

EXECUTIVE SUMMARY

S.1 Project Location and Description

This study evaluates environmental impacts related to a replacement connector road between Richmond Highway (U.S. Route 1) and Telegraph Road (VA Route 611) in the vicinity of Fort Belvoir in Fairfax County, Virginia. The project is located in Fairfax County, approximately 6 miles south of the Capitol Beltway (I-495), 3 miles east of I-95, and 6 miles west of George Washington's Mount Vernon estate and the Potomac River. See **Figure S-1**.

The U.S. Department of Defense (DoD) eliminated public access to Beulah Street (VA Route 613) and Woodlawn Road (VA Route 618) within Fort Belvoir following events of September 11, 2001. These roads linked U.S. Route 1, a north-south principal arterial, and Telegraph Road (VA Route 611) north-south minor arterial. The two roads are otherwise connected about two miles to the south by the east-west cross-county Fairfax County Parkway (VA 7100), and about 7 miles north via South Kings Highway. See **Figure S-2**.

Fort Belvoir is a garrison of the U.S. Army, originally created as Camp A.A. Humphreys in the early twentieth century. Fort Belvoir's Main Post comprises approximately 7,682 acres with multiple missions to support the military. The Humphreys Engineer Center (HEC) is a 583 acre U.S. Army Corps of Engineers (USACE) facility located contiguous to the northeast portion of Fort Belvoir.

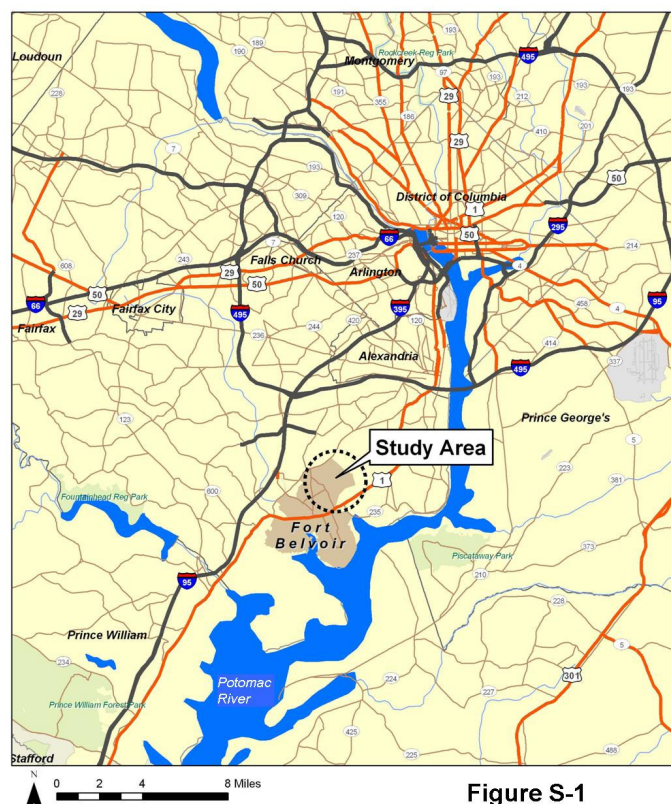


Figure S-1

The Federal Highway Administration (FHWA) is the lead federal agency for the proposed replacement project. FHWA proposes to provide a replacement facility to the closed Woodlawn Road, in conjunction with U.S. Department of the Army Defense Access Roads (DAR) Program, U.S. Army Fort Belvoir Garrison, HEC, USACE Baltimore District, Virginia Department of Transportation (VDOT), and the Fairfax County Department of Transportation (FCDOT). The proposed project would be funded in part through the DAR program and possibly from other federal, state and local sources. The U.S. Army has committed to fund two lanes of the facility. The proposed project is a four-lane roadway with median.

S.2 Project Purpose and Need

The purpose of this project is to restore the link between U.S. Route 1 and Telegraph Road with a roadway on an alignment that maintains required security of Fort Belvoir and HEC facilities. Removal of these access routes through this portion of southeastern Fairfax County substantially diminished the flexibility of traffic movement. The proposed Connector Road is projected to carry over 20,000 vehicles per day.

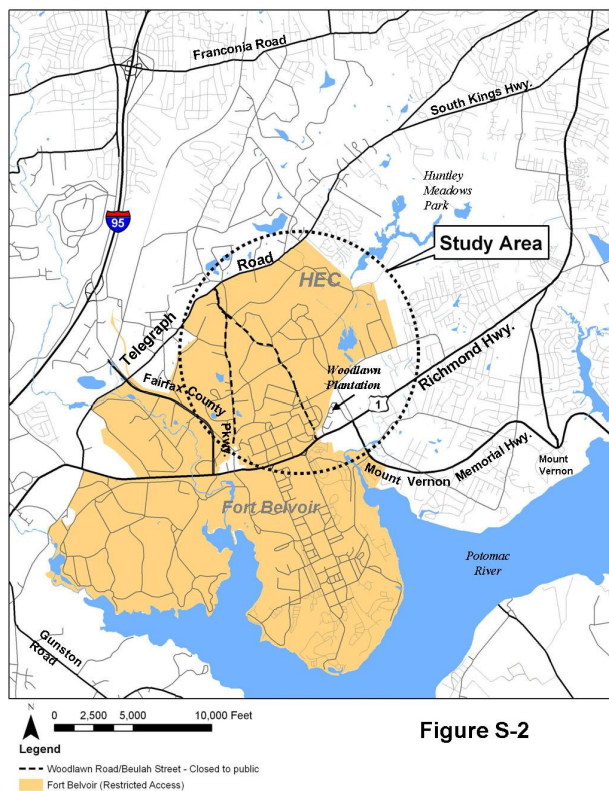


Figure S-2

S.3 Alternatives Considered

The USACE completed a *Preliminary Feasibility Study of Richmond Highway and Telegraph Road Connector, Fairfax County, VA* in 2003. This *Environmental Assessment (EA)* builds on the USACE study. FHWA conducted an independent review of the USACE study and considered other alternatives. At the January 2005 agency scoping meeting for the current project, FHWA recommended eliminating any alternative concept which traversed Huntley Meadows Park, which is protected

under the U.S. Department of Interior land transfer agreement as well as Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. 303). Section 4(f) regulation binds FHWA from using any publicly owned park or wildlife refuge where a prudent and feasible alternative exists. FHWA also recommended an approximately 3-mile diameter study area generally centered on the North Post of Fort Belvoir in order to provide a replacement facility in close proximity to the closed roadways.

During the evaluation process, FHWA considered reopening Woodlawn Road (USACE Alternative A) but DoD policy and national security concerns require that public roadways be properly separated from facilities on military property. Additional roadways to provide internal connectivity within the post would add costs and impacts to environmental resources.

Similarly, a connection with Beulah Street extending through portions of the Fort Belvoir golf course (USACE Alternative B) would require construction of additional access for internal connectivity within the Fort. An alternative along the northern edge of HEC adjacent to a major power transmission line (USACE Alternative D) would require land from a residential community, involve significant impacts to wetlands, traverse nearly 5,000 feet of a designated Forest and Wildlife Corridor, and abut the Jackson Miles Abbot Wetland Refuge.

As the study progressed, none of these alternatives, or combinations among them, offered any advantages over an alternative corridor generally extending from Old Mill Road to Telegraph Road near Piney Run (USACE Alternative C). FHWA found no satisfactory alternative other than using Old Mill Road as the terminus for U.S. Route 1, although the

Woodlawn Plantation Historic District would be adversely effected as defined by the National Historic Preservation Act. FHWA consulted with numerous historical interest groups, citizens, and agency stakeholders regarding amelioration of impacts to the Woodlawn Plantation. FHWA conducted two public information meetings, in February and October 2005. The consensus was to focus on variations of Alternative C.



Woodlawn Plantation

Multiple variations of Alternative C are shown in Figure S-3. The numerous constraints noted on the

figure (wetlands, parks, historic resources, streams, etc.) are identified and discussed in detail in Chapters 3 and 4.

S. 4 Avoidance and Minimization of Impacts

FHWA evaluated several horizontal and vertical alignments within the Alternative C corridor, in order to avoid and reduce impacts on natural, cultural, socio-economic, physical and other resources. A summary of efforts to optimize the placement of the Preferred Alternative are presented below:

Through Fort Belvoir/HEC, the road alignment follows ridgelines. By holding a higher elevation, this placement:

- Avoids and minimizes impacts to low-lying water resources.
- Minimizes the amount of earthwork required for the Connector Road's construction.
- Reduces direct impact to many terrestrial and nearly all aquatic species.
- Allows the alignment to span wetlands and Resource Protection Areas (RPAs)
- Avoids filling wetlands.
- Avoids filling floodplains.
- Allows use of natural ravines to provide "wildlife crossings".

Along Old Mill Road, FHWA recommends aligning Old Mill Road with Mount Vernon Memorial Highway at the U.S. Route 1 intersection. Expected as part of this aligning:

- Shifts Mount Vernon Memorial Highway away from the Woodlawn Plantation stables property.

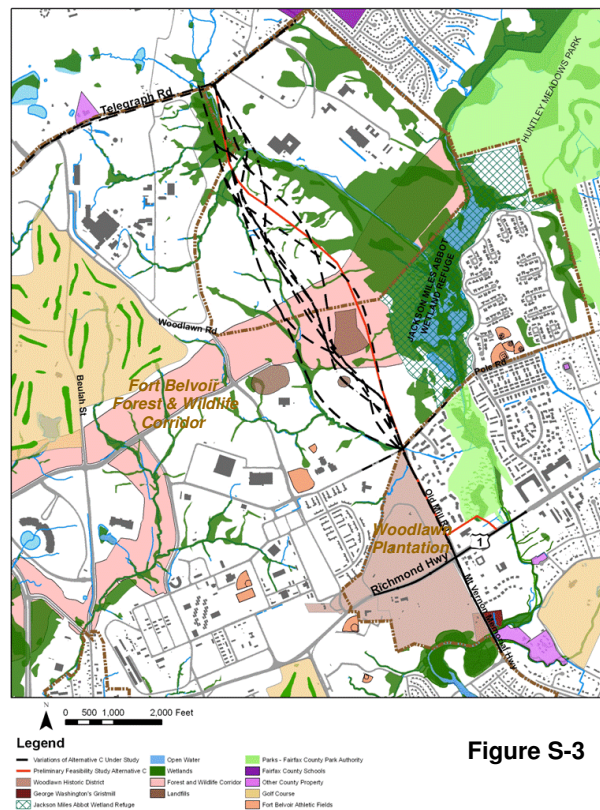


Figure S-3

- Reduces the amount of land required from the Woodlawn Plantation National Historic Landmark (NHL) property to 2.24 acres.
- Provides a meandering shared-use path interior to the Woodlawn Plantation property to increase pedestrian and bicyclist opportunities to experience the historic resource.
- Adds two lanes and a median (for turning lanes) to Old Mill Road.
- Provides reduced turning lane distances for approaches to the intersection.
- Eliminates the awkward off-set five-way intersection of Old Mill, Mount Vernon, U.S. Route 1 and the Woodlawn Plantation driveway.
- Provides new entrance driveway to Woodlawn Plantation.
- Provides new shared-use path as extension of the National Park Service's Potomac Heritage Scenic Trail (specific placement to be finalized during design).
- Provides turn lanes and storage capacity on U.S. Route 1 in order to improve the intersection's level of service.



More details related to the proposed alignment along Old Mill Road are found in Chapter 2, Section 2.1.5.

In general, the typical section for the connector road applies design standards for a minor arterial roadway. Some of these features may be further reduced during design in an attempt to reduce the amount of clearing and right-of-way required. Current features include:

- Four 12-foot travel lanes.
- 16-foot median which tapers to allow turn lanes; additional turn lanes would be needed at the termini intersections of U.S. Route 1 and Telegraph Road.
- Speed limit of 45 miles per hour (mph) for the Pole Road to Telegraph Road section, with a possible 35 mph posting for the Pole Road to U.S. Route 1 section. (Reduced speed and design criteria will be further evaluated in design.)
- A 10' shared-use path the length of the project; this is envisioned to be a meandering path to avoid unnecessary cutting of trees.
- A sidewalk (as exists now) in addition to the shared-use path along Old Mill Road.
- 2:1 outside slopes to reduce the limits of cut and fill.
- No new access to Fort Belvoir/HEC except for an emergency use only gated access for HEC personnel. (This gated access is anticipated to be near unpaved Kingman Road; an alternative location may be considered by HEC.)

FHWA is committed to continue discussions with VDOT, FCDOT, and Fort Belvoir environmental management staff regarding further opportunities to achieve reductions to the alignment footprint and minimize environmental impacts.

S.4 Environmental Consequences

The Preferred Alternative will have beneficial and adverse social, economic, and natural environmental effects. Particular focus is given in this analysis to impacts and mitigation for natural resources, cultural resources, noise effects, and transportation within the study area.

The study team has sought to minimize impacts wherever possible.

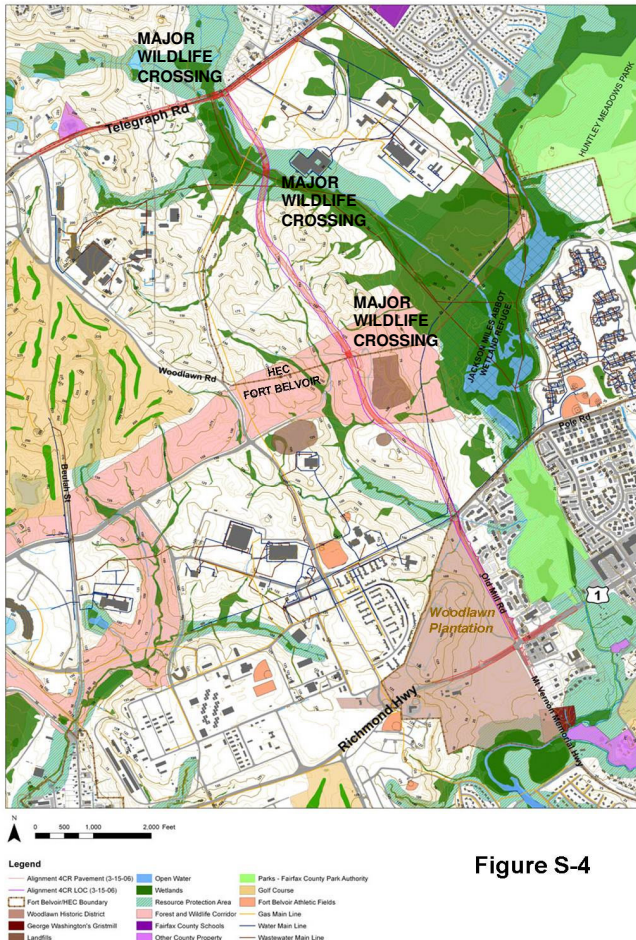


Figure S-4

Figure S-4 depicts many of the key resources in relation to the Preferred Alternative (known as Alternative 4CR). It is approximately 2 miles long, and assumes intersection improvements at each terminus. At U.S. Route 1, the Preferred Alternative aligns Mount Vernon Memorial Highway with Old Mill Road. At Telegraph Road, the connector road assumes a widened Telegraph Road to accommodate the intersection. This EA considers the environmental impacts of Telegraph Road between Beulah Street and HEC.

Potential impacts to wildlife habitat will be reduced by placing wildlife crossings within the forested area of Fort Belvoir and HEC. Three major wildlife crossings will be constructed. One major wildlife crossing would be located within Fort Belvoir's Forest and Wildlife Corridor. This wildlife crossing would be constructed as an underpass at the intersection of the Preferred Alternative and unimproved John J. Kingman Road. Each of the two-lane spans at this location would be about

100 feet long, 30 feet wide by 17 feet high, and located at a natural depression of the topography, which wildlife are thought to favor in their migration patterns. Additionally, at least two minor wildlife crossings, likely culverts, will be placed within the Forest and Wildlife Corridor to facilitate passage for small fauna to either side of the roadway. The Preferred Alternative provides two additional major wildlife crossings, both over Piney Run. Along Telegraph Road, the span length is approximately 90 feet; about 1,500 feet interior to HEC, the span length is approximately 175 feet.

To reduce fragmentation in the forested locations, the footprint of the roadway will be minimized to the maximum extent possible and the roadway has been aligned in close proximity to a grass-covered landfill that already exists in the corridor. Other measures for

habitat and wildlife mitigation include placing street lighting only at the intersections, and reforesting that portion of existing (closed) Woodlawn Road through another portion of the Forest and Wildlife Corridor. These measures will involve coordination with VDOT, FCDOT and Fort Belvoir environmental management staff. Deer reflectors, silent sirens, wildlife drift fencing to channel fauna to the constructed wildlife crossings and posting of deer-crossing signs are other measures which will mitigate the impact of the roadway through the forested areas.

Another example of minimizing impacts included shifting the alignment at Telegraph Road from the west side of Piney Run to the east side (towards HEC) to avoid impacting acidic seepage swamp and bottomland hardwood wetlands.

The Preferred Alternative is consistent with Fairfax County and VDOT plans. It avoids impacts to Huntley Meadows Park and the Jackson Miles Abbott Wetland Refuge. It avoids direct impacts to any known federally-listed threatened or endangered species. It avoids landfills, parks, and improves access and response times for emergency medical and fire services. The Preferred Alternative avoids taking any residences or businesses. As part of the efforts to minimize the impacts, some properties along Telegraph Road and Old Mill Road would be limited to right-in-right-out only access. The Preferred Alternative improves pedestrian and bicycle mobility in this part of the county by providing shared use paths; these allow access between Richmond Highway and Telegraph Road, and would enhance access to Woodlawn Plantation and connectivity to Mount Vernon.

As noted above, FHWA engaged in discussions with several groups and individuals regarding land required from the Woodlawn Plantation. The Preferred Alternative has minimized viewshed impacts to the property. FHWA will complete a Memorandum of Agreement (MOA) on the proposed impacts to cultural resources, notably the Woodlawn Plantation and related features of the Woodlawn Plantation Historic District and other resources. A keystone aspect of the Preferred Alternative is the transfer of a 2.5 acre parcel at the existing Woodlawn Gate from the U.S. Army to the owners of the Woodlawn Plantation. Details relating to the consultation process and the anticipated commitments are presented in Chapter 4, Section 4.3 Cultural Resources.

Table S-1 summarizes the impacts and mitigation measures proposed for the Preferred Alternative.

Table S-1: Preferred Alternative Key Resources Impacts and Mitigation

Resource	Impacts	Mitigation
Land Use, Plans, Visual Environment	<ul style="list-style-type: none"> ▪ Converts 2.6 acres of undeveloped land from Woodlawn Plantation ▪ Converts approximately 39 acres of undeveloped land on Fort Belvoir/ HEC to transportation use 	<ul style="list-style-type: none"> ▪ Provide landscaping and pavement treatments at U.S. Route 1/Old Mill/Mt. Vernon Memorial Highway intersection ▪ Revegetate side slopes ▪ Plant trees where allowed and shrub and small trees within clear zones and medians where appropriate ▪ No new access points to Fort Belvoir/HEC, except for one emergency use only gate for HEC ▪ See Cultural Resources
Natural Resources		
Geology, Soils, Groundwater	<ul style="list-style-type: none"> ▪ Clears and grades approximately 1.5 miles of undeveloped, rolling terrain 	<ul style="list-style-type: none"> ▪ Avoid steep slopes and erodible soils as much as possible ▪ Include low-impact design techniques for surface water runoff to improve groundwater recharge. ▪ Revegetate side slopes
Water resources and wetlands	<ul style="list-style-type: none"> ▪ Crosses less than 1.2 acres of wetlands, spanning nearly all of the wetlands ▪ Crosses 1,110 linear feet of streams within the Dogue Creek watershed 	<ul style="list-style-type: none"> ▪ Avoid placement of roadway or piers in wetlands or streams ▪ Span Piney Run at both proposed crossings ▪ Provide perpendicular bridge crossings to minimize encroachment to Resource Protection Areas (RPAs) ▪ Apply bio-retention facilities and rain gardens for stormwater management where possible ▪ Provide appropriate type and ratio of wetland mitigation, or purchase wetland credits, or provide payment to a wetland restoration trust fund. ▪ Avoid construction staging in wetlands, floodplains or RPAs
Natural Environmentally Sensitive Areas	<ul style="list-style-type: none"> ▪ Traverses 1,850 linear feet of the Forest and Wildlife Corridor on Fort Belvoir, about 7.1 acres ▪ Crosses 2,175 linear feet of designated Resource Protection Areas (RPAs), much is spanned 	<ul style="list-style-type: none"> ▪ Construct a major wildlife crossing within the Forest and Wildlife Corridor, with a 17' height ▪ Construct two minor wildlife crossings/culverts in the Corridor ▪ Remove pavement of two-lane existing (closed) Woodlawn Road through the Corridor, and reforest ▪ Erect no right-of-way fencing through the Corridor ▪ Provide wildlife drift fencing, if

Table S-1: Preferred Alternative Key Resources Impacts and Mitigation

Resource	Impacts	Mitigation
		appropriate, at the crossings <ul style="list-style-type: none"> ▪ Provide no street lighting through the Forest and Wildlife Corridor ▪ Span RPAs as much as possible ▪ Consider additional reductions in facility design (e.g., reduced lane widths) to reduce direct footprint ▪ Avoid construction staging in sensitive areas
Habitat and Threatened and Endangered Species	<ul style="list-style-type: none"> ▪ Avoids direct impact to any known federally-listed species ▪ Potentially impacts habitat of state-listed Wood Turtle ▪ Converts approximately 39 acres of Fort Belvoir and HEC property to transportation use ▪ Converts about 7.1 acres of the Fort Belvoir Forest and Wildlife Corridor to transportation use 	<ul style="list-style-type: none"> ▪ Construct three major wildlife crossings, one within the Forest and Wildlife Corridor ▪ Construct four minor wildlife crossings/culverts, two within the Forest Wildlife Corridor ▪ Span both potential crossings of Piney Run ▪ Use 'open' median to maximize daylight at stream crossings ▪ Remove pavement of two-lane existing (closed) Woodlawn Road through the Corridor, and reforest ▪ Erect no right-of-way fencing through the Corridor ▪ Provide wildlife drift fencing, if appropriate ▪ Provide no street lighting through the Forest and Wildlife Corridor, and reduce it through other forested locations to reduce nighttime impacts on wildlife ▪ Provide field observation during construction to relocate Wood Turtles to suitable habitat outside the project impact area ▪ Revegetate side slopes
Cultural Resources		
Historical	<ul style="list-style-type: none"> ▪ Requires approximately 2.5 acres of forested land from the National Historic Landmark parcel of Woodlawn Plantation ▪ Requires approximately 0.1 acres of land from Woodlawn Plantation Stables property ▪ Alters visual experience at the U.S. Route 1/Old Mill Road/Mount Vernon Memorial Highway intersection ▪ Relocates Woodlawn Plantation's driveway 	<ul style="list-style-type: none"> ▪ Transfer 2.5 acres within the Historic District to the National Trust for Historic Preservation (owners of Woodlawn Plantation) ▪ Provide pedestrian/bicycle facilities including the extension of the Potomac Heritage National Scenic Trail to Woodlawn Plantation ▪ Provide landscaping treatments and interpretive signage consistent with Woodlawn Plantation's rural, pastoral character ▪ Relocate entrance to Woodlawn Plantation

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Resource	Impacts	Mitigation
		<ul style="list-style-type: none"> ▪ Satisfy terms of Memorandum of Agreement (MOA) with State Historic Preservation Officer (SHPO)
Archeological	<ul style="list-style-type: none"> ▪ One site (44FX1146) on Woodlawn Plantation property potentially impacted ▪ Two sites (44FX041 and 44FX1944) on Fort Belvoir potentially impacted 	<ul style="list-style-type: none"> ▪ Conduct additional archeological surveys ▪ Implement avoidance or removal consistent with MOA ▪ Apply appropriate procedures to other sites which may be identified
Physical Environment		
Hazardous Materials, Air Quality, Noise, Utilities	<ul style="list-style-type: none"> ▪ Traverses former Firing Ranges on Fort Belvoir/HEC ▪ No air quality exceedance ▪ Impacts 6 noise sensitive receptors along Telegraph Road 	<ul style="list-style-type: none"> ▪ Remediate ranges prior to construction ▪ Potential sound barrier along Telegraph Road
Socioeconomics		
Demographics, Environmental Justice, and Relocations	<ul style="list-style-type: none"> ▪ Requires minor taking along Telegraph Road ▪ Requires 2.5 acres from Woodlawn Plantation ▪ Alters access to certain businesses and residential developments to right-in-right-out ▪ Realigns Mount Vernon Memorial Highway 	<ul style="list-style-type: none"> ▪ Attempt further reduction in right-of-way or construction easement ▪ Maintain access during construction ▪ Avoid night-time construction activities near residential areas ▪ Use existing VDOT right-of-way for realigning Mt. Vernon Memorial Highway
Community Facilities and Services, Utilities, and Traffic	<ul style="list-style-type: none"> ▪ Relocates some utilities ▪ Certain intersections may experience lesser level-of-service 	<ul style="list-style-type: none"> ▪ Maintain access and services during construction ▪ Provides replacement access for lost access of Woodlawn Road; anticipate average daily traffic of approximately 20,000 ▪ Provide median breaks in Connector Road for emergency vehicle access ▪ Provide shared-use path along the alignment for enhanced pedestrian and bicycle mobility ▪ Consult further with VDOT and FCDOT for placement of turning lanes, further opportunities to reduce conflicting movements, and further optimization of signal timing

S.5 Other Federal Actions and Permits Required

Because the Preferred Alternative requires use of lands protected under Section 4(f), FHWA must make a finding that there is no prudent and feasible alternative to the use of such properties, and that the proposed action includes all possible planning to minimize harm to the properties resulting from that use. FHWA has prepared a Section 4(f) evaluation for both Fort Belvoir's Forest and Wildlife Corridor and the Woodlawn Plantation Historic District.

Various environmental authorizations will be required pursuant to Federal and state laws before construction proceeds. These include:

- Authorization by the USACE under Section 404 of the Clean Water Act for discharges of fill material into waters of the U.S., including wetlands.
- Authorization by the Virginia Department of Environmental Quality (DEQ) of a Virginia Water Protection Permit (9 VAC 25-210-10) pursuant to Sections 401 and 402 of the Clean Water Act for activities affecting jurisdictional wetlands, streams, and other waters.
- VDOT, through the Commonwealth Transportation Board, will be asked to facilitate and authorize the necessary transfer, closing, or easements related to the construction, maintenance and operation of the proposed Connector Road. VDOT will also be asked to facilitate the transfer of 2.5 acre parcel to the owners of Woodlawn Plantation.
- The U.S. Army Fort Belvoir Garrison (Fort Belvoir) and HEC will be required to facilitate and authorize easements or land transfers related to use of their property as part of the Preferred Alternative.
- In addition, Fort Belvoir will be required to close the existing Woodlawn Gate, in order to comply with the MOA exchanging that 2.5 acre parcel to the owners of Woodlawn Plantation. (Congressional legislation authorizing the transfer to VDOT has occurred.)
- Fort Belvoir will arrange for expeditious range clearing prior to construction of the Connector Road through the post.
- USACE and Fort Belvoir will be asked to expedite archeological permit for FHWA cultural resources consultant staff to perform necessary Section 106 survey work.
- Authorization under Virginia and Fairfax County Storm Water Management Criteria for water quality and quantity control, consistent with Fort Belvoir's MS-4 permit.
- Fairfax County and VDOT will be asked to determine the operation and maintenance mechanism for the shared-use paths to be constructed within the Woodlawn Plantation property.