Section 4(f) Evaluation
FORT BELVOIR FOREST AND WILDLIFE CORRIDOR
FAIRFAX COUNTY, VA

I. PROPOSED ACTION

a. Description of Action: Provide a four-lane replacement roadway between Richmond Highway (U.S. Route 1) and Telegraph Road (VA Route 611) in Fairfax County, Virginia. See discussion in Chapters 1 and 2 of the Environmental Assessment (EA) for more detail.

b. Purpose and Need: Provide replacement access between Telegraph Road and Richmond Highway (U.S. Route 1) as a result of the closing of Woodlawn Road and Beulah Street through Fort Belvoir, Virginia after the 9/11 terror attacks. See Chapter 1 of the EA.

c. Applicability of Section 4(f): Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303) requires that no land from a publicly owned public park, recreation area, or wildlife or waterfowl refuge, be used for federal-aid highways unless there is no feasible and prudent alternative. Specific alternatives to avoid such lands must be considered, and measures to minimize harm must be included in the project. The proposed project would encroach upon the Forest and Wildlife Corridor, located on U.S. Army land at Fort Belvoir. For the purposes of this analysis, the Federal Highway Administration (FHWA) considers the Forest and Wildlife Corridor (hereinafter "Corridor") a Section 4(f) resource.

II. SECTION 4(f) PROPERTY

a. Description of the Forest and Wildlife Corridor: The Corridor[1] was established by Fort Belvoir in 1993 as a mitigation commitment to offset the ecological impacts of habitat fragmentation caused by several major construction projects on Fort Belvoir. The Corridor is approximately 15 miles long with a minimum width of 250 meters. The Corridor protects a wildlife habitat and migratory corridor, while also maintaining a continuous area of natural forest habitat between Jackson Miles Abbott Wetland Refuge (JMAWR) and the Accotink Bay Wildlife Refuge (ABWR). The Corridor is not open to the public except as authorized by Fort Belvoir. **Figure 1** illustrates the Corridor boundaries.

The Corridor includes a wide range of wetlands, riparian forest buffers, habitat for the state-listed wood turtle and several high priority breeding species listed with the Partners in Flight (PIF) program, and waterways for passage of, and spawning habitats for anadromous fish. The Corridor connects with off-post forested areas of wildlife habitat, notably the Huntley Meadows Park (a 1,425 acre natural area), and allows animal movement between the larger forested areas, thus maintaining a diverse gene pool and helping ensure species survival.

Fort Belvoir has designated the Corridor as a Special Management Area (along with ABWR and JMAWR) recognizing the existence and importance of these sensitive natural resource

[1] See Chapter 3 of Environmental Assessment and Fort Belvoir's Integrated Natural Resources Management Plan for a more detailed description of the Forest and Wildlife Corridor, and its development.

areas on-Post; and using the land designations to protect those areas from impact by development and mission activities. Over time, the boundaries of these areas have expanded. As noted in the Fort's *Integrated Natural Resources Management Plan*, the primary goal for the Fort in managing these significant natural areas is conservation. These areas are used for environmental education, scientific research and study, low-intensity recreation, and low-intensity military training and testing as long as the access and use are compatible with resource conservation.

b. Features and Functions:

1. **Figure 2** shows the relationship of the Preferred Alternative to the Corridor.
2. The boundaries of the Corridor encompass approximately 742 acres.
3. The land that makes up the Corridor is located within the boundaries of Fort Belvoir and the Humphreys Engineer Center (HEC). The U.S. Army owns the land[2].
4. Institutional military, residential and transportation land uses occur primarily at the boundaries of the Corridor. The Corridor is largely undeveloped and forested. Bow hunting for deer only is allowed within the Corridor, by permit.
5. The Corridor serves important habitat functions within the study area including: habitat for the state-listed, threatened wood turtle and habitat for the Partners in Flight (PIF) priority bird species.
6. Both the Fairfax County Parkway and U.S. Route 1 traverse the Corridor.
7. Wildlife crossings have been constructed for both Fairfax County Parkway and U.S. Route 1. The wildlife crossings allow the Corridor to maintain a continuous link between the JMAWR and Huntley Meadows Park and the ABWR on the Potomac River.
8. Both Beulah Street and Woodlawn Road traverse the Corridor on the North Post of the Fort Belvoir. (These streets are closed to the general public.)
9. John J. Kingman Road serves as a southern boundary for the Corridor on much of the North Post; east of Woodlawn Road, it is largely unpaved and contained within the Corridor on the HEC.
10. Certain facilities of the post are located within the Corridor, including utilities, and a solid waste management unit (landfill).
11. The Preferred Alternative would be located approximately 1,500 feet west of the JMAWR.
12. The Preferred Alternative purposely avoids JMAWR, keeping the existing Mulligan Road landfill as a buffer between them.

III. IMPACTS TO SECTION 4(f) PROPERTY

Use: For the alignment under consideration by FHWA, approximately 7 acres would be contained within the Corridor as a permanent use easement. The Preferred Alternative would cross where the width of the corridor is approximately 1,850 feet. The Preferred Alternative is a four-lane facility with median.

Other Impacts: Aside from the physical encroachment on the Corridor, the project would remove some terrestrial habitat, and could potentially alter migratory patterns within the Corridor, particularly for the larger mammal species that occur on the Fort.

[2] The land is owned by the United States of America and is under the jurisdiction of the Department of the Army.

IV. ALTERNATIVES

a. Alternatives that use 4(f) property: Any replacement connector road providing access between U.S. Route 1 and Telegraph Road on Fort Belvoir property requires use of the Corridor. The Preferred Alternative would be constructed to the standard as specified by the Virginia Department of Transportation (VDOT). **Figure 3** illustrates the typical section for the proposed connector road. The typical section could be either curb and gutter or an open outside shoulder. The Preferred Alternative includes a shared use path.

b. Avoidance Alternatives: The No Build Alternative avoids use of the Corridor, but would not meet the purpose and need for the project. All other preliminary alternatives (which FHWA has eliminated from further consideration) would have a Section 4(f) impact, either to this Corridor or to the Huntley Meadows Park. This is because the Corridor lies between the two roadways and there is no physical means to avoid traversing the Corridor.

V. MEASURES TO MINIMIZE HARM

a. Minimize Encroachment: The amount of encroachment into the Corridor would be the minimum necessary to accommodate the proposed alignment of the Connector Road, consistent with sound engineering principles and safety allowed by the Virginia Department of Transportation (VDOT). FHWA has worked with Fort Belvoir and other key agency stakeholders to reduce the amount of impact to the Corridor by the Connector Road alignment. Earlier variations of Alternative C, placed the alignment closer to the Jackson Miles Abbot Wetland Refuge; those would have resulted in greater width of crossing the Corridor than the current location. By locating the Preferred Alternative close to and west of a large solid waste management unit (now unused and grassed capped), the open area of the former land fill can provide a transition to the transportation facility. FHWA made additional revisions by placing the alignment generally along the ridgeline rather than in stream valleys; this in turn reduces impacts to the wildlife.

b. Access: The impacted area lies entirely within the garrison of Fort Belvoir, and no existing or planned facilities have been identified in proximity to the Connector Road Alignment. An emergency access for the HEC from unimproved Kingman Road will be provided. No other access is anticipated.

c. Mitigation: FHWA commits to further attempts during design to further reduce the footprint of the roadway through the Corridor. To facilitate wildlife migratory patterns, a major wildlife crossing would be constructed within the Corridor, with a span of about 100 feet, width of 30 feet and a height of 17 feet. The crossing would be located with a natural depression of the topography, which wildlife are thought to favor in their migration patterns. **Figure 4** provides a detailed location of the proposed major wildlife crossing. The surface for the wildlife crossing will be determined in the design phase, as it may also serve as a crossing for permitted (recreational) hunting activities.

In conjunction with Fort Belvoir's plans to close sections of Woodlawn Road within the Garrison, this project will remove the existing pavement of two-lane Woodlawn Road where it passes through the Corridor (or reduce its width to convert it to a trail) and

revegetate the existing open areas along the to be removed roadway as well as those created by the pavement removal. This action will eliminate an existing transportation corridor currently passing through the Fort's designated Corridor.

Several methods will be employed to mitigate impacts to water quality (and resultant impacts to habitat) from the Connector Road. The project is required to meet both Virginia and Fairfax County Stormwater Management Criteria for water quality and quantity control. A curb and gutter system is expected to be used, with curb opening drop inlets, and a storm water sewer system with cross drains. Bio-retention areas or rain gardens will be employed where possible. These would be more "habitat friendly" than large stormwater management ponds. Extended dry detention ponds may also be employed where other best management practices are not feasible.

Other mitigation includes reduced lighting and no right-of-way fencing of the project through the Corridor. While street lighting at the key intersections would be expected, FHWA would coordinate with VDOT and Fort Belvoir during design to minimize effects of lighting within the Corridor.

In summary, the combined effect of the following listed mitigation actions will greatly reduce the impact of the proposed undertaking upon the Fort's designated Corridor:

- Eliminate/remove the existing Woodlawn Road corridor through the Corridor
- Revegetate the eliminated Woodlawn Road corridor through the Corridor
- Replace the existing small drainage culvert conveying Piney Run under Telegraph Road and replace with a bridge structure
- Provide a bridge structure as wildlife crossing on proposed connector road in Corridor
- Provide a bridge structure as stream and wildlife crossing on proposed connector road for its crossing of Piney Run
- Revegetate cut and fill slopes, outside of clear zone, of the proposed connector road
- Provide 4 additional minor wildlife crossing structures, 2 in the Corridor, 2 between the Corridor and Telegraph Road.
- Provide minimal drift fencing at proposed wildlife crossings
- Provide "deer crossing" warning signs along the proposed connector road
- Provide deer reflectors along the proposed connector road
- Provide no lighting along the proposed connector road except at its three intersections and at the existing residential area
- Facilitate discussion to reduce posted roadway speed below 45MPH

d. Maintenance of Traffic: The Connector Road is a new roadway facility and maintenance of traffic is not an issue that would have to be addressed for this 4(f) resource.

e. Erosion and Sediment Control: Temporary and permanent erosion and sediment controls would be installed during construction to minimize any detrimental effects of project-generated sediment within the Corridor. The practices recommended in the *1992 Virginia Erosion and Sediment Control Handbook* will be used for this project.

f. Landscaping: Landscaping along the Connector Road will be consistent with guidance provided by Virginia Department of Conservation and Recreation (DCR) in the *1999*

Virginia Stormwater Management Handbook. The handbook describes many plant species which are suitable given consideration to viability and long-term maintenance by VDOT. The typical section anticipates a vegetated median through the Fort.

g. Additional coordination: Additional coordination has been held with Fort Belvoir Directorate of Installation Support – Environmental and Natural Resources Division to address and minimize adverse affects and potential mitigation for the Corridor. Coordination will continue throughout the design process of the Preferred Alternative.

h. Unusual characteristics: The Connector Road would roughly parallel a large landfill, known as Mulligan Road Landfill. This solid waste management unit (SWMU) has been capped with a grassy cover. The alignment purposely avoids the SWMU, and places the SWMU closest to the JMAWR. This area of the Corridor is also near the intersection of several unimproved roads including a section of John J. Kingman Highway and Mulligan Road.

VI. COORDINATION

1/24/06	Agency Scoping Meeting. FHWA presented the project and study approach for preparation of the NEPA documentation and schedule, as well as reviewed the past work efforts including discussions of previous alternatives and available data. The Forest and Wildlife Corridor and other resources were noted.
2/17/06	First Public Information Meeting. FHWA presented the project purpose and need, described the NEPA and Section 106 processes, and initial alternatives. Public comment was received; concerns were expressed for natural and cultural resources and providing such things as pedestrian and bicycling amenities.
5/2/05	FHWA met with Fort Belvoir following meetings with VDOT and Fairfax County regarding traffic issues and citizen input from the February 17, 2005 Public Information meeting. General discussions about the status of the Fort's Master Plan update in light of the pending announcement by Base Realignment and Closure Commission. (The Fort's draft Master Plan update continued to show the general alignment of the COE Corridor C.)
10/13/05	FHWA met with Fort Belvoir, HEC, and DCEETA personnel to discuss constraints and suggested revisions to the modified Connector Road alignment through Fort Belvoir. Discussion and evaluation of the proposed connector was aided by a GIS session projected to the group. GIS overlays showed the proposed alignment and Limits of Construction (LOC) with geographic layers of natural and other constraints on-base (including wetlands, water bodies, SWMU's, Security Buffers and building footprints).
10/24/05	Second Public Information Meeting. FHWA explained rationale for possible variations for the Alternative C corridor to be carried into preliminary engineering.
12/14/05	FHWA project team held a second working meeting with Fort Belvoir, HEC, and DCEETA personnel to discuss any other suggested revisions to two modified Connector Road alignments through Fort Belvoir (the revisions are titled 3CR and 4CR). Discussion and evaluation of the proposed connector was aided by a GIS session projected to the group. GIS overlays of a revised alignment and Limits of Construction (LOC) with geographic layers of natural and other constraints on-base (including wetlands, water bodies, SWMU's, Security Buffers, archeological resources, topography, habitats of concern, and building footprints).

1/12/06	FHWA project team held a working meeting with Fort Belvoir, DCEETA, VDOT and Fairfax County DOT personnel to discuss potential right-of-way along Telegraph Road for transportation improvements.
2/28/06	FHWA met with Fort Belvoir DPW and major utility companies to review the locations of key utilities and the timing and coordination required regarding possible relocation of utilities.
3/24/06	FHWA project team met with Fort Belvoir staff to discuss latest revisions to the proposed Connector Road alignment through Fort Belvoir and review environmental concerns. There was also brief discussion on issues related to the Woodlawn Road land transfer (from the Army-VDOT to the National Trust for Historic Preservation).
4/7/06	FHWA project team met with Fort Belvoir staff to review construction impacts and longer term mitigation opportunities.
5/2/06	FHWA met with Fort Belvoir staff to discuss potential mitigation actions, including additional wildlife crossings, median widths and inclusion of low impact storm water management concepts.
6/26/06	FHWA met with Fort Belvoir staff to discuss additional mitigation actions, including pavement removal and reforestation of existing two-lane Woodlawn Road through the Corridor.