remain unchanged. Charles County has developed a concept plan to accommodate public access to the river at Aqua-Land. Coordination will be undertaken with the Charles County Department of Planning and Growth Management during the design phase concerning the accommodation of an increased number of boaters at Aqua-Land.

Minimization measures have been employed, and will continue to be considered as the project advances to final design. The project footprint, and corresponding impacts, have been reduced by the choice of an alternative that would construct a single four-lane bridge rather than two parallel bridges. The consolidation of two bicycle/pedestrian paths into a single path also reduces the encroachment of relocated Orland Park Road onto the Aqua-Land property. Finally, by accommodating the bicycle/pedestrian path on the south side of the bridge rather than the north, the grade-separated loop path beneath the bridge can be constructed without encroaching into Dahlgren Wayside Park.

During final design, further minimization of property impacts will be evaluated through measures such as 2:1 side slopes and retaining walls or U-wing abutments on the approaches to the bridge, and by returning any unused portion of the Potomac Gateway Welcome Center property to King George County for park usage. Any acquisition or easements would be purchased 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.

Potential park mitigation sites are discussed in **Section VII. A**.

2. Environmental Justice

The campground at Aqua-Land, was identified as a potential Environmental Justice community, with seasonal and year-round low-income residents. The Preferred Alternate would result in the roadway being closer to the residents, but would not result in any displacements or noise impacts. Therefore, the Preferred Alternate does not result in a disproportionately high and adverse human health or environmental effect to Environmental Justice communities.

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. The Preferred Alternate would construct a new bridge on the upstream side of the existing bridge, with a grade not as steep as the existing bridge. This results in a shift in the location of a new bridge abutment in Maryland approximately 800 feet east of the existing bridge abutment. This would alter the views of the bridge, and from the bridge, with the greatest change in the bridge profile occurring at properties adjacent to the bridge on the Maryland shore (Aqua-Land Marina & Campground and Morgantown Generating Station). The type of structure may also change, which could affect the appearance of the bridge as viewed from properties on both shores. During the design phase, aesthetic treatments for the bridge would be considered to keep it visually pleasing to adjacent homes, businesses, and motorists. Also, during the design phase, coordination will be undertaken with the Charles County Department of Planning and Growth Management regarding signage and landscaping that would be appropriate for the gateway to Charles County. Appropriate vegetative screening adjacent to the Morgantown Generating Station will be considered.

4. Economic Environment

The Preferred Alternate would substantially benefit local and regional business activity by reducing traffic delays and improving mobility throughout the region. The improved mobility would 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 would also create more predictable travel times, which would benefit commercial transport fleets and freight delivery services.

There would be no acquisition of property from the two largest employers in the study area, NSF Dahlgren (with over 4,500 military personnel and civilian government employees and more than 4,200

to the Metropolitan Washington Council of Governments (MWCOG) Transportation Improvement Program prior to conclusion of project planning.

F. Climate

The Preferred Alternate is not expected to have an impact on climate change, as it does not induce significant new traffic volumes.

G. Hazardous Materials

Potential hazards associated with unexploded ordnance (UXO) in the study area, including the Potomac River, were identified by NSF Dahlgren. Results of land-based UXO investigations did not identify any significant UXO. Investigations for UXO in the Potomac River would be initiated prior to construction of the Preferred Alternate.

One hazardous material site, NSF Dahlgren, was identified within the Preferred Alternate's limit of disturbance. An Initial Site Assessment (ISA) was prepared in December, 2008, with soil sampling adjacent to the north and south sides of US 301. The results of the ISA 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 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. No further regulatory compliance with DEQ is required.

H. Indirect and Cumulative Effects (ICE) Analysis

The proposed bridge improvements are expected to add an insignificant amount of new trips at the crossing. There are no developments or transportation projects that are contingent upon the construction of the Preferred Alternate. No new access points and no additions to the highway network would be provided as a result of the project. Indirect impacts could include temperature, runoff, and water quality effects that typically accompany added impervious surface; construction-related impacts on terrestrial and aquatic wildlife; dredging-related turbidity effects on benthic invertebrates; invasive species colonization of cleared roadside areas; effects of blasting and pile driving on fish populations; and access/mobility changes at Aqua-Land Marina and Dahlgren Wayside Park as a result of impacts to parking lots and entrances. Cumulative effects would be minor and are expected to primarily occur in areas zoned for development. Cumulative effects to environmental resources will be regulated by existing applicable federal, state, and local legislation and through individual avoidance, minimization and/or mitigation strategies. A detailed review of potential indirect and cumulative effects is included in the EA.

VII. MITIGATION MEASURES

This section describes the conceptual mitigation measures developed to address the unavoidable impacts of the Preferred Alternate. Funding for design, right-of-way acquisition, and construction of the Nice Bridge project is not currently programmed. Therefore, at this time, the measures presented in this document are offered as examples of the types of mitigation that may be implemented. A mitigation discussion is provided for those resources that incur an adverse effect from the project.

A. Section 4(f) / 6(f) Park Mitigation

Construction of Modified Alternate 7 would impact approximately 2.2 acres of Barnesfield Park, 2.2 acres of Dahlgren Wayside Park, and 2.1 acres of the Potomac Gateway Welcome Center. Mitigation for park impacts would be used to minimize harm to the park resources (per USDOT-FHWA Section 4(f)) and provide replacement parkland (per USDOI-NPS Section 6(f)).

The following mitigation measures were considered for impacts to all three parks:

- Replacement of property with lands that have comparable value and reasonably equivalent usefulness and location;
- Provision of new or replacement park amenities and facilities;
- Restoration and landscaping of disturbed areas;
- Incorporation of design features and habitat features where necessary;
- Payment of fair market value/just compensation for the land; and
- Enhancement of existing parkland.

In addition, mitigation measures for impacts to Parcel A of Barnesfield Park must also meet the requirements of Section 6(f) of the LWCF Act and be approved by the NPS. This mitigation requirement is due to the fact that King George County received LWCF funding for improvements to the park.

Section 6(f) requirements include:

- Evaluation of all practicable alternatives;
- 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 meets the eligibility requirements for LWCF assisted acquisition; and
- Impacts to the remainder of the park, as a result of the conversion, shall be considered.

It is the intent of MDTA to identify replacement parkland which is of equal or greater acreage than the impacted area of Barnesfield Park.

Coordination and approval for the project's park mitigation will be sought in consultation with FHWA, DCR, NPS, and King George County. MDTA has conducted a series of meetings among these and other agencies having jurisdiction over the affected parklands or an approval action for the mitigation. This interagency team will be reviewing the impacts to parkland and evaluating the potential mitigation measures that are described in this report. A Memorandum of Agreement (MOA) outlining the coordination that will be undertaken to obtain final approval of the park mitigation is being developed between MDTA, VDOT, FHWA, NPS, VTC, DCR, and the King George County Board of Supervisors.

1. Mitigation Site Search

Various mitigation options that satisfy the mitigation requirements for park properties have been investigated. Primarily, mitigation options such as park enhancement, creation, and expansion were identified. The following criteria were used to identify parcels as potential sites for these mitigation options:

- The park impact areas include both active and passive recreation land. The impacted developed facilities include parking lot, picnic area, and a beach. Within the impacted park area are forests and streams, which add value to the recreation experience in terms of scenic qualities, enjoyment of wildlife, a buffer from surrounding roads and development, and protection of natural resources. Therefore, the mitigation search focused on identifying opportunities to provide lands having equivalent recreational value within a similar natural setting.
- Section 6(f) guidance recommends property adjacent to the impacted 6(f) resource be given priority; therefore, parcels of land located adjacent to the impacted parkland were considered

favorable mitigation options. Additionally, the impacts to the existing park facilities were relatively small. Therefore, acquisition of land to expand an existing park offers greater benefits than acquiring a few acres of isolated land.

- Parcels with water access were considered more favorably because the land use would replace functions lost through the conversion of the Dahlgren Wayside Park and would satisfy recommendations of the *King George County Comprehensive Plan*, which recognizes the need for aquatic recreational opportunities.
- Sites without constraints such as wetlands; rare, threatened, and endangered species; historic resources; or hazardous materials would allow for further development of recreational park features.

Twenty-two example park mitigation sites were identified, 16 of which appear viable (see **Figure 4**). Parcels located adjacent to Barnesfield Park, Dahlgren Wayside Park, and Caledon Natural Area State Park have been identified as potential replacement and park expansion lands. Enhancements to the existing Barnesfield Park have been considered. Finally, additional properties within King George County that are not adjacent to the impacted parks, but contain large open fields for park development, water access, and natural areas for trails, were considered.

Using Geographic Information Systems (GIS) data, the acreage of open space and forest was calculated for the identified mitigation options. The example properties described in this section may either be acquired in whole or in part; however, it is anticipated that MDTA would not mitigate at greater than a 2:1 ratio of replacement parkland to impacted parkland. Thus the approximate acreage of replacement land needed is not more than approximately 13 acres. Furthermore, the fair market value of the impacted parkland will be considered in the selection of any mitigation site.

Because MDTA does not intend to proceed with park mitigation until funding is available, no property owners have been contacted at this time. The sites identified present a potential menu of mitigation opportunities the MDTA could further investigate when funding is available for design and construction of the project. The property search provides evidence of sufficient replacement land for park mitigation. A property search update would be completed once design and construction funding becomes available. The MOA will detail the necessary steps to obtain agency approval of the park mitigation sites.

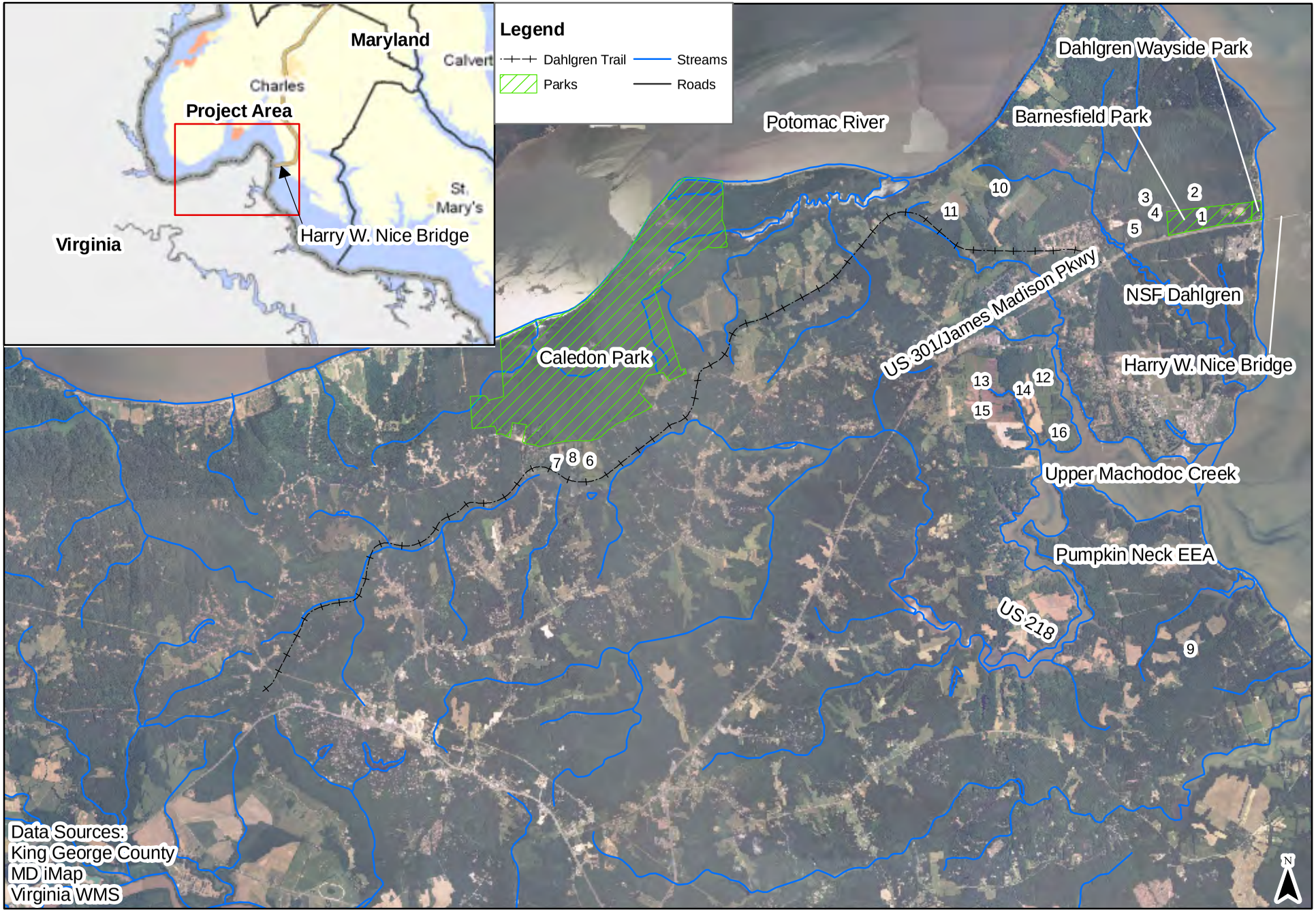
Although not identified in this report, any chosen park mitigation site will require a determination from the NPS that the property is of comparable size, reasonably equivalent usefulness and location, and of at least equal fair market value to the impacted Barnesfield Park property (36 CFR 59.3). Under any park mitigation option, the Potomac Gateway Welcome Center property would be divided so that the remaining, unaffected portion would revert back to King George County for recreational use in Barnesfield Park.

a. Mitigation Site Opportunities at or near Barnesfield Park

Option 1 - Barnesfield Park Enhancements

Option 1 consists of enhancements to Barnesfield Park. Barnesfield Park functions as a community and county park serving the recreational needs of thousands of people in King George County. Per the *King George County Capital Improvement Plan (CIP)*, possible enhancements for Barnesfield Park include the installation of additional playground equipment, lights for sports fields, a well for irrigation, the construction of a group pavilion, and the installation of additional parking. As a stand-alone option, enhancements to the park would not likely meet Section 6(f) replacement land requirements.

Figure 4: Potential Park Mitigation Sites



Option 2 - Land Acquisition from Site 2

Option 2 consists of acquiring private property located near Barnesfield Park. The property is a wooded, 150+ acre parcel with several extensive wetlands. There is sufficient upland acreage on the site to satisfy Section 6(f) requirements for land of equal recreational value, even if only a portion of the parcel is acquired.

Option 3 - Land Acquisition from Site 3

Site 3 is a 50+ acre parcel of wooded land located near Barnesfield Park. The parcel includes several extensive wetlands. Acquisition of land from this property would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness. Access would need to be provided to this property.

Option 4 - Land Acquisition from Site 4

Site 4 is a wooded parcel of 20+ acres located near Barnesfield Park. The parcel contains several wetlands, but has sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness.

Option 5 - Land Acquisition from Site 5

Site 5 is a 50+ acre wooded tract near Barnesfield Park that would have direct access from US 301. The parcel contains several wetlands and would provide an opportunity for floodplain reforestation. The acquisition of land from Site 5 would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness.

b. Opportunities near Caledon Natural Area

The state operated Caledon Natural Area is a 2,579-acre state park located approximately seven miles west of the Nice Bridge. Located between Route 218 and the Potomac River, it contains approximately three miles of shoreline. Currently, the park features amenities such as cabins, campsites, hiking trails, a visitor center with environmental education facilities, and a picnic shelter. Some of the land is protected for bald eagle habitat. Caledon Natural Area adjoins the 1431-acre Chotank Creek State Natural Area Preserve which lies to the east. The preserve is privately owned and not open for public visitation.

Option 6 - Land Acquisition from Site 6

Site 6 is located near Caledon Natural Area and is accessible from Route 218. Option 6 is a 50+ acre forested tract. The acquisition of land from Site 6 would likely satisfy Section 6(f) replacement requirements.

Option 7 - Land Acquisition from Site 7

Site 7 is a 30+ acre tract of forested land located near the Caledon Natural Area and accessible from Route 218. The acquisition of land from Site 7 would likely satisfy Section 6(f) replacement requirements.

Option 8 - Land Acquisition from Site 8

Site 8 is an approximately 50-acre tract of forested land located near Caledon Natural Area and accessible from Route 218. Acquisition of land from Site 8 would likely satisfy Section 6(f) mitigation requirements.

c. Opportunities at Dahlgren Railroad Heritage Trail

Dahlgren Railroad Heritage Trail (DRHT) is an existing, privately-owned, 240-acre trail located in King George County. A permit is required to use the trail. The DRHT begins along Route 605 and extends to the south of Caledon Natural Area eastward towards the B Gate at the Naval Surface Warfare Center, Dahlgren Division. It ends approximately two miles west of the Nice Bridge and approximately 1.6 miles west of Barnesfield Park. The DRHT has potential to be part of the Potomac Heritage National Scenic Trail, a network of locally managed trails stretching from the Potomac River to the Allegheny Highlands. Options were considered to (1) purchase portions of the trail to make it publicly accessible, and (2) purchase land to extend the trail to Barnesfield Park. Because there is local opposition from property owners along the trail, these options were dropped from consideration.

d. Opportunities Near Dahlgren Wayside Park

There are several residential properties located between Dahlgren Wayside Park and the Potomac River which could potentially replace the Potomac River access that would be impacted in Dahlgren Wayside Park. Increasing access to the river is a recommendation of the *King George County Comprehensive Plan* and the *Virginia Outdoor Plan*. Because these properties are smaller than the required park replacement acreage, they would not satisfy Section 6(f) mitigation requirements. In addition, all of these sites would likely require residential relocation. Consequently, they were dropped from further consideration.

e. Opportunities With River Access or Open Fields

Option 9 – Land Acquisition from Site 9

Site 9 is a 350+ acre parcel located south of NSF Dahlgren in the Pumpkin Neck Explosive Experiment Area (EEA). This Option has more than 100 acres of open space. The location of the property adjacent to the Pumpkin Neck EEA would provide a buffer between Base properties and local residents. Creation of a park on a portion of this parcel would likely satisfy Section 6(f) requirements for mitigation.

Option 10 – Land Acquisition from Site 10

Site 10 is a 300+ acre parcel bordering the Potomac River. The property contains wooded regions, small amounts of freshwater wetlands, and more than 200 acres of open fields. The acquisition of a small portion of Site 10 would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness. Acquisition of land from along the river would provide additional recreational access to waterways, satisfy Section 6(f) mitigation requirements, and be consistent with *King George County Comprehensive Plan* and *Virginia Outdoor Plan*. The site is accessible from Mathias Point Road. The acquisition of a portion of waterfront would likely require the construction of a new entrance road to the waterfront parcel.

Option 11 – Land Acquisition from Site 11

Site 11 is a 250+ acre parcel located along the Potomac River. The property contains wooded regions, small amounts of freshwater wetlands, and more than 150 acres of open fields. The acquisition of land from this site would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness. The site is accessible from Mathias Point Road and borders the DRHT. Acquisition of land from this parcel would provide additional recreational access to state waters, satisfy Section 6(f) mitigation requirements, and be consistent with the *King George County Comprehensive Plan* and *Virginia Outdoor Plan.*

Option 12 – Land Acquisition from Site 12

Site 12 is a 200+ acre parcel located south of Route 206 (Dahlgren Road) and west of NSF Dahlgren. The property borders a tributary to the Potomac River and contains wooded regions, freshwater and marine wetlands, and more than 50 acres of open fields. There is sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness, and to provide opportunities for floodplain reforestation. The acquisition of land from this parcel could provide additional recreational access to state waters, satisfy Section 6(f) mitigation requirements, and meet the *King George County Comprehensive Plan* and *Virginia Outdoor Plan.*

Option 13 – Land Acquisition from Site 13

Site 13 is a 150+ acre parcel located south of Route 206 and west of NSF Dahlgren. The property abuts a stream and an estuarine wetland, and consists of small patches of woods, a small area of estuarine wetland, and more than 150 acres of open fields. The acquisition of land from this parcel would likely satisfy Section 6(f) mitigation requirements and be consistent with the *King George County Comprehensive Plan* and *Virginia Outdoor Plan.*

Option 14 – Land Acquisition from Site 14

Site 14 is a 100+ acre parcel located south of Route 206 and west of NSF Dahlgren. The property borders a tributary to the Potomac River and an estuarine marsh and contains wooded regions, freshwater and marine wetlands, and more than 50 acres of open fields. The acquisition of portions of this property would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness. The acquisition of land from this parcel would provide additional recreational access to state waters, satisfy Section 6(f) mitigation requirements, be consistent with the *King George County Comprehensive Plan* and *Virginia Outdoor Plan*, and provide opportunities for floodplain reforestation. The acquisition of a portion of this property may require the construction of a new entrance road to the acquired parcel.

Option 15 – Land Acquisition from Site 15

Site 15 is a 100+ acre parcel located east of Route 218 (Windsor Drive) and west of NSF Dahlgren. The property abuts a stream and an estuarine wetland, and consists of wooded regions, a small area of estuarine marsh, and more than 100 acres of open fields. The large areas of open land would be easily accessible from Route 218. Acquisition of land from a portion of this parcel would satisfy Section 6(f) mitigation requirements and be consistent with the *King George County Comprehensive Plan* and *Virginia Outdoor Plan*. A new entrance road would be needed to the acquired portion of the parcel.

Option 16 – Land Acquisition from Site 16

Site 16 is a 50+ acre parcel located west of NSF Dahlgren adjacent to tributaries to the Potomac River. The property consists of small patches of woods, small areas of freshwater and estuarine wetlands, and more than 50 acres of open fields. Acquisition of land from this property would provide sufficient upland acreage to satisfy Section 6(f) requirements for land of equal recreational value and usefulness. Acquisition of land from this parcel would also provide additional recreational access to state waters, be consistent with the *King George County Comprehensive Plan* and *Virginia Outdoor Plan*, and provide opportunities for riparian reforestation.

2. Evaluation of Mitigation Site Options

Each of the identified Mitigation Site Options has been evaluated based on the following four criteria:

- Criterion 1: Meets Section 4(f)/6(f) requirements;
- Criterion 2: Could provide recreation needs without substantial impacts to other environmental or social resources;
- Criterion 3: Meets *King George County Comprehensive Plan* recommendations—creation of parkland with recreational access to waterways; and
- Criterion 4: Located adjacent to an existing state/local park.

Table 4 displays the park mitigation options and evaluation criteria.

Table 4: Park Mitigation Options and Criteria

Option	Location	Size (acres)	Open Space (acres)	Forest (acres)	Wetlands (acres)	Criteria			
						1	2	3	4
1	Barnesfield Park	140	15+	123	30.50				X
2	Near Barnesfield Park	150+	0	168	42.50	X	X		X
3	Near Barnesfield Park	50+	0	90	10.78	X	X		X
4	North of Rt. 301 and near Barnesfield Park	20+	0	27	2.92	X	X		X
5	Adjacent to Route 301 near Barnesfield Park	50+	50+	22	7.30	X	X		X
6	Near Caledon Natural Area	50+	40+	22	0.07	X	X		X
7	Near Caledon Natural Area	30+	5	31	0	X	X		X
8	Near Caledon Natural Area	50	20	27	0.37	X	X		X
9	Pumpkin Neck EEA	350+	100+	290	5.32	X	X		
10	Potomac River, North of US 301	300+	200+	114	14.55	X	X	X	
11	Potomac River, North of US 301	250+	150+	110	12.72	X	X	X	
12	South of Route 206, west of Dahlgren	200+	50+	145	13.66	X	X	X	
13	South of Route 206, west of Dahlgren	150+	150+	8	0.35	X	X		
14	South of Route 206, west of Dahlgren	100+	50+	55	9.80	X	X	X	
15	East of Route 218, west of Dahlgren	100+	100+	17	2.18	X	X		
16	West of Dahlgren	50+	50+	15	6.05	X	X	X	

Evaluation Criteria: (X = meets criteria)

(1) Meets Section 4(f)/6(f) requirements.
(2) Could provide recreation needs without substantial impacts to other environmental or social resources.
(3) Meets *King George County Comprehensive Plan* recommendations—creation of park land with recreational access to waterways.
(4) Located adjacent to an existing state/local park.

While no option satisfies all four criteria, twelve options satisfy three of the four criteria. All but Option 1 potentially satisfy Section 4(f)/6(f) replacement requirements. There are numerous sites that are adjacent to existing parks, and numerous waterfront sites, but no sites satisfying both criteria.

The above list provides examples of the types of park mitigation sites that could potentially be acquired, when funding becomes available to advance the project. Ultimately, a decision on the parcel or parcels most likely to be acquired for mitigation will be dependent upon the willingness of the property owners to participate, and the approval of several local, state, and federal agencies that have a role in the Section 6(f) conversion process. Although the requirements for a Section 6(f) conversion are stringent, there are

numerous examples of potential parkland replacement sites cited above which could satisfy all of the Section 6(f) requirements.

B. Historic Mitigation

As noted previously, the project would result in an adverse effect to historic properties per Section 106 of the NHPA. Mitigation measures are currently being identified to address the adverse effect. Potential mitigation measures could include documentation of the existing Nice Bridge which would be appropriate for the Historic American Engineering Record (HAER) and Historic American Bridge Survey (HABS), administered through the NPS. A Section 106 MOA or PA will be developed among the MDTA, FHWA, MHT and DHR which will outline the measures necessary to address the adverse effects. In addition, the MOA or PA will prescribe a Phase II evaluation of identified archeological deposits to determine their extent and significance, and Phase III data recovery for those sites determined eligible for the NRHP. The signatures of all parties to the MOA or PA will constitute agreement on the sufficiency of the proposed mitigation measures for historic resources.

C. Aquatic Resource Mitigation

1. Essential Fish Habitat Mitigation

Essential Fish Habitat for summer flounder, juvenile bluefish, and their prey occurs within the project area. Specialized protection measures based on best available technology will be implemented during construction to reduce impacts to these populations. Potential water quality impacts will be addressed and managed through erosion and sediment control BMPs. Submerged Aquatic Vegetation (SAV) does not currently occur within the project area but the results of the annual SAV survey are posted on the Virginia Institute of Marine Science (VIMS) website and this data will be revisited as the project is advanced to final design. If SAV are determined present at that time, mitigation efforts will be considered.

The Essential Fish Habitat Assessment stated that construction activities can be mitigated through time-of-year restrictions, conditional blast design requirements, blast pressure wave maximum thresholds, and other methods. As the Nice Bridge progresses through the design phase, avoidance and minimization measures will be clarified in consultation with the NMFS to ensure the protection of sensitive resources. Specifically, NMFS has provided the following conservation recommendations for use during construction (see August 15, 2008 letter, **Appendix B**):

1) During power driving of large (>48 inch diameter) hollow steel piles, the pile being driven should be surrounded by a “can” (larger diameter pile), with a bubble curtain contained within the can.
2) Any subaqueous blasting should be prohibited from March 1 – October 30, the primary period of finfish migrations and nursery activities in the project area.

Use of a “can” and bubble curtain during pile driving activities for the recent Woodrow Wilson Bridge construction reduced shock waves up to 95 percent immediately outside of the “can”. The levels were well below those lethal to fish. The same construction techniques could be applied to the construction of the Preferred Alternate.

Prior to commencing construction, MDTA must provide NMFS with a detailed written response to the NMFS conservation recommendations. Justification must be provided for any disagreements with the NMFS recommendations. Because the construction is currently not funded, and may not occur in the near future, MDTA will address the NMFS recommendations during final design. If, in the interim, techniques are developed that are proven more effective in protecting fish from underwater shock waves, MDTA will consider such measures during the future NMFS coordination.

2. Wetland and Stream Mitigation

The Preferred Alternate would impact 0.1 acres of wetlands, 0.5 acres of open water for pier placement, and 3,660 linear feet of streams. In addition, there would be up to 65 acres of temporary dredge impacts. Impacts to wetlands and streams located in Virginia will be mitigated through the use of wetland mitigation banks, as preferred by EPA and USACE's *Compensatory Mitigation Rule*. However, no Maryland mitigation banking opportunities exist within the Lower Potomac River Watershed. Therefore, MDTA must provide project specific mitigation. Mitigation should occur in the same watershed and in close proximity to the impacted resources. This provides local compensation for lost resource functions. In-kind mitigation is preferred, but out-of-kind mitigation can also provide valuable ecological functions. Out-of-kind mitigation is defined as the improvement of a different aquatic resource than the one actually affected.

Regulatory agencies have recognized the Lower Potomac River Watershed as not meeting clean water and other natural resource goals. This is due to high rates of historic wetland loss, low SAV populations, eutrophication, high bacteria presence, high erosion rates, and polychlorinated biphenyl (PCB) contamination. The watershed was targeted by the 1998 Maryland Clean Water Action Plan for restoration.

Due to the biological deficiencies of the watershed, MDTA sought to identify sites that:

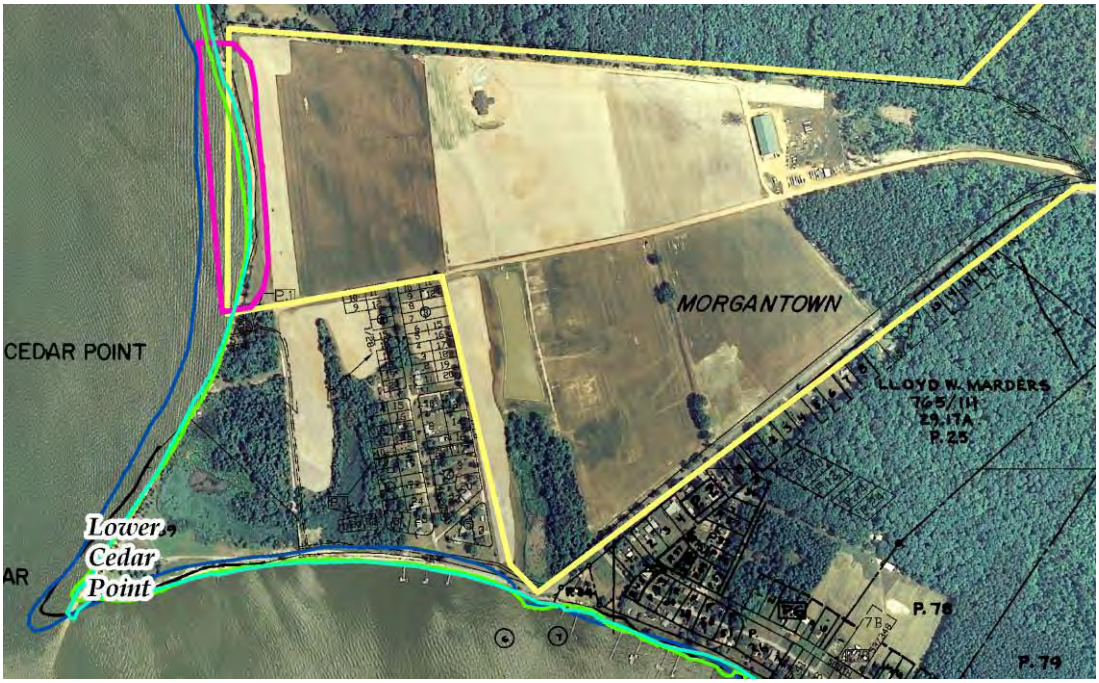
1) Expand existing tidal marshes to improve water quality and increase biological diversity,
2) Provide shoreline stabilization to areas identified with high rates of erosion, and/or
3) Protect Wetlands of Special State Concern and other sensitive resources.

To accomplish these goals, a *Draft Compensatory Mitigation Plan* was prepared. Site selection efforts were focused on lands adjacent to the Potomac River and its tidal tributaries within ten miles of the Nice Bridge.

a. Mitigation Site Search

Using aerial photography and GIS data, 23 sites were identified. Because funding is not currently available for the design or construction of the project, the mitigation site search attempted to identify the type of site that could best meet the mitigation needs, as opposed to identifying a specific site(s) to acquire. Property owners were identified and contacted by letter, followed by phone calls, seeking approval to enter the properties. Site visits were conducted to assess suitability of the sites and to further explain the mitigation components of the project and determine property owner interest. Sites which were inaccessible, under the stewardship of the Maryland Environmental Trust (MET), or had existing land uses that conflicted with mitigation goals were not visited. A rating form was used to assess site suitability based on soils, amount of excavation required, slope, hydrology, opportunity for water quality improvement, habitat value, site constraints, and potential functions. Sites which were not preferred for a variety of reasons were dropped from further consideration. Ultimately, five preferred sites were identified: 2, 4, 11, 13, and 14 (see the *Draft Compensatory Mitigation Plan* included in the July, 2009 EA). A field tour of these five sites was conducted with state and federal regulatory agencies to identify their concerns and preferences for a mitigation site. Site 2 received the most favorable comments from the environmental agencies (see ***Figure 5***).

Figure 5: Aquatic Mitigation Site #2



b. Site 2 - Shoreline Stabilization

Site 2 is located directly on the Potomac River, approximately one mile south of the Nice Bridge. The shoreline is approximately 1,500 feet long, with vertical bluffs 15-20 feet high and erosion rates of one foot/year. The soils at this site are rated fair for highway embankments and are not hydric. The site would require the installation of some form of shore erosion control device, most likely a breakwater, to protect the shoreline from wave action. The vertical bluff would not need to be re-graded, as it would seek a natural angle of repose within a few years. Due to good access from the Potomac, the off-shore breakwater could be constructed entirely from the water, eliminating the need for the MDTA to acquire property or purchase conservation or construction easements. This would also prevent any disturbance of the American Indian shell middens which may be located on the site. Time-of-year restrictions would apply due to an oyster bed located off the shoreline, prohibiting construction within 1500 feet from December 16 – March 14 and June 1 – September 30. Shoreline stabilization would benefit Potomac River and Chesapeake Bay water quality as well as the oyster bar and other aquatic fauna by controlling erosion. The breakwater would also provide wildlife habitat, potentially allow SAV regeneration, and prevent the erosion of shell middens. The regulatory agencies indicated that this site demonstrated the most compelling need for erosion control. Therefore, the agencies favored shoreline stabilization efforts to be undertaken at this site. NMFS favored the installation of an off-shore breakwater, which would allow the bank to remain untouched. Off-shore breakwater projects typically cost approximately $300/LF of shoreline. This cost would be partially reduced by constructing the breakwater without encroaching on the property. Additional dredging may not be needed to access the site by barge. However, due to the proximity to Blossom Point, breakwater construction would require an underwater search for unexploded ordnance and may require additional monitoring during construction.

c. Conclusion

Coordination with the regulatory agencies provided additional insight into the suitability of the five sites for mitigation efforts. Shoreline stabilization was generally favored over marsh creation due to the immediate environmental benefit of preventing further shoreline erosion. Out-of-kind mitigation through

shoreline stabilization would adequately compensate for all functions and values lost from impacted resources. In addition, a shoreline stabilization site could be constructed entirely from the water, and would not require a purchase of property or a right-of-entry from any land owner. Site 2, or a similar type of site, would be pursued when funding becomes available for the project. Upon receipt of design and construction funding for the Nice Bridge Improvements, conceptual mitigation plans will be developed and reviewed by the regulatory agencies. Regulatory agency comments will be incorporated into the final design plans.

Prior to construction, MDTA will acquire permits from MDE and USACE and obtain CAC approval for construction within the Potomac River. In addition, an erosion and sediment control plan will need to be approved by the local Soil Conservation District. The DCR approves erosion and sediment control plans in Virginia.

D. Noise Mitigation

With the Preferred Alternate, Dahlgren Wayside Park would be impacted by noise. A sound barrier was evaluated to determine whether it would be both feasible and reasonable to mitigate noise at the park. A sound barrier at Dahlgren Wayside Park would not restrict vehicular/pedestrian access, would not cause safety or maintenance issues, would not create drainage problems, and could be constructed, given the topography of the area. A barrier approximately 429-foot long with an average height of 10.5 feet would provide up to a 7.3 dBA insertion loss, which satisfies the criterion for a feasible sound barrier. Preliminary estimates of the cost suggest that a barrier built to these dimensions would be considered reasonable in terms of cost. 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. It should be noted that the MDTA would also consider alternatives to barriers, such as landscaping and berms. The desires of the property owner (in this case, King George County) are considered when making a decision to proceed with noise mitigation. MDTA will coordinate with VDOT concerning any noise mitigation proposed on future VDOT property.

E. Forest Mitigation

The Preferred Alternate would impact approximately 2.7 acres of forest in Maryland and Virginia, of which 1.6 acres occur in Maryland. Forest impacts from highway projects are exempt from the Critical Area Act in Virginia, and are not regulated by any other law. Therefore, Modified Alternate 7 would require approximately 4.1 acres of reforestation in Maryland only, which includes both 3.9 acres of Critical Area mitigation and 0.15 acres of Roadside Tree Law mitigation. Although mitigation for forest impacts is not a requirement in Virginia for highway projects, parkland mitigation options that would provide opportunities for forest preservation could be considered. There are no specimen or champion trees within the study area in Maryland or Virginia.

1. Mitigation Site Search

Potential forest mitigation sites were identified in Charles County, Maryland and assessed for their ability to compensate for unavoidable impacts to wooded natural resources. The search for desirable compensatory traits focused on finding four to five-acre sites that have potential to provide socioeconomic and ecological functions equal to or greater than the functions lost by the proposed activity. The mitigation requirements could be satisfied through partial acquisition from a site such as the ones identified below. High priority sites consisted of areas containing non-forested soil (farm land) situated within the first 100 feet of the Critical Area (the area referred to as the Critical Area buffer). The second priority for compensatory mitigation sites included those lands within the Critical Area and areas that could increase Forest Interior Dwelling Species (FIDS) habitat. A list of other desirable ancillary traits used to identify potential mitigation sites is presented in the bullets listed below: