US Army Corps of Engineers

NCE PARKING LOT

ENVIRONMENTAL ASSESSMENT & FINDING OF NO SIGNIFICANT IMPACT

FORT BELVOIR, VIRGINIA

August 2015

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FINDING OF NO SIGNIFICANT IMPACT
CONSTRUCTION AND OPERATION OF PARKING LOT
at
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
NGA CAMPUS EAST
FORT BELVOIR NORTH AREA
FAIRFAX COUNTY, VIRGINIA

Federal actions that potentially involve significant impacts on the environment must be reviewed in accordance with the National Environmental Policy Act (NEPA) and all other applicable laws. The Real Property Services Field Office of the United States Army Corps of Engineers (USACE) Baltimore District, on behalf of the National Geospatial-Intelligence Agency (NGA) and in cooperation with the Fort Belvoir Directorate of Public Works (DPW), has completed an environmental assessment (EA) to address the potential impacts on the human and natural environment resulting from the implementation of the proposed action described below.

Description of Proposed Action

NGA proposes to construct and operate a 900-space, 7-acre parking lot adjacent to NGA Campus East (NCE) on the Fort Belvoir North Area (FBNA) in Fairfax County, Virginia. The proposed parking lot would enable NCE to provide sufficient parking for employees by meeting parking authorizations prescribed by Fort Belvoir and the National Capital Planning Commission (NCPC); consolidate existing overflow parking areas; and improve safety and environmental conditions. The proposed parking lot is not intended to accommodate future employee growth on FBNA. The proposed parking lot would be removed and the site re-vegetated upon the completion of a future structured parking facility at NCE or the completion of Phase II of the Defense Access Ramp (DAR) project.

Purpose and Need

Based on its March 2013 working population of 9,992 employees, NCE is authorized 5,995 employee parking spaces under parking guidelines established by NCPC and Fort Belvoir. However, the actual number of employee parking spaces at NCE is 5,016, resulting in a shortfall of 979 spaces. To accommodate this shortfall, approximately 899 overflow parking spaces are currently provided in two unpaved, gravel-covered lots (the Integrated Program Office [IPO] Lot and North Subcontractor Parking Lot) adjacent to NCE totaling approximately 7.1 acres. However, these lots were originally established as temporary parking and storage areas for contractors during the construction of NCE and were never intended to be used as permanent parking for NCE employees and visitors. The unlit and unpaved conditions of the lots and lack of directional pavement markings and signage create unsafe conditions for drivers and pedestrians traversing them. Parking spaces and drive aisles are not clearly indicated, which leads to an inconsistent arrangement of and spacing between parked vehicles and an inefficient use of the overall space in the lots. Further, the unpaved condition of the lots accelerates erosion of

underlying soils by wind and water, thereby increasing fugitive dust and sediment runoff and resulting in unnecessarily increased and adverse impacts on air quality and surface water quality.

The purpose of the proposed action is to provide a parking lot that fulfills the majority of NCE's 979-space shortfall of authorized employee parking spaces and consolidates existing overflow parking areas. By providing a paved, lighted facility with appropriate stormwater management features, the implementation of the proposed action would also improve the safety of drivers and pedestrians, and minimize environmental impacts from the erosion of exposed soils by wind and water. The proposed action is needed because the existing overflow parking areas are unsuitable for continued use by NCE employees. The unpaved and unlit conditions of the existing IPO Lot and North Subcontractor Parking Lot present unnecessary hazards to drivers and pedestrians, and the unpaved condition of both lots results in environmental impacts that could be otherwise minimized, further necessitating the proposed action.

Affected Environment

The proposed parking lot would be built on a 7-acre, previously-disturbed site at the intersection of Barta Road and GEOINT Drive adjacent to NCE on FBNA. The project site is part of a larger, approximately 84-acre parcel identified in the update to Fort Belvoir's *Real Property Master Plan* (RPMP) for future long-term development of a secure administrative campus similar in size and staffing to NCE. The site encompasses approximately 2.2 acres of an existing gravel-covered parking lot currently used as overflow parking for NCE employees; approximately 1.8 acres of scrub-shrub vegetation planted by NGA in fulfillment of requirements to restore vegetation in areas cleared outside the NCE limits of disturbance to their original condition or better to replace trees and vegetation lost as a result of that clearing; an additional 1.7-acre stand of mixed pine and hardwood trees and scrub-shrub vegetation, some of which was also planted in fulfillment of re-vegetation requirements associated with the construction of NCE; and two vacant modular buildings with a combined footprint of approximately 28,000 square feet that formerly comprised the IPO that supported the construction of NCE. The modular buildings are scheduled to be removed in 2015 as part of an unrelated action (a Record of Environmental Consideration prepared for this action determined that the removal of the buildings is categorically excluded under the provisions of CX (C)(2), AR 200-2, 32 CFR Part 651, Appendix B, Section II).

The site is accessed from Barta Road via an unnamed road along the east side of the existing IPO Lot. There are no naturally-occurring bodies of surface water and no wetlands on the project site. An existing temporary sediment basin is located immediately north of the site. The site is overlapped by approximately 4.2 acres of Partners in Flight (PIF) habitat, 2.9 acres of existing tree planting sites, and 3.3 acres of potential tree planting sites. The site is also located less than 300 feet from a portion of the Accotink Creek Conservation Corridor. No federally-listed critical habitat is known to occur on the project site. The number of individual specimens of PIF species of concern occurring on the project site is unknown, although brown thrasher (*Toxostoma rufum*) was observed on the site in 2014. No archaeological or architectural resources listed or eligible for listing on the National Register of Historic Places are located on the project site. The site is underlain by a plume of benzene contamination associated with petroleum storage tanks formerly located to the south of the site; the contamination is undergoing remediation through natural attenuation. No hazardous substances are stored on the project site, and fertilizers, pesticides, herbicides and rodenticides are applied sparingly and on an as-needed basis. A pad-mounted

transformer located on the project site would be tested for the presence of polychlorinated biphenyls (PCBs) and removed in accordance with all applicable Fort Belvoir policies.

Overhead electrical transmission lines and wooden utility poles located on the site would be removed prior to the implementation of the proposed action.

Environmental Impacts

In the short term, the proposed action would have temporary, construction-related impacts on land use, on-post and off-post transportation networks, air quality, groundwater and stormwater, biological resources, soils and topography, hazardous substances, solid waste and unexploded ordnance. Based on their temporary nature and limited extent given the relatively small scale of the project, these short-term construction-related impacts would vary from negligible to minor and would not be significant. Erosion and sediment control measures and other standard best management practices (BMP) would be used as applicable to ensure that short-term adverse impacts are minimized to the maximum extent practicable.

In the long term, the proposed action would have negligible adverse impacts on groundwater, stormwater, vegetation, wildlife, habitat areas, mitigation sites, individual specimens of PIF species of concern, soils, hazardous substances, and utilities. It would have no adverse impacts on land use and plans, on-post and off-post transportation networks, air quality, watersheds, surface water, wetlands, geology, topography, cultural resources, and hazardous materials and solid waste. The proposed action would have beneficial impacts on parking for NCE employees and visitors, and parking policies set forth in the Fort Belvoir *Draft Transportation Management Plan* (TMP) and NGA TMP. Considering their context and intensity, none of these long-term impacts would be significant. In accordance with Section 438 of the *Energy Independence and Security Act* (EISA), NGA would incorporate low impact development (LID) techniques to the maximum extent technically feasible to maintain the pre-development hydrology of the project site. The incorporation of such techniques, such as permeable pavement and vegetated swales, could further minimize long-term adverse impacts from sediment and pollutants in stormwater generated on the proposed parking lot.

The proposed action could adversely affect the federally-threatened northern long-eared bat (*Myotis septentrionalis*), as suitable habitat for the species is potentially present on the project site.

Mitigation

NGA would develop a landscaping plan that would specify the quantity and types of trees to be planted on the project site to replace vegetation lost during the construction of NCE and associated construction support facilities. The ratios on which the plantings are based have been agreed to by Fort Belvoir DPW and NGA and are described as follows:

- Landscape size cedar trees: Originally planted at 20 trees per acre. Replant on a 1 for 1 basis. Replacement trees do not have to be eastern red cedar.
- Pine seedlings: Originally planted at 480 seedlings per acre. Replant on a 2 seedling per tree equivalent basis.

In accordance with Fort Belvoir's Tree Replacement Policy, NGA will also plant two new trees for every "volunteer tree" (i.e., those growing on the site that were not planted in fulfillment of mitigation or other requirements) that would be lost through the implementation of the proposed action.

Following the completion of the proposed parking lot, NGA will also re-vegetate approximately 9 acres on the North Subcontractor Parking Lot on FBNA in accordance with restoration requirements associated with the construction of NCE. Vegetation to be planted on the project site and the North Subcontractor Parking Lot will include native and/or drought-tolerant species.

Fort Belvoir will use the Army's Programmatic Informal Consultation for the northern long-eared bat when screening upcoming construction projects – including the proposed action – and will conduct local Section 7 consultation for any project that does not meet the criteria for "not likely to adversely affect" the species (*Informal Conference & Management Guidelines on the Northern Long-eared Bat (*Myotis septentrionalis*) for Ongoing Operations on Installation Management Command Installations*, US Army Environmental Command, May 2015). In addition, Fort Belvoir will conduct a survey to determine if the species is present on the installation.

Notice of Availability

Copies of the Final EA were sent to public agencies and organizations for a review period of 30 days beginning on March 23, 2015. Printed copies of the Final EA were made available at the Lorton, Kingstowne, and Sherwood Regional branches of the Fairfax County Public Library. An electronic copy of the Final EA was made available on the Fort Belvoir website at http://www.belvoir.army.mil/environdocssection2.asp. A Notice of Availability for the EA was published in the March 26-April 1, 2015 editions of the *Mount Vernon Gazette* and *Springfield Connection* and the March 25, 2015 edition of the *Mount Vernon Voice*.

Pursuant to Section 307 of the Coastal Zone Management Action of 1972, as amended, and 15 CFR 930 Subpart C, a Federal Consistency Determination and a copy of the Final EA were submitted to the Virginia Coastal Resources Management Program on March 20, 2015 for a review period of 60 days. VADEQ responded in a letter dated May 18, 2015 that the proposed action is consistent with the Virginia Coastal Zone Management Program.

Applicable comments received during the public and Federal Consistency review periods were addressed in the Final EA.

Finding of No Significant Impact

Based on the information and analysis presented in the EA conducted in accordance with the requirements of NEPA, the Council on Environmental Quality regulations implementing NEPA, Army implementing regulations as set forth in 32 CFR 651, USACE implementing regulations in 33 CFR 230, and after a review of comments submitted during the 30-day public review period, I conclude that implementation of the Proposed Action Alternative will not result in significant impacts on the quality of the human or natural environment. For these reasons, a Finding of No Significant Impact is approved and preparation of an EIS is not warranted. This decision has been made after taking into account all submitted information, and considering a full range of practicable alternatives that will meet project requirements and are within the legal authority of the U.S. Army and USACE.

for Stephen Fowler, Deputy

MICHELLE D. MITCHELL
Colonel, AG
Commanding

8/31/2015
Date

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Environmental Assessment
Construction of Parking Lot

at

National Geospatial-Intelligence Agency
NGA Campus East
Fort Belvoir North Area
Fairfax County, Virginia

FINAL

Reviewed by:

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FOR **MICHELLE D. MITCHELL**
Colonel, AG
Commanding

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Executive Summary

The National Geospatial-Intelligence Agency (NGA) proposes to build a 900-space, 7-acre parking lot adjacent to NGA Campus East (NCE) on the Fort Belvoir North Area (FBNA) in Fairfax County, Virginia to provide sufficient parking for NCE employees by meeting parking authorizations prescribed by Fort Belvoir and the National Capital Planning Commission (NCPC); consolidate existing overflow parking areas; and improve safety and environmental conditions (proposed action). To publicly document the environmental consequences of the proposed action, the Real Property Services Field Office (RSFO) of the United States Army Corps of Engineers (USACE) Baltimore District has prepared this environmental assessment (EA) in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4331 *et seq*.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508); the Army's *Environmental Analysis of Army Actions* at 32 CFR 651; and the USACE's *Procedures for Implementing NEPA* at 33 CFR 230.

The purpose of the proposed action is to provide a parking lot that fulfills the majority of NCE's 979-space shortfall of authorized employee parking spaces and consolidates existing overflow parking areas. By providing a paved, lighted facility with appropriate stormwater management features, the implementation of the proposed action would also improve the safety of drivers and pedestrians, and minimize environmental impacts from the erosion of exposed soils by wind and water. The proposed action is needed because the existing overflow parking areas are unsuitable for continued use by NCE employees. The unpaved and unlit conditions of the existing overflow parking lots present unnecessary hazards to drivers and pedestrians, and the unpaved condition of both lots results in environmental impacts that could be otherwise minimized, further necessitating the proposed action.

ES.1 Alternatives

NGA considered the following alternatives to meet the project's purpose and need:

- Implementing the proposed action (the Proposed Action Alternative).
- Constructing a structured parking facility.
- Building a paved parking lot in another location on FBNA.
- Building a paved parking lot or leasing an existing facility in another location outside FBNA.
- No action (the No Action Alternative).

Of these alternatives, only the proposed action meets NGA's purpose and need. While the No Action Alternative does not meet NGA's purpose and need, it is considered in the EA pursuant to CEQ regulations to provide a baseline against which the impacts of the Proposed Action Alternative can be evaluated.

ES.2 Proposed Action

Implementing the proposed action would provide NCE with 900 parking spaces, which would fulfill the majority of the 979-space shortfall of 5,995 authorized employee parking spaces, or 60 percent of the number of full-time employees at NCE (9,992 as of March 2013). This would enable NCE to provide sufficient parking for its employees and meet its parking authorization established in the Fort Belvoir *Draft Transportation Management Plan* (TMP) and by the National Capital Planning Commission (NCPC) in the *Federal Elements of the Comprehensive Plan for the National Capital*. The proposed action would also enable the consolidation of two existing, unpaved parking areas (the Integrated Program Office [IPO] Lot and the North Subcontractor Parking Lot) that are used for overflow parking by NCE employees. Although these areas provide approximately 899 spaces, they were originally established as temporary parking and storage areas for contractors during the construction of NCE and were never intended to be used as permanent parking for NCE employees and visitors. The unpaved and unlit conditions of the existing overflow parking lots present unnecessary hazards to drivers and pedestrians, and the unpaved condition of both lots results in environmental impacts, such as erosion of soils by rain and wind that could be otherwise minimized.

The proposed parking lot would provide parking for employees currently assigned to NCE and is not intended to accommodate future employee growth. The lot would be built, maintained and operated in accordance with the terms outlined in a memorandum prepared by NGA dated 16 May 2013 requesting the project and the Fort Belvoir Garrison Commander's memorandum approving the project dated 29 July 2013. In accordance with the NGA and Garrison Commander's memoranda, the proposed parking lot would be available for the use of non-NCE employees and visitors on FBNA and would be considered a temporary solution for fulfilling the employee parking shortfall at NCE until a permanent structured parking facility can be built on the campus. Alternatively, the proposed parking lot would remain in use until NCE is required to achieve a 50 percent parking ratio in compliance with NCPC requirements following the completion of Phase II of the Defense Access Ramp (DAR) project that would provide direct two-way vehicular access from FBNA to the High Occupancy Toll (HOT) lanes on Interstate (I)-95 (DAR Phase II is currently unfunded and there is no schedule for its completion). The design of the proposed parking lot would include specifications for the removal of the lot and the re-vegetation of the site upon the completion of DAR Phase II or a future structured parking facility at NCE.

The proposed action includes:

- Clearing approximately 3.7 noncontiguous acres of existing vegetation on the project site.
- Constructing two temporary access roads to enable the ingress and egress of NCE employee and visitor vehicles and construction-related vehicles.
- All necessary grading and site preparation work.
- Asphalt paving of the site.
- 900 parking spaces 9 feet wide and 20 feet long.
- Twenty-four-foot-wide aisles between parking rows.

- Converting the existing temporary sediment basin immediately north of the project site to a stormwater management basin to manage the increased volume of stormwater that would be generated on the paved parking lot.
- Constructing pedestrian bridges over the stormwater management basin to provide connectivity to the multi-use path along the south side of Barta Road.
- Constructing a sidewalk segment approximately 12 feet wide by 336 feet long to connect the parking lot to the existing sidewalk network on NCE.
- Erecting a pedestrian barrier along the west side of the project site to control pedestrian circulation on the site.
- All required pavement markings, striping and signage associated with the parking lot.
- Overhead LED lighting.

In accordance with Section 438 of the *Energy Independence and Security Act* (EISA), NGA would incorporate low impact development (LID) measures to the maximum extent technically feasible to maintain the pre-development hydrology of the site. Such techniques could include permeable pavement and vegetated swales between the parking rows. The proposed parking lot would also be built in accordance with Unified Facilities Criteria (UFC) 1-200-02, *High Performance and Sustainable Building Requirements*; the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certification worksheet; and the U.S. Department of Energy's *High Performance and Sustainable Buildings Guiding Principles* worksheet.

A landscaping plan will be developed for the project specifying the quantity and types of trees to be planted on the project site to replace trees that would be removed as a result of the proposed action. Fort Belvoir Directorate of Public Works (DPW) and NGA have agreed to the ratios at which such trees will be replaced (see further discussion in the *Biological Resources* section below). In accordance with Fort Belvoir's Tree Replacement Policy, the landscaping plan will also specify the number and types of trees to be planted at a 2:1 ratio to replace "volunteer trees" (i.e., trees growing on the site naturally that were not planted in fulfillment of mitigation or other requirements) that would be removed as a result of the proposed action.

Following the completion of the proposed parking lot, NGA will also plant approximately 9 acres on FBNA's North Subcontractor Parking Lot in fulfillment of restoration requirements for vegetation lost on parking and storage areas associated with the construction of NCE as set forth in a memorandum from USACE to Fort Belvoir DPW dated 20 March 2008. Vegetation to be planted on the project site and the North Subcontractor Parking Lot will include native and/or drought-tolerant species.

ES.3 Environmental Consequences

Land Use, Plans and Coastal Zone Management

In the short term, construction activities associated with the proposed action would change the use of the project site to an active construction site. Noise, dust and traffic generated by these activities would have the potential to cause annoyance to adjacent or nearby land uses. However,the duration and intensity of these effects would vary throughout the project's construction phase, and construction activities would not impede, disrupt or prohibit the use of land outside the project site from its intended use. Following the completion of construction activities, conditions on the project site would return to a pre-construction condition. Therefore, short-term adverse impacts on land use would be negligible.

The long-term operation of the proposed parking lot would be consistent with the site's underlying Professional/Institutional land use designation because it would support or be incorporated into such development in the future. Thus, the proposed action would have no long-term adverse effects on land use or plans.

NGA has determined that the proposed action would be consistent to the maximum extent practicable with Virginia's federally-approved coastal zone management program. A federal consistency determination has been prepared for the proposed action and was submitted to the Virginia Department of Environmental Quality (VADEQ) for review. VADEQ responded in a letter dated May 18, 2015 that the proposed action is consistent with the Virginia Coastal Zone Management Program.

Transportation

In the short term, construction-related traffic consisting of workers' vehicles and delivery trucks would contribute to some additional congestion on transportation networks on and in the vicinity of FBNA. Elements of the transportation network affected would include on-post and off-post vehicular circulation, on-post vehicular access points, and on-post and off-post parking. Workers commuting to the site by mass transit, walking or bicycling could also create additional demand on those networks and systems. However, in all cases, any such increased demand would vary throughout the project's construction phase and would be within the capacity of those networks and systems. Thus, any adverse short-term impacts would remain negligible.

The implementation of the proposed action would not result in additional workers at NCE. However, it would enable NCE to more closely meet the current 60 percent parking authorization established by Fort Belvoir and NCPC, thereby enabling NCE to provide sufficient parking for its employees and visitors. For these reasons, the proposed action would have no adverse long-term impacts on transportation networks on and in the vicinity of FBNA, and would have beneficial long-term impacts on parking policies set forth in the Fort Belvoir Draft TMP and NGA TMP.

Air Quality

The proposed action would result in short-term, construction-related emissions that do not exceed the *de minimis* thresholds for the criteria pollutants regulated under the Clean Air Act (CAA) for which the area in which the project site is located is in non-attainment (ozone [O_3] and $PM_{2.5}$ [particulate matter with a diameter $\leq$ 2.5 micrometers]); would result in negligible emissions of other criteria pollutants; and, with regard to greenhouse gas (GHG) emissions, would not be such as to have a meaningful effect on global climate change. In the long term, the operation of the proposed parking lot would create no new sources of emissions because the proposed parking lot would be constructed to accommodate the existing parking demand at FBNA. The construction contractor would comply with VADEQ air pollution control regulations established in 9 Virginia Administrative Code (VAC) 5-40 and 9VAC5-45 applicable to the construction and asphalt paving activities associated with the proposed action. Thus, the implementation of the proposed action would have minor short-term adverse impacts on air quality and no long-term adverse impacts.

Water Resources

The construction of the proposed parking lot would not involve in-water construction. Thus, the proposed action would have no direct short-term or long-term adverse impacts on bodies of surface water. Any necessary modification of the stormwater discharge point to the wetland north of the project site to compensate for the increase in impervious surface on the site would be made in compliance with all applicable permits and regulations. Thus, the proposed action would have no indirect long-term adverse impacts on wetlands.

Construction activities associated with the proposed parking lot would disturb approximately 7 acres of soils, exposing those soils to erosion by wind and water. The construction contractor would obtain a General Permit for the Discharge of Stormwater from Construction Activities (Construction General Permit), prepare a construction stormwater pollution prevention plan (SWPPP) and erosion and sediment control plan, and would implement erosion and sediment control measures to minimize the amount of sediment in stormwater runoff generated on the project site and discharged into receiving bodies of surface water. While these impacts cannot be entirely eliminated, they would remain minor.

The construction and operation of the proposed parking lot would not involve the drilling of new wells or new withdrawals of groundwater for potable uses. However, during construction it may be necessary to relocate or reinstall some or all of the temporary wells used to monitor the natural attenuation of contaminated groundwater underlying the project site. Any existing monitoring wells identified for relocation would be closed in accordance with 12VAC5-630-450. Any such relocation or reinstallation would be coordinated with Fort Belvoir DPW as needed. Short-term adverse impacts would be negligible.

In the long term, impervious surface on the project site would increase by approximately 3.7 acres. While this increase would somewhat impair groundwater recharge from precipitation on and within the project site, it would be marginal in the context of FBNA and the surrounding area. Thus, long-term adverse impacts on groundwater resulting from the proposed action would

be negligible. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA would further minimize this impact.

The increase in impervious surface would result in a corresponding long-term increase in the volume of stormwater generated on the project site; however, a stormwater management basin would be created by modifying the existing temporary sediment basin immediately north of the site to manage any increase in runoff. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement and vegetated swales between the parking rows, would be used to manage the quantity and quality of stormwater runoff. Thus, the proposed action would reduce the quantity of sediment carried in runoff from the existing unpaved parking lot and would not increase the volume, velocity and temperature of stormwater discharged to receiving water bodies, thereby ensuring that no further degradation in stream quality would occur in accordance with Virginia Minimum Standard 19. For these reasons, the proposed action would have no or negligible long-term adverse impacts on watersheds, surface water, and stormwater.

Biological Resources

The proposed action could adversely affect the federally-threatened northern long-eared bat (*Myotis septentrionalis*), as suitable habitat for the species is potentially present on the project site. Fort Belvoir will use the Army's Programmatic Informal Consultation for the northern long-eared bat when screening upcoming construction projects – including the proposed action – and will conduct local Section 7 consultation for any project that does not meet the criteria for "not likely to adversely affect" the species (*Informal Conference & Management Guidelines on the Northern Long-eared Bat (*Myotis septentrionalis*) for Ongoing Operations on Installation Management Command Installations*, US Army Environmental Command, May 2015. In addition, Fort Belvoir will conduct a survey to determine if the species is present on the installation.

The implementation of the proposed action would have no short-term or long-term adverse impacts on any other federally-listed threatened and endangered species or critical habitat because none are known to occur on the project site.

The proposed action does not involve the filling, disturbance or alteration of wetlands. Thus, there would be no direct adverse short-term or long-term impacts on wetlands.

In the short term, construction activities associated with the proposed action would likely displace common species of wildlife and clear approximately 3.7 noncontiguous acres of vegetation that such species use as habitat. These activities would also displace individual specimens of Partners in Flight (PIF) species of concern. Although some slower moving or less mobile individual specimens of wildlife could be destroyed, these impacts would occur at the individual rather than species level. Thus, short-term adverse impacts on common wildlife species and PIF species would be minor.

In addition to habitat for common wildlife species, the clearing of vegetation would include the loss of 4.2 acres designated by Fort Belvoir as habitat for PIF species of concern; 2.9 acres of existing vegetation restoration areas; and 3.3 acres of potential vegetation mitigation sites. While

the short-term and long-term impacts on these areas would be adverse, they would be offset through the planting of an approximately 9-acre area on FBNA's North Subcontractor Parking Lot by NGA following the completion of the proposed parking lot.

To replace trees planted on the site in fulfillment of restoration requirements set forth in the 20 March 2008 USACE memorandum that would be removed as a result of the proposed action, a landscaping plan will be developed for the project specifying the quantity and types of trees to be planted on the project site. As agreed to by Fort Belvoir DPW and NGA, landscape-size cedar trees originally planted at 20 trees per acre would be replanted on a 1 for 1 basis (replacement trees do not have to be eastern red cedar), and pine seedlings originally planted at 480 seedlings per acre would be replanted on a 2 seedling per tree equivalent basis. In accordance with Fort Belvoir's Tree Replacement Policy, NGA would also plant two new trees for every "volunteer tree" (i.e., those growing on the site that were not planted in fulfillment of mitigation or other requirements) that would be lost through the implementation of the proposed action. In time, the vegetation would attract individual specimens of PIF species of concern as well as other wildlife species back to the site. Thus, through replanting, short-term and long-term adverse impacts on PIF habitat, existing restoration areas and potential mitigation sites would be negligible.

The use of erosion and sediment control measures during construction would minimize the quantity of sediment in stormwater runoff generated on the site. In the long term, runoff would be managed by the stormwater management basin associated with the proposed lot. The incorporation of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement and vegetated swales between the parking rows, would provide further filtration of stormwater generated on the site. Thus, the proposed action would have negligible short-term and long-term indirect adverse impacts on receiving water bodies, including wetlands. Similarly, short-term and long-term adverse impacts on the Accotink Creek Conservation Corridor resulting from the implementation of the proposed action would be negligible.

Geological Resources

The proposed action would not involve piledriving or other penetration of the geological strata underlying the project site. As such, the proposed action would have no short-term or long-term adverse impacts on geology.

Other than minor grading, the proposed action would not involve substantial alteration of the project site's topography, and no unique or noteworthy topographic features would be lost. Thus, the proposed action would have negligible short-term and long-term adverse impacts on topography.

In the short term, grading and site preparation activities associated with the construction of the proposed parking lot would disturb approximately 7 acres of soils. The construction contractor would implement erosion and sediment control measures to minimize the erosion of exposed soils and sediment in stormwater runoff generated on the project site. While these measures would not entirely eliminate such adverse impacts, they would remain negligible.

Soils excavated or otherwise disturbed during the project's construction phase would be tested for contaminants in accordance with established Fort Belvoir policies and procedures. If it is determined prior to or during construction that contaminants in soils exceed applicable regulatory thresholds for re-use on the site, any affected soils would be removed from the site and disposed of at a permitted facility off FBNA in accordance with Virginia Solid Waste Disposal Regulations. Thus, the proposed action would have no short-term impacts on workers' health resulting from exposure to contaminated soils.

If soils on the site are found to be unsuitable for supporting the construction of the parking lot, appropriate soils would be imported to the site. Thus, there would be no adverse impacts on soil suitability.

The increase of impervious surface on the site would result in a corresponding decrease in soil permeability and groundwater recharge. However, it would be offset by the re-vegetation of approximately 9 acres on the North Subcontractor Parking Lot following the completion of the proposed parking lot. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement, would further minimize this impact. Thus, while adverse, this long-term impact would be negligible in the context of FBNA and the Northern Virginia region.

The proposed action would result in the permanent loss of soils classified as Farmland of Statewide Importance. However, this long-term impact would be negligible for multiple reasons: they are not currently used for agricultural purposes; they have no potential for agricultural use, as they are located on a federal military installation; and the area of such soils that would be lost through the implementation of the proposed action is marginal in the context of all such soils in the state. For these reasons, long-term adverse impacts on soils classified as Farmland of Statewide Importance would be negligible.

Cultural Resources

Fort Belvoir has determined that no historic properties are present within the Area of Potential Effect (APE) of the proposed NCE parking lot in accordance with 36 CFR § 800.4. The Fort Belvoir Cultural Resources Manager (CRM) has consulted with the Virginia State Historic Preservation Officer (SHPO) under Section 106 of the National Historic Preservation Act to determine adverse effects on historic properties potentially resulting from the implementation of the Proposed Action Alternative. In a letter dated March 4, 2015 the SHPO concurred with Fort Belvoir's determination that no historic properties would be affected.

Hazardous Materials and Solid Waste

The construction of the proposed parking lot would not impede the continuing remediation of the contaminant plume underlying the project site. All existing monitoring wells would be incorporated into the design of the project or relocated if necessary. Any existing monitoring wells identified for relocation would be closed in accordance with 12VAC5-630-450. Construction workers would wear appropriate PPE if determined necessary, and NCE employees and visitors would not be exposed to constituents in the plume. Any equipment on the site suspected of containing polychlorinated biphenyls (PCB) would be tested and removed in

accordance with all applicable Fort Belvoir procedures. Thus, the proposed action would have no short-term or long-term adverse impacts on or from hazardous materials, hazardous wastes or PCB.

Hazardous substances used during the construction of the proposed parking lot (e.g., fuels, lubricants, paints, solvents) would be used and discarded in accordance with all applicable Fort Belvoir policies. When not in use, such substances would be kept in secured containers where the general public cannot access them. Following the completion of the proposed parking lot, no such substance would be stored on the project site. Any hazardous substances used during routine maintenance activities would be handled and applied by authorized personnel or licensed contractors, and discarded in accordance with applicable Department of Defense (DoD) and Fort Belvoir policies. Therefore, the proposed action would have negligible short-term adverse impacts and no long-term adverse impacts from hazardous substances.

Solid waste generated during the construction of the proposed parking lot would be discarded in an on-site refuse container and transported to an off-post facility for disposal. Quantities of solid waste generated during the construction of the proposed parking lot would be marginal in the context of construction projects on Fort Belvoir and in the Northern Virginia region. The general contractor will recycle at least 50 percent of construction-related waste in accordance with Fort Belvoir and Army policies to meet waste diversion requirements, further minimizing solid waste impacts. The operation of the proposed parking lot would not generate solid waste. Thus, the implementation of the proposed action would have negligible short-term and no long-term adverse impacts on solid waste.

Fort Belvoir DPW would review the project's construction plans and existing documentation for the site to determine the potential for worker exposure to unexploded ordnance (UXO), munitions of explosive concern (MEC) or munitions constituents (MC). Once cleared by Fort Belvoir DPW, an excavation permit would be issued to the construction contractor; however, depending on the results of the project review by Fort Belvoir DPW, the presence of UXO or explosives ordnance disposal (EOD) support may be required during some or all of the project's construction phase. Compliance with these requirements and other requirements stipulated by Fort Belvoir DPW would ensure that risks from worker exposure to UXO, MEC or MC remain low. Therefore, short-term adverse impacts from UXO, MEC or MC would be negligible.

Following the completion of construction activities on the project site, the operation of the proposed parking lot would have no potential to expose individuals to UXO, MEC or MC. For this reason, there would be no long-term adverse impacts from these materials under the proposed action.

Utilities

Overhead electrical transmission lines crossing the project site and their respective poles would be removed prior to the implementation of the proposed action. It is anticipated that Fort Belvoir's electrical distribution system would have adequate capacity for lighting installed on the site as part of the proposed action. Thus, the implementation of the proposed action would have no short-term adverse impacts and negligible long-term adverse impacts on electrical service at FBNA.

Cumulative Impacts

When considered in conjunction with other past, present, and foreseeable future projects on FBNA, the proposed action would not result in significant cumulative impacts on the resources evaluated in the EA.

ES.4 Conclusion

The construction and operation of the proposed NCE parking lot would not have significant impacts on the human and natural environment. Therefore, the preparation of an EIS is not required.

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APPENDICES

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Acronyms and Abbreviations

APE	Area of Potential Effect
BMP	Best Management Practice(s)
BRAC	Defense Base Closure and Realignment Act of 1990, as amended (Public Law 101-510)
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CBPA	Chesapeake Bay Preservation Act
CCB	Center for Conservation Biology
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CRM	Cultural Resources Manager
CZMA	Coastal Zone Management Act
DoD	Department of Defense
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPG	Engineer Proving Ground
ESA	Endangered Species Act
FBNA	Fort Belvoir North Area
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FNSI	Finding of No Significant Impact
GHG	Greenhouse Gas(es)
GIS	Geographic Information System
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant(s)

HFC	Hydrofluorocarbons
HOTV	High Occupancy Toll
I	Interstate
IMCOM	Installation Management Command
IPAC	Information, Planning and Conservation System
IPM	Integrated Pest Management
IPO	Integrated Program Office
IPS	Installation Planning Standards
IVDP	Installation Vision and Development Plan
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOS	Level(s) of Service
LUC	Land Use Control(s)
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MRS	Munitions Response Site(s)
MS4	Municipal Separate Storm Sewer System(s)
N_2O	Nitrous Oxide
NA	Not Available or Not Applicable
NAAQS	National Ambient Air Quality Standards
NCE	National Geospatial-Intelligence Agency Campus East
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NCPC	National Capital Planning Commission
NCR	National Capital Region
NEPA	National Environmental Policy Act
NFA	No Further Action
NGA	National Geospatial-Intelligence Agency
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_x	Oxides of Nitrogen
NRHP	National Register of Historic Places
NRO	Northern Regional Office
NTCRA	Non-time Critical Removal Action(s)
O_3	Ozone
Pb	Lead
PCB	Polychlorinated Biphenyls
PFC	Perfluorocarbons
PIF	Partners in Flight

PFO	Palustrine Forested
$PM_{2.5}$	Particulate matter with a diameter ≤ 2.5 micrometers
PM_{10}	Particulate matter with a diameter ≤ 10 micrometers
POW	Palustrine Open Water
PPE	Personal Protective Equipment
R3	Riverine Upper Perennial
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
ROD	Record of Decision
RONA	Record of Non-Applicability
RPA	Resource Protection Area(s)
RPMP	Real Property Master Plan
RSFO	Real Property Services Field Office
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Officer
SO_2	Sulfur Dioxide
SPCC	Spill Prevention, Control and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TMP	Transportation Management Plan
tpy	Tons Per Year
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGBC	United States Green Building Council
USGS	United States Geological Survey
UXO	Unexploded Ordnance
VAC	Virginia Administrative Code
VADEQ	Virginia Department of Environmental Quality
VDCR-DNH	Virginia Department of Conservation and Recreation-Division of Natural Heritage
VDGIF	Virginia Department of Game and Inland Fisheries
VDHR	Virginia Department of Historic Resources
VDOT	Virginia Department of Transportation
VOC	Volatile Organic Compounds
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

WASB	Working Animal Support Building
WMATA	Washington Metropolitan Area Transit Authority

1 Purpose and Need

The National Geospatial-Intelligence Agency (NGA) proposes to build a 900-space parking lot adjacent to NGA Campus East (NCE) on the Fort Belvoir North Area (FBNA) in Fairfax County, Virginia to provide sufficient parking for NCE employees by meeting parking authorizations prescribed by Fort Belvoir and the National Capital Planning Commission (NCPC); consolidate existing overflow parking areas; and improve safety and environmental conditions (proposed action). A portion of the proposed site is gravel-covered and currently used for overflow parking for NCE employees; the remainder of the site consists of vegetation and modular buildings.

To evaluate the potential impacts of this proposed action on the environment, the Real Property Services Field Office (RSFO) of the United States Army Corps of Engineers (USACE) Baltimore District, on behalf of NGA and in cooperation with the Fort Belvoir Directorate of Public Works (DPW), has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4331 *et seq*.); the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508); the Army's *Environmental Analysis of Army Actions* at 32 CFR 651; and the USACE's *Procedures for Implementing NEPA* at 33 CFR 230.

The information presented in this document will serve as the basis for deciding whether the proposed action would result in a significant impact on the human and natural environment, requiring the preparation of an environmental impact statement (EIS), or whether no significant impacts would occur, in which case a finding of no significant impact (FNSI) would be appropriate.

1.1 Purpose and Need for the Proposed Action

NGA serves as a Department of Defense (DoD) combat support agency as well as a member of the intelligence community by providing timely, relevant and accurate geospatial intelligence for multiple military, civil and international activities in support of national security. NCE opened in 2011 following the implementation of the Defense Base Closure and Realignment (BRAC) Act of 1990 (Public Law 101-510), as amended in 2005 which consolidated multiple NGA facilities and more than 8,000 employees in the Washington, D.C. region to a single facility on FBNA.

As with other tenant agencies at Fort Belvoir, employee parking at NCE is regulated under USACE's *Technical Instructions for Design Criteria* (TI 800-01) and codified in Fort Belvoir's 2014 *Draft Transportation Management Plan* (TMP) (IMCOM 2014). These parking requirements also reflect those established for federal agencies in the National Capital Region[1] (NCR) by the National Capital Planning Commission (NCPC). In an effort to contribute

[1] The National Capital Region is defined as defined as the District of Columbia; Arlington, Loudoun, Prince William Counties in Virginia; Prince George's and Montgomery Counties in Maryland; and independent cities encompassed by those counties within both states.

positively to regional air quality and transportation goals by reducing the number of single-occupant vehicle trips to Fort Belvoir, the *Technical Instructions* and Draft TMP cap the number of parking spaces authorized for employees' privately-owned vehicles at a particular facility at 60 percent of the personnel assigned to that facility, or approximately 1.67 employees for every parking space (IMCOM 2014). Under these requirements, NCE is authorized 5,995 parking spaces for assigned personnel based on the March 2013 working population of 9,992 employees (Anderegg, pers. comm., October 21, 2014). (In comparison, Section 11-400 of the Fairfax County Zoning Ordinance requires a minimum of 2.6 spaces for every 1,000 square feet of gross floor space in office uses with 125,000 square feet or more of gross floor space. For a building such as NCE, which has 2.4 million square feet of gross floor space, this would equate to a minimum of 6,240 parking spaces [Fairfax County 2014b]. As a federal facility, however, Fairfax County zoning regulations are not applicable to NCE.) Of the 5,112 spaces available in the structured parking facility immediately east of NCE's main administrative building, 5,016 are available for NCE employees (the remaining 96 are reserved for NCE organizational vehicles). This equates to the number of parking spaces on NCE being approximately 50 percent of the number of assigned employees or approximately 2 employees per space, thereby resulting in a deficit of 979 parking spaces for personnel assigned to NCE.

To accommodate this shortfall, NCE provides about 345 parking spaces in an approximately 2.8-acre, unpaved, gravel-covered lot (also referred to as the Integrated Program Office [IPO] Lot) on FBNA immediately east of the campus (Photos 1, 3 and 4). Because the limited size of the IPO Lot is inadequate to make up the entire shortfall of 979 additional employee parking spaces authorized for NCE, approximately 554 parking spaces are also provided in the North Subcontractor Parking Lot, a similar, approximately 4.3-acre gravel-covered area immediately south of the IPO Lot (Photo 2).

Photo 1: IPO Lot, viewed from the southeast. (Source: NGA)

The IPO Lot and North Subcontractor Parking Lot were originally established as temporary parking and storage areas for contractors during the construction of NCE and were never intended to be used as permanent parking for NCE employees. The unlit and unpaved conditions of the lots create unsafe conditions for drivers and pedestrians traversing them. The footing of the unpaved surfaces in both lots is uneven and uncertain, particularly during periods of rain, snow or ice, and the lack of lighting reduces the visibility of pedestrians to drivers during non-daylight hours. The absence of directional pavement markings and signage make the lots difficult to navigate for drivers and further increases risks to pedestrians. In addition to these safety concerns, parking spaces and drive aisles are not clearly indicated, leading to an inconsistent

Photo 2: North Subcontractor Parking Lot, viewed from the northwest. (Source: NGA)

Photo 3: Existing condition of IPO Lot.

Photo 4: IPO Lot, viewed from the east. (Source: NGA)

arrangement of and spacing between parked vehicles and an inefficient use of the overall space in the IPO Lot and North Subcontractor Parking Lot from day to day. The unpaved condition of the lots also accelerates erosion of underlying soils by wind and water, thereby increasing fugitive dust and sediment runoff and resulting in increased adverse impacts on air quality and surface water quality, respectively.

For the reasons presented above, the purpose of the proposed action is to provide a parking lot that fulfills the majority of NCE's 979-space shortfall of authorized employee parking spaces and consolidates existing overflow parking areas. By providing a paved, lighted facility with appropriate stormwater management features, the implementation of the proposed action would also improve the safety of drivers and pedestrians, and minimize environmental impacts from the erosion of exposed soils by wind and water. The proposed action is needed because the existing overflow parking areas are unsuitable for continued use by NCE employees. The unpaved and unlit conditions of the existing IPO Lot and North Subcontractor Parking Lot present unnecessary hazards to drivers and pedestrians, and the unpaved condition of both lots results in environmental impacts that could be otherwise minimized, further necessitating the proposed action.

The proposed parking lot would remain in use until NCE is required to achieve a 50 percent parking ratio following the completion of Phase II of the Defense Access Ramp (DAR) project (the DAR project is also discussed in Section 3.2.1.2). Phase II of this project would enable direct inbound vehicular access to FBNA from the High Occupancy Toll (HOT) lanes on Interstate (I)-95 (Phase I of the project, which enables direct outbound vehicular access to the HOT lanes from FBNA, has been completed). Federal facilities in the NCR with direct two-way connections to high occupancy vehicle/HOT lanes are required by NCPC to achieve and maintain a 50 percent employee parking ratio. This requirement as it applies to NCE and the proposed parking lot will be specified in a memorandum from the Fort Belvoir Garrison Commander (in preparation). NCE has agreed to be bound by the 50 percent requirement upon completion of DAR Phase II; however, DAR Phase II is currently unfunded and there is no schedule for its completion.

1.2 Location and Setting

1.2.1 FBNA

FBNA is an 800-acre noncontiguous portion of Fort Belvoir located in Fairfax County, Virginia approximately 1.5 miles northwest of the installation's Main Post. FBNA's regional location is shown on Figure 1-1. The property is bounded by residential neighborhoods to the north, Backlick Road and I-95 to the east, and the Fairfax County Parkway to the south and west. Accotink Creek traverses FBNA from north to south and divides the property into two nearly equal, broad, level terraces. Generally, the western third of FBNA is densely vegetated, while the remainder of the property consists of large cleared or developed areas separated by swaths of vegetation. In addition to NCE, facilities on FBNA include the remote inspection facility, two child development centers, and the FBNA fire station.

Location of FBNA

★ Location of Fort Belvoir

Installation Boundary

Scale (Main Map): 1:250,000

Main Map: 0 2.5 5 10 Miles

Inset: 0 40 80 160 Miles

N

Figure 1-1

Source: ESRI; Fort Belvoir GIS, 2013

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Location of Project Site

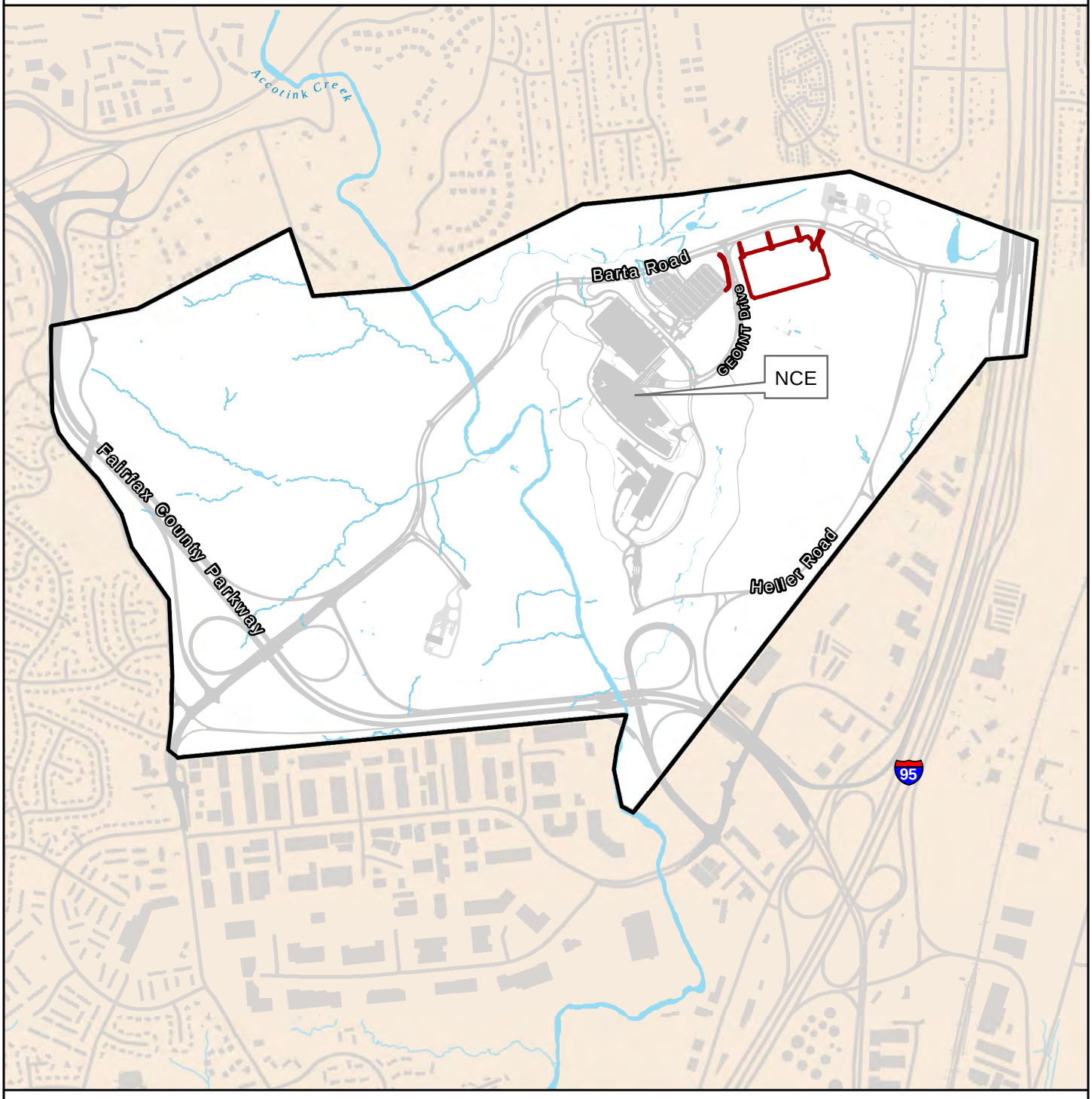

Figure 1-2

Source: ESRI; Fort Belvoir GIS, 2013

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1.2.2 NCE

Centrally located on FBNA, NCE covers approximately 85 acres immediately east of Accotink Creek and south of Barta Road. NCE's location on FBNA is shown on Figure 1-2. Within its fenced perimeter NCE consists of an eight-story, 2.4-million-square-foot main administrative building, a 5,112-space structured parking facility, a 573-space paved visitor parking lot, central utility plant, vehicle and pedestrian security checkpoints, and associated access roads and vehicle inspection facilities. Vegetation on NCE primarily consists of maintained lawn and landscape trees.

1.2.3 Project Site

The site of the proposed parking lot is located immediately east of NCE at the southeastern corner of the Barta Road-GEOINT Drive intersection (Figure 1-2). Existing conditions on and in the vicinity of the project site are shown in Figure 1-3. Approximately 2.2 acres of the gravel-covered IPO Lot are contained within the central third of the site. An additional 1.7 acres on the eastern side of the site include a small stand of mixed hardwood-pine trees and an area of minimally-maintained herbaceous and woody scrub/shrub vegetation. Approximately 1.8 acres on the western half of the project site are covered with herbaceous and woody scrub/shrub vegetation similar to the area on the eastern side of the site. Existing vegetation underlying a segment of the site along the western side of GEOINT Drive consists predominantly of maintained lawn and a few scattered landscape trees. A 0.7-acre temporary sediment basin to the north is bisected by portions of the project site.

The northwestern corner of the site is occupied by two modular buildings with a total footprint of approximately 28,000 square feet. The modular buildings formerly comprised the IPO facility and are scheduled to be removed in 2015 as part of an action unrelated to the proposed action evaluated in this EA. Fort Belvoir DPW has prepared a Record of Environmental Consideration (REC) for the removal of the IPO buildings, which concluded that the action is categorically excluded under the provisions of CX (C)(2), AR 200-2, 32 CFR Part 651, Appendix B, Section II. A copy of the REC and its associated Record of Non-Applicability (RONA) is included in Appendix A.

Overall, the project site falls within the FBNA East Campus regulating plan, which covers a contiguous, approximately 84-acre area bounded by Barta Road to the north, Heller Road to the east and south, and NCE to the west. This area is referred to as LT-9 in the *Short-term Projects and RPMP Update Draft EIS* (Fort Belvoir 2014a). Proposed long-term development (between 2018 and 2030) prescribed by this regulating plan has not been fully defined but would generally consist of offices and other administrative facilities that could support a single large tenant agency similar in size and staffing (up to 7,500 personnel) to NCE, or several smaller tenants (Fort Belvoir 2014a).

1.3 Summary of Environmental Compliance Requirements

The following descriptions of relevant acts, requirements and regulations is not intended to be exhaustive, but rather highlights the primary drivers of the environmental impact assessment and

permitting process. Additional regulations and requirements are described, as applicable, under the individual resource areas addressed in Chapter 3.

1.3.1 National Environmental Policy Act

NEPA provides for the consideration of environmental issues in federal agency planning and decision-making. Under NEPA, federal agencies must prepare an EIS or an EA for any federal action, except those actions that are determined to be "categorically excluded." An EIS is prepared for those federal actions that may significantly affect the quality of the human environment. An EA is a concise public document that serves to provide sufficient evidence and analysis for determining whether to prepare an EIS. The EA includes brief discussions of:

- The need for the proposal.
- Alternatives (as required under Section 102 [2] [E] of NEPA).
- Environmental impacts of the Proposed Action and No Action Alternatives.
- Agencies and persons consulted.

The regulations governing NEPA compliance for the Army are contained in 32 CFR 651 and for the USACE in 33 CFR 230. Paragraph 10 of the USACE regulations describes requirements applying to the preparation of an EA, including the following (33 CFR 230.10):

> (a) An EA is a brief document which provides sufficient information to the district commander on potential environmental effects of the proposed action and, if appropriate, its alternatives, for determining whether to prepare an EIS or a FNSI.
>
> (b) The EA should include a brief discussion of the need for the proposed action, or appropriate alternatives if there are unresolved conflicts concerning alternative uses of available resources, of the environmental impacts of the proposed action and alternatives and a list of the agencies, interested groups and the public consulted. The document is to be concise for meaningful review and decision.

Every EA must lead to either a FNSI, a decision to prepare an EIS, or no action on the proposal. Should NGA determine that the proposed action would have a significant impact on the quality of the human environment, an EIS would be prepared.

1.3.2 Air Conformity Requirements

The Clean Air Act Amendments of 1990 expanded the scope and content of the Clean Air Act's conformity provisions. Under Section 176(c) of the amendments, a project is in "conformity" if it corresponds to a state air quality implementation program's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving the expeditious attainment of these standards. Conformity requires that such activities do not:

Project Site Existing Conditions

Project Site Boundary

Labels on shaded areas indicate existing conditions (Aerial imagery is outdated)

Temporary Sediment Basin

0 50 100 200 Feet

N

Figure 1-3

Source: ESRI; Fort Belvoir GIS, 2013

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(1) Cause or contribute to any new violations of any standards in any area.

(2) Increase the frequency or severity of any existing violation of any standards in any area.

(3) Delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The United States Environmental Protection Agency (USEPA) has published final rules on general conformity (40 CFR Parts 51 and 93) that apply to federal actions in areas designated as being in nonattainment for any of the NAAQS. The rules specify *de minimis* (threshold) emission levels by pollutant to determine the applicability of conformity requirements for a project. Currently, the area where FBNA is located (Fairfax County, Virginia) is a non-attainment area for ozone (O_3) and very fine particulate matter ($PM_{2.5}$ [particulate matter with a diameter $\leq$ 2.5 micrometers]). Therefore, a General Conformity Rule applicability determination has been prepared and is included in this EA.

1.3.3 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 (16 USC § 1451, *et seq.*, as amended) provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. Section 307 of the CZMA stipulates that federal projects that affect land uses, water uses, or other coastal resources of a state's coastal zone must be fully consistent or consistent to the maximum extent practicable with the enforceable policies of that state's federally-approved coastal management plan.

The Commonwealth of Virginia has developed and implemented a federally-approved Coastal Zone Management Program describing current coastal legislation and enforceable policies. The enforceable policies are based on current state and federal environmental regulatory programs. As a federal property, Fort Belvoir is statutorily excluded from the CZMA's definition of the Commonwealth of Virginia's "coastal zone" (16 USC § 1453 [1]). If, however, a proposed action would affect coastal resources or uses beyond the boundaries of the federal property, the CZMA Section 307 federal consistency requirement applies. The Virginia Coastal Zone Management Program's nine enforceable policies for the coastal zone area include: fisheries management, subaqueous lands management, air pollution control, wetlands management, dunes management, non-point source pollution control, point source pollution control, shoreline sanitation, and coastal lands management.

A Federal Consistency Determination has been prepared for the proposed action evaluated in this EA and was submitted to the Virginia Department of Environmental Quality (VADEQ) for review in March 2015. A copy of the Federal Consistency Determination is included as Appendix C of this EA. VADEQ responded in a letter dated May 18, 2015 that the proposed action is consistent with the Virginia Coastal Zone Management Program.

1.3.4 Agency Coordination

In compliance with Section 7 of the federal Endangered Species Act, NGA conducted a query using the online project review system available through the website of the U.S. Fish and Wildlife Service's (USFWS) Virginia Ecological Services Field Office. The query was conducted to determine potential impacts of the proposed action on biological resources, in particular rare, threatened, and endangered species and/or critical habitat that may be present within the project area. The query results are included in Appendix A of this EA. Although the results of the query stated that no such species or critical habitat are located within the project area, additional consultation with the USFWS has determined that the northern long-eared bat (*Myotis septentrionalis*), which was listed as threatened in May 2015, has the potential to occur in forested areas, wetlands, streams and open fields on Fort Belvoir and FBNA.

The Army has completed Programmatic Informal Consultation on the northern long-eared bat with the USFWS under Section 7 of the Endangered Species Act. The Programmatic Informal Consultation identified criteria under which construction projects would be considered "not likely to adversely affect" the northern long-eared bat (*Informal Conference & Management Guidelines on the Northern Long-eared Bat [*Myotis septentrionalis*] for Ongoing Operations on Installation Management Command Installations*, US Army Environmental Command, May 2015). Fort Belvoir will use the Army's Programmatic Informal Consultation for the northern long-eared bat when screening upcoming construction projects – including the proposed action analyzed in this EA – and will conduct local Section 7 consultation for any project that does not meet the criteria for "not likely to adversely affect" the species. In addition, Fort Belvoir will conduct a survey to determine if the species is present on the installation.

In compliance with Section 106 of the National Historic Preservation Act, Fort Belvoir DPW has consulted with the Virginia Department of Historic Resources (VDHR), the designated State Historic Preservation Officer (SHPO) for the Commonwealth of Virginia, to determine adverse effects on historic properties on or in the vicinity of FBNA that could potentially result from the implementation of the proposed action. In a letter dated March 4, 2015 the SHPO concurred with Fort Belvoir's determination that no historic properties would be affected. Copies of relevant correspondence from the consultation process are included in Appendix A of this EA.

1.3.5 Public and Agency Review

Copies of the Final EA were sent to public agencies and organizations for a review period of 30 days beginning on March 23, 2015. Printed copies of the Final EA were made available at the Lorton, Kingstowne, and Sherwood Regional branches of the Fairfax County Public Library. An electronic copy of the Final EA was made available on the Fort Belvoir website at http://www.belvoir.army.mil/environdocssection2.asp. A Notice of Availability for the EA was published in the March 26-April 1 editions of the *Mount Vernon Gazette* and *Springfield Connection* and the March 25, 2015 edition of the *Mount Vernon Voice*. Comments received during the public review period and the Army's responses are included in Appendix E; as applicable, comments received during the public review period have been addressed in the Final EA.

1.4 Resources Eliminated from Further Analysis

Consistent with 40 CFR 1501.7(a)(3), the following resources are not considered further in this EA because the proposed action has no potential to measurably affect them:

Socioeconomics: The proposed action does not involve any changes in the number of full-time or part-time personnel assigned to NCE. Therefore, it has no potential to affect the local or regional demography, or the services supporting the local and regional population. The project site is well away from the nearest residential area and the proposed action has no potential to result in disproportionate impacts on minority or low-income communities protected under EO 12898, *Environmental Justice for Low Income & Minority Populations* or on the health and welfare of children under EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*. Implementation of the proposed action would have a beneficial impact on the local economy if local contractors are hired to design and build the proposed parking lot, but because of the project's limited scale in the context of the Northern Virginia region, any such impact would be minimal.

Floodplains: Executive Order (EO) 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain, and to avoid development in floodplains unless the agency determines that there is no practicable alternative. As illustrated on Flood Insurance Rate Map (FIRM) Panel 51059C029E produced by the Federal Emergency Management Agency (FEMA), the project site is not located within any 100-year or 500-year floodplains. As such, the proposed action would have no effect on floodplains.

Noise: Activities, vehicles and equipment associated with the construction phase of the proposed action would generate short-term increases of noise in the vicinity of the project site; however, the intensity and duration of these increases would vary throughout the construction phase, and would return to pre-construction levels following the completion of the project. In the long term, the proposed action would not create a new permanent source of noise and would not generate additional traffic on FBNA. Thus, noise impacts resulting from the project would be minimal.

Potable Water, Sanitary Sewer, Natural Gas and Communications Systems: Existing infrastructure for these utility systems on or underlying the project site would be abandoned in place as part of the proposed action. Distribution networks for those systems serving facilities in the vicinity of the project site would be rerouted so as to avoid any interruptions in service. NGA would coordinate with Fort Belvoir DPW regarding the planning and execution of all utility work associated with the proposed parking lot, and all such work would adhere to all applicable federal, state and local requirements regarding utility infrastructure. The proposed parking lot would not require new connections to these utility systems. Therefore, the proposed action would have no impacts on potable water, sanitary sewer, natural gas or communications systems on FBNA.

Asbestos Containing Materials and Lead Based Paints: The proposed action does not involve the alteration or removal of existing structures and has no potential to result in impacts on or from these substances.

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2 Description of Proposed Action and Alternatives

CEQ regulations require an EA to contain a brief description of the proposed action's features as well as a description of alternatives to the proposed action, consistent with Section 102(2)(e) of NEPA. Agencies are directed to use "…the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the environment" (40 CFR 1500.2[e]). Alternatives found not to be reasonable do not need to be evaluated in the EA.

This chapter describes the activities comprising the proposed action and addresses alternatives, including the No Action Alternative.

2.1 Proposed Action

NGA would build a 900-space parking lot on FBNA to fulfill the majority of the 979-space shortfall of authorized employee parking spaces at NCE and consolidate existing overflow parking areas as described in Section 1.1. The proposed parking lot would provide parking for employees currently assigned to NCE and is not intended to accommodate future employee growth. The design concept for the proposed parking lot is shown on Figure 2-1. The lot would be built, maintained and operated in accordance with the terms outlined in the memorandum prepared by NGA dated 16 May 2013 requesting the project (NGA 2013) and the Fort Belvoir Garrison Commander's memorandum approving the project dated 29 July 2013 (Army 2013) (copies of these memoranda are included in Appendix A). In accordance with the NGA and Garrison Commander's memoranda, the proposed parking lot would be available for the use of non-NCE employees and visitors on FBNA and would be considered a temporary solution for fulfilling the employee parking shortfall at NCE until a permanent structured parking facility can be built on the campus (see Section 2.2.2.1) or until NCE is required to achieve a 50 percent employee parking ratio following the completion of DAR Phase II (see Section 1.1). Additional details regarding the proposed action are presented in the following paragraphs

The parking lot would cover approximately 7 acres (308,023 square feet) and would encompass a portion of the gravel-covered IPO Lot currently used for overflow parking at NCE; portions of the vegetated areas on the southwestern and eastern sides of the project site; and the area occupied by two modular buildings in the northwestern corner of the site. Parking spaces in the proposed lot would measure 9 feet wide by 20 feet long and would be separated by 24-foot-wide drive aisles generally oriented in a north-south direction. The lot would include asphalt paving; all required markings, striping and signage; overhead LED lighting mounted on 35-foot tall poles on concrete bases; and a pedestrian barrier along the west side of the parking area to control pedestrian circulation. Generally, the proposed parking lot would be designed and built in accordance with the FBNA *Installation Design Guide*. The design of the proposed parking lot would include specifications for the removal of the lot and the re-vegetation of the site upon the completion of DAR Phase II or a future structured parking facility at NCE.

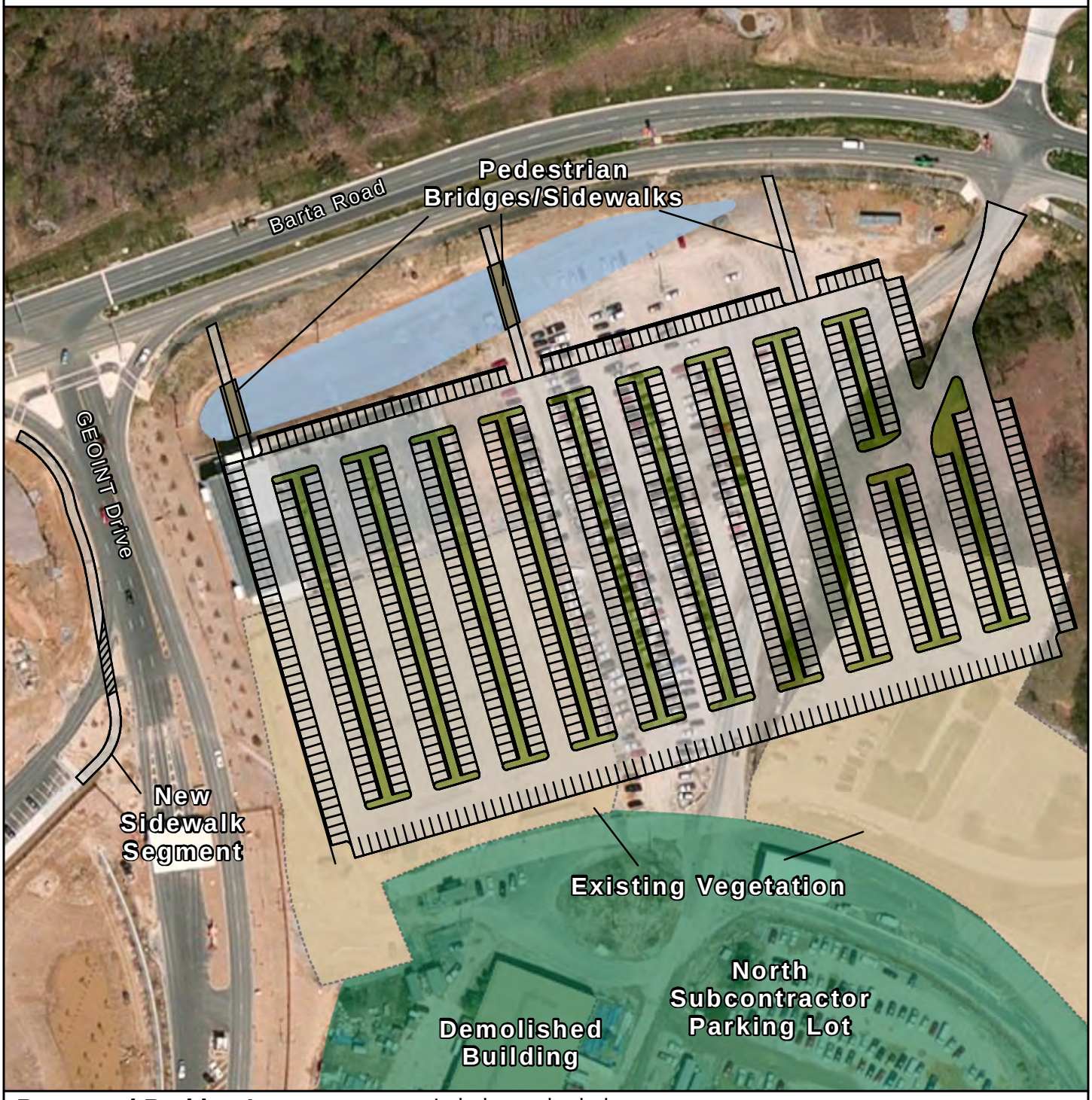
Stormwater generated on the lot would drain toward the temporary sediment basin immediately north of the project site, which would be converted to a stormwater management basin as necessary to manage any increase in stormwater volume resulting from the paving of the site. In accordance with Section 438 of the *Energy Independence and Security Act*, low impact development (LID) measures would be incorporated to the maximum extent technically feasible to maintain the pre-development hydrology of the site. Such measures could include permeable pavement and vegetated swales between the parking rows. The proposed parking lot would also be built in accordance with Unified Facilities Criteria (UFC) 1-200-02, *High Performance and Sustainable Building Requirements*; the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certification worksheet; and the U.S. Department of Energy's *High Performance and Sustainable Buildings Guiding Principles* worksheet.

Pedestrian bridges would be built over the stormwater management basin to connect the parking lot with the shared use path along the south side of Barta Road. A landscaping plan would be developed for the project and would specify the types and number of trees to be planted to replace vegetation lost as a result of the proposed action, including vegetation planted in compliance with previous restoration requirements as well as "volunteer trees" that have established naturally on the site.

During the project's construction phase, parking for workers' commuting vehicles and other construction-related vehicles would be provided within the footprint of the proposed parking lot, while overflow parking for NCE employees would continue to be provided in the North Subcontractor Parking Lot. NCE employees would access the North Subcontractor Parking lot via a temporary access road that would run along the eastern side of the project site. Following the project's construction phase, the temporary access road would be removed and permanent access to the completed parking lot would be provided via a paved driveway off Barta Road that would encompass a portion of the existing unnamed road adjacent to the eastern side of the existing IPO Lot. To provide a continuous pedestrian connection from the proposed parking lot to the NCE pedestrian access control point, the proposed action would also include the construction of an approximately 336-foot long by 12-foot wide sidewalk along the western side of GEOINT Drive to connect the crosswalk near its intersection with Barta Road to the sidewalk along the south side of the visitor parking lot.

Immediately following the completion of the proposed parking lot, NGA would plant vegetation in an approximately 9-acre area on the North Subcontractor Parking Lot to fulfill requirements for vegetation restoration on parking and storage areas associated with the construction of NCE. Those requirements were set forth in a memorandum from USACE to Fort Belvoir DPW dated 20 March 2008 in which USACE agreed to restore areas of vegetation cleared outside the NCE limits of disturbance, including the site of the IPO facility, IPO Lot, and North Subcontractor Parking Lot to their original condition or better to replace trees and vegetation lost as a result of that clearing (NGA has already completed restoration of an approximately 10-acre area formerly referred to as the South Subcontractor Parking Lot, located immediately south of the North Contractor Parking Lot). The purpose of such restoration would be to minimize soil erosion and provide wildlife habitat until future development occurs on the LT-9 parcel. USACE has developed a re-vegetation plan for these areas (USACE 2010). Vegetation to be planted on the project site and the North Subcontractor Parking Lot would

Parking Lot Design Concept



Proposed Parking Lot

- Asphalt Paving & Markings
- Vegetated Swales
- Pedestrian Bridge
- Area to be Revegetated (Approximate)

- Labels on shaded areas indicate existing conditions (Aerial imagery is outdated)
- Temporary Sediment Basin

0 50 100 200 Feet

N

Figure 2-1

Source: ESRI; Fort Belvoir GIS, 2013

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include native and/or drought-tolerant species.

2.2 Alternatives

2.2.1 Selection Standards

When developing the proposed action, NGA considered potential alternatives and determined which to retain for consideration. Potential alternatives were evaluated based on the following screening criteria:

1. The alternative must meet NGA's purpose and need.
2. The alternative must minimize the time required to meet NGA's purpose and need.
3. The alternative must make as much use as possible of existing or previously-disturbed land, and/or be consistent with known man-made and natural development constraints on FBNA (e.g., stream buffers, special natural areas, steep slopes, wetlands, etc.).
4. The alternative must avoid or minimize operational inefficiencies.

2.2.2 Alternatives Screening

This section describes the potential alternatives for the project and how each was assessed relative to the screening criteria. Alternatives that met all of the criteria presented above were considered reasonable and retained for evaluation in this EA. Alternatives that did not meet one or more of the criteria were considered unreasonable and were not retained for evaluation.

2.2.2.1 Structured Parking

To address long-term parking needs at NCE and provide a permanent solution for meeting its authorization for employee parking, RSFO is in the early stages of evaluating options to construct a permanent structured parking facility with capacity for between 900 and 1,000 vehicles. Options include constructing an addition to NCE's existing structured parking facility; building a partially-underground garage on NCE; and building a freestanding structured parking facility on NCE's existing visitor parking lot. RSFO conducted a design charrette with NCE staff in the fall of 2014 to further develop needs and requirements for these options. Beyond the charrette, the further refinement, design, and ultimate construction of one of those options is considered a long-term (beyond five years) objective. While NGA will continue to pursue authorization and funding for the construction of a permanent structured parking facility at NCE (in accordance with the terms of the Garrison Commander's memorandum [Army 2013]), this alternative fails to meet Criterion 2 because it would further delay the fulfillment of NGA's purpose and need for the proposed action. Thus, it was dismissed from further evaluation in this EA (any such facility, if authorized, would be the subject of future NEPA documentation).

2.2.2.2 Surface Parking on FBNA

The only alternative to building the proposed parking lot on FBNA at the site described in Section 2.1 is to construct a similar facility elsewhere on FBNA. However, any other site on the

property would require substantial clearing of vegetation and/or construction in development-constrained areas. This would fail to make as much use as possible of previously-disturbed landand result in adverse environmental impacts that could otherwise be avoided, thus failing to meet Criterion 3.

Constructing the lot at a location other than the proposed site (such as on the North Subcontractor Parking Lot) would also place the lot even further from NCE. This would increase the time it would take NCE employees to reach their destination on foot after parking their vehicles, thereby creating or increasing operational inefficiencies and failing to meet Criterion 4.

For these reasons, NGA considered these alternatives to be unreasonable, and they were rejected for further evaluation in the EA.

2.2.2.3 Parking Outside FBNA

Constructing or leasing a parking facility outside the boundaries of FBNA would fail to meet Criterion 3 because it would not make as much use as possible of existing land under FBNA control. It would also fail to meet Criterion 4 because it would unnecessarily create operational inefficiencies (such as purchasing or leasing land, operating shuttle vehicles and employing drivers) that could otherwise be avoided. Thus, this alternative was not retained for evaluation in the EA.

2.2.3 Alternatives Evaluated in the EA

2.2.3.1 Proposed Action Alternative

The Proposed Action Alternative, building and operating the proposed parking lot as described in Section 2.1, meets all four of the screening criteria and was retained for evaluation in the EA.

2.2.3.2 No Action Alternative

Under the No Action Alternative, the parking lot would not be built and conditions at NCE and FBNA would continue as they currently are. This would continue to have an adverse effect on parking at NCE because it would prolong the inadequate employee parking capacity, vehicle and pedestrian safety issues, and adverse environmental impacts associated with the existing, unpaved IPO Lot and North Subcontractor Parking Lot. For these reasons, the No Action Alternative fails to satisfy the screening criteria and cannot be considered reasonable. However, it is evaluated in this EA, consistent with CEQ regulations, to provide a baseline against which the impacts of the Proposed Action Alternative can be assessed.

3 Affected Environment and Environmental Impacts

As required by the CEQ regulations implementing NEPA (40 CFR Part 1500), this chapter briefly describes the area that would be affected by, and the impacts that would result from, the implementation of the proposed action. The study area consists of the site of the proposed parking lot; however, conditions outside the project site are considered when relevant. As explained in Section 1.4 and consistent with 40 CFR 1501.7(a)(3), the following resources are not considered in this chapter because the proposed action has no potential to result in significant effects on or from them: socioeconomics, floodplains, noise, potable water, sanitary sewer, natural gas and communications systems, asbestos containing materials and lead based paints.

Impacts resulting from the implementation of the proposed action are evaluated in terms of type (positive/beneficial or adverse), context (setting or location), intensity (none, negligible, minor, moderate, significant), and duration (short-term or long-term). Unless otherwise noted, short-term impacts are considered to be those that would result from the activities associated with the project's construction phase, and that would end upon the completion of that phase. Long-term impacts are generally considered to be those associated with the operation of the proposed facility.

3.1 Land Use, Plans and Coastal Zone Management

This section describes the existing uses on and in the vicinity of FBNA and the project site, as well as the impacts on those uses that would result from the proposed action. Also discussed are planning documents applicable to FBNA and the project site, and the Commonwealth of Virginia's coastal zone management requirements.

3.1.1 Land Use

3.1.1.1 Existing Conditions

FBNA Land Use

FBNA is an 800-acre noncontiguous portion of Fort Belvoir located in Fairfax County, Virginia about 1.5 miles northwest of the installation's Main Post. The property is bounded by residential properties to the north, Backlick Road and I-95 to the east, and the Fairfax County Parkway to the south and west. Accotink Creek traverses FBNA from north to south and divides the property into two nearly equal, broad, level terraces. Generally, the western third of FBNA is densely vegetated, while the remainder of the property consists of large cleared or developed areas separated by swaths of vegetation.

The entirety of FBNA is designated as Professional/Institutional on Fort Belvoir's current land use map (Fort Belvoir 2014a). Facilities on FBNA include NCE, two child development centers, the remote inspection facility, and a fire station. Occupying approximately 85 acres immediately

east of Accotink Creek, NCE is the largest land use on the property; the remaining facilities occupy comparatively smaller footprints. These facilities are generally consistent with the underlying Professional/Institutional land use designation.

Project Site Land Use

The site of the proposed parking lot is located immediately east of NCE's fence line and consists of approximately 7 acres on the southeastern corner of the Barta Road-GEOINT Drive intersection. A temporary sediment basin and two modular buildings with a combined footprint of approximately 28,000 square feet are located on the northern side of the site (these buildings are scheduled for removal in early 2015 as part of an action unrelated to the proposed parking lot). Approximately 1.8 acres in the southwestern corner of the site are covered by herbaceous and woody scrub/shrub vegetation that was planted in partial fulfillment of restoration requirements associated with the construction of NCE (these requirements are discussed further in Section 3.5.4.2). The central third of the site is occupied by a 2.2-acre portion of the gravel-covered IPO Lot, which is currently used as overflow parking for NCE employees and visitors. An approximately 1.7-acre stand of mixed pine and hardwood trees, as well as additional scrub-shrub vegetation planted in partial fulfillment of the restoration requirements associated with the construction of NCE, are located along the eastern side of the site. As noted in Section 1.2.3, the project site is located within a larger, approximately 84-acre parcel identified as LT-9 in the Fort Belvoir RPMP update and targeted for future long-term development of a secure administrative campus similar in size and staffing to NCE, or several smaller tenants.

Surrounding Area Land Use

FBNA is bounded by Fairfax County Parkway to the west and south, and to the north by single-family homes, townhomes, and Hooes Road Park. A swath of dense vegetation buffers uses on FBNA from the residential and park uses along the north side of the property. Commercial and light-industrial uses occupy a wedge of private land between FBNA's eastern boundary and I-95, although this area is increasingly converting to office use to capitalize on its proximity to Fort Belvoir. Additional light-industrial uses are concentrated beyond Fairfax County Parkway to the south (Fort Belvoir 2014a).

3.1.1.2 Impacts

Impacts of No Action

Under the No Action Alternative, current land uses on and in the vicinity of the project site would continue. This would have no impact on land uses on FBNA or in the surrounding area.

Impacts of the Proposed Action

In the short term, the implementation of the proposed action would change the use of the project site to an active construction site. Construction-related activities would be likely to generate additional noise, traffic and dust, which would have the potential to cause annoyance to nearby land uses. However, the intensity and duration of these effects would vary throughout the

project's construction phase, and due to the relatively far distance of nearby land uses from the project site, any such annoyance is likely to be minimal, if noticeable at all. The construction of the proposed parking lot would not impede, disrupt or prevent the use of adjacent or nearby land for its intended purpose, and the site would return to pre-construction condition once the parking lot is operational. For these reasons, adverse short-term impacts on land use would be negligible.

The long-term operation of the site as an overflow parking lot for NCE would be consistent with the underlying Professional/Institutional land use on FBNA because the parking lot would support or be incorporated into future development that is anticipated to occur on the LT-9 parcel. Further, the proposed parking lot would not impede, disrupt or prevent the use of adjacent or nearby land, including land outside the boundaries of FBNA, from its intended purpose. Therefore, the proposed action would have no long-term adverse impact on land use on FBNA.

3.1.2 Plans

3.1.2.1 Existing Conditions

Fort Belvoir Real Property Master Plan Update

An update to Fort Belvoir's RPMP is currently being developed to address current and future growth on the installation. The three components of the RPMP—the *Installation Vision and Development Plan* (IVDP), the *Installation Planning Standards* (IPS) and the *Transportation Management Plan* (TMP)—establish standards for development at the installation level. Implementation and use of the components in conjunction provide a logical and consistent framework that incorporates the installation's mission and the real property vision, goals and objectives to accomplish sustainable, intelligent, and controlled development on the installation over both the short-term and the long-term.

The IVDP identifies areas of substantial redevelopment and/or growth on the installation and presents regulating plans for those areas. The regulating plans govern horizontal and vertical development patterns to assist in the achievement of goals set forth in the RPMP. Two regulating plans are applicable to FBNA: the FBNA East Campus and the FBNA West Campus.

The project site falls within the FBNA East Campus regulating plan, which covers a contiguous, approximately 84-acre area bounded by Barta Road to the north, Heller Road to the east and south, and NCE to the west. This area is referred to as LT-9 in the *Short-term Projects and RPMP Update Draft EIS* (Fort Belvoir 2014a). Proposed long-term development (between 2018 and 2030) prescribed by this regulating plan has not been fully defined but would generally consist of offices and other administrative facilities that could support a single large tenant agency or several smaller tenants (Fort Belvoir 2014a). Any such future development would be consistent with FBNA's Professional/Institutional land use designation.

National Capital Planning Commission

NCPC has oversight over federal development activities in the NCR and prepares and implements the *Federal Elements* of the *Comprehensive Plan for the National Capital Region* to

ensure that federal projects are consistent with regional planning goals, objectives and policies. In an effort to contribute positively to regional air quality and transportation goals by reducing the number of single-occupant vehicle trips made by federal employees in the NCR, limits on the number of employee parking spaces at federal facilities in the NCR are established in the *Federal Transportation Element*. As they apply to Fort Belvoir and FBNA, the number of employee parking spaces on the installation is limited to 60 percent of assigned personnel, or approximately 1.67 employees for every parking space. As noted in Chapter 1, this limit is reflected in the USACE *Technical Instructions* (TI 800-01) that regulate parking on Fort Belvoir as well as the installation's Draft TMP.

In addition to regulating parking, NCPC requires federal agencies in the NCR to prepare TMPs to identify specific strategies to encourage change in employee travel modes, trip timing, frequency and length, and travel routes so as to reduce traffic congestion and improve air quality. TMPs should also outline the strategies that a federal agency intends to employ to meet federal parking goals or ratios within a specified period of time (NCPC 2014). An agency should submit its TMP for review by NCPC when employment at a facility or site increases by 100 or more. As noted above, Fort Belvoir has prepared a Draft TMP, as has NGA in accordance with NCPC requirements (the TMP for NGA is included as Appendix D). These documents are further discussed in Section 3.2.1.6.

3.1.2.2 Impacts

Impacts of No Action

The No Action Alternative would have no impact on current plans. Existing conditions on FBNA and the project site would continue.

Impacts of the Proposed Action

The implementation of the proposed action would have no short-term adverse impacts on applicable planning documents and agencies. In the long term, the operation of the parking lot would be consistent with the regulating plan prescribed for FBNA in the Fort Belvoir RPMP because, although it would not specifically be an office or administrative use prescribed by the plan, the lot could support such uses in the future or be redeveloped as such a use. Further, the proposed action would be consistent with parking requirements established by NCPC by enabling NCE to achieve its applicable parking ratio. No permanent increase in employment at NCE would result from the implementation of the proposed action; thus, NGA would not be required to update its TMP or submit it to NCPC for review. For these reasons, the proposed action would have no long-term adverse impacts on applicable planning documents and agencies.

3.1.3 Coastal Zone Management

3.1.3.1 Existing Conditions

The Coastal Zone Management Act of 1972 (16 USC § 1451, *et seq.*, as amended) provides assistance to the states, in cooperation with federal and local agencies, for developing land and

water use programs in coastal zones. Although Fort Belvoir, as a federal installation is statutorily exempt from coastal zone requirements, Section 307(c)(1) of the Coastal Zone Management Act Reauthorization Amendment stipulates that actions occurring on federal land that have the potential to affect the uses or resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's federally approved coastal management plan. The Commonwealth of Virginia has developed and implemented a federally approved Coastal Zone Management Program describing current coastal legislation and enforceable policies. The enforceable policies pertain to:

- Fisheries management
- Subaqueous lands management
- Wetlands management
- Dune management
- Non-point source pollution control
- Point source pollution control
- Shoreline sanitation
- Air pollution control
- Coastal lands management

Fairfax County is located entirely within Virginia's coastal zone; therefore, actions occurring at Fort Belvoir have the potential to affect Virginia's coastal zone and are subject to federal consistency requirements. VADEQ serves as the lead agency for consistency reviews.

3.1.3.2 Impacts

Impacts of No Action

The No Action Alternative would have an adverse effect on Virginia's coastal zone resources because sediment would continue to be carried from the compacted gravel surface of the parking lot into downstream watercourses by stormwater runoff. However, in the context of the Virginia coastal zone, this adverse impact would remain minor.

Impacts of the Proposed Action

NGA has determined that the proposed action would be consistent to the maximum extent practicable with the enforceable policies of Virginia's Coastal Zone Management Program and has prepared a federal consistency determination that describes the impacts on Virginia's coastal zone resources that would potentially result from the proposed action. The federal consistency determination was submitted to VADEQ for review in March 2015, and a copy is included as Appendix C of this EA. VADEQ responded in a letter dated May 18, 2015 that the proposed action is consistent to the maximum extent practicable with the Virginia Coastal Zone Management Program.

3.2 Transportation

The existing conditions of and potential impacts on elements of the transportation network on and in the vicinity of FBNA are discussed in this section. Transportation network elements

include vehicular circulation and access, parking, mass transit service, and pedestrian and bicycle facilities. TMPs for Fort Belvoir and NGA are also discussed.

3.2.1 On-Post Transportation Network

Unless otherwise noted, the following information is drawn from the *Fort Belvoir Real Property Master Plan Update Draft Environmental Impact Statement* (Fort Belvoir 2014a).

3.2.1.1 Vehicular Circulation

Existing Conditions

Circulation within FBNA is primarily afforded by a partial loop roadway consisting of Barta Road and Heller Road. Barta Road is an east-west, four-lane divided roadway that runs along the northern and western sides of NCE and spans Accotink Creek. It connects FBNA directly to the Fairfax County Parkway to the west and to Backlick Road to the east. Access to Barta Road is unrestricted to noncommercial traffic; however, before entering FBNA, all commercial trucks must be processed through the remote inspection facility located on the western side of the property.

Heller Road is a two-lane roadway that intersects Barta Road near Backlick Road. It runs along the eastern and southern sides of FBNA and provides access to the southern end of NCE. Direct access to Heller Road for inbound traffic from southbound I-95 is provided via a ramp that terminates just southwest of NCE. Heller Road is currently an incomplete loop road that terminates just east of Accotink Creek; it does not connect to Barta Road on the western side of FBNA.

GEOINT Drive traverses the entirety of NCE and provides access to the campus from Barta Road along the northern side of FBNA and from the terminus of Heller Road on the southern side of the campus. The site of the proposed parking lot is located at the southeastern corner of the Barta Road-GEOINT Drive intersection. A paved, unnamed road along the eastern side of the project site enables vehicular access from Barta Road to the child development centers and other interior areas on the eastern side of FBNA.

Impacts

Impacts of No Action

The No Action Alternative would have no adverse impact on vehicular circulation on FBNA. Existing conditions would continue.

Impacts of the Proposed Action

In the short term, the implementation of the Proposed Action Alternative would generate additional traffic on and in the vicinity of NCE from workers' commuting vehicles and construction-related trucks. Any such increases would vary throughout the project's construction phase and would cease upon the completion of the project. Construction-related traffic would be limited to Barta Road, Heller Road and a short segment of the unnamed road adjacent to the

eastern side of the existing IPO Lot, and would not impact any other interior roads (including GEOINT Drive) on FBNA. Although additional construction-related vehicles could potentially contribute to some additional congestion during the morning and afternoon peak traffic hours, it is anticipated that the increased traffic would remain well within the existing capacity of FBNA's roadway network. Therefore, short-term adverse impacts on vehicular circulation at FBNA would be negligible.

The number of employees at NCE would not increase under the Proposed Action Alternative. For this reason, the proposed action would have no long-term adverse impacts on vehicular circulation on FBNA.

3.2.1.2 Vehicular Access

Existing Conditions

Vehicular access to FBNA is monitored at three unstaffed traffic control points that are located at the Barta Road/Heller Road intersection; on Barta Road just west of Fairfax County Parkway; and on Heller Road at the end of the access ramp from southbound I-95. The traffic control points can be closed to inbound traffic in the event of a high threat level or other emergency. As a secure campus, NCE maintains its own vehicular access control points at the northern and southern ends of GEOINT Drive. These access control points are staffed 24 hours a day by NCE security personnel.

Phase I of the DAR project enables outbound traffic from FBNA to access the southbound I-95 High Occupancy Toll (HOT) lanes. Traffic leaving Fort Belvoir accesses the ramp along Heller Road approximately 0.4 mile south of its intersection with Barta Road. Phase II, which would enable inbound traffic access to FBNA from the I-95 HOT lanes, is currently unfunded and its construction timeframe is unknown.

Impacts

Impacts of No Action

Existing conditions on FBNA would continue under the No Action Alternative. This would have no adverse impact on vehicular access.

Impacts of the Proposed Action

Additional construction-related traffic could contribute to some additional congestion in the vicinity of vehicle access points on FBNA during the morning and afternoon peak hours. However, any such congestion would remain manageable and within the capacity of FBNA's roadway network. Thus, short-term adverse impacts on vehicular access at FBNA would be negligible.

In the long term, the volume of traffic entering and leaving FBNA would not increase as a result of the Proposed Action Alternative. For this reason, there would be no long-term adverse impacts on vehicular access on FBNA.

3.2.1.3 Parking

Existing Conditions

Parking on FBNA is provided in lots or parking structures specific to the facilities on the property; i.e., there are no shared, centralized large-capacity parking lots or structures on FBNA. As described in Section 1.1, parking at NCE is provided in a 5,112-space structured parking facility, a 573-space visitor parking lot, and in the gravel-covered IPO Lot and North Subcontractor Parking Lot. Inbound vehicles enter the structured parking facility from Barta Road via an access control point just east of Accotink Creek and exit to Barta Road somewhat further to the east of the inbound access control point. The visitor parking lot is accessed from the eastbound side of Barta Road and the southbound lane of GEOINT Drive, while traffic from the lot exits onto eastbound Barta Road or via the short loop road between the lot and the structured parking facility. The IPO Lot and North Subcontractor Parking Lot are accessed from eastbound or westbound Barta Road via an unnamed road along the east side of the IPO Lot.

Additional, smaller parking lots on FBNA are provided at the child development centers, remote inspection facility, and fire station and are available to employees and visitors of those facilities. There are no designated on-street parking spaces on FBNA.

Impacts

Impacts of No Action

The implementation of the No Action Alternative would have an adverse effect on parking at NCE by failing to meet the 60 percent requirement established under Fort Belvoir regulations and NCPC guidelines, thereby continuing the lack of sufficient parking for NCE employees. While the continuation of this situation would be adverse, it would also continue to be managed as it currently is. Therefore, long-term adverse impacts on parking resulting from the No Action Alternative would be moderate.

Impacts of the Proposed Action

Construction-related vehicles, particularly workers' commuting vehicles, would generate an increased demand for parking on FBNA. However, demand for the parking of construction-related vehicles would be accommodated within the footprint of the proposed parking lot. It is anticipated that the North Subcontractor Parking Lot would have sufficient capacity to accommodate any NCE employee vehicles displaced from the IPO Lot during the project's construction phase. For these reasons, the Proposed Action Alternative would have negligible short-term adverse impacts on parking on FBNA.

The implementation of the Proposed Action Alternative would enable NCE to more closely meet the 60 percent parking requirement prescribed by Fort Belvoir and NCPC, thereby providing a sufficient number of parking spaces for its employees. There would be no increase in the number of employees at NCE as a result of the proposed action. Therefore, the proposed action would have beneficial long-term impacts on parking at NCE.

3.2.1.4 Mass Transit

Existing Conditions

The Franconia-Springfield Metrorail Station is located approximately 2 road-miles northeast of FBNA. The station is served by Metrorail's Blue Line and had an average of 8,175 weekday boardings in May 2014 (WMATA 2014).

Fairfax Connector Route 333 (Patriot Ridge-Saratoga Circulator) provides weekday loop service between the Franconia-Springfield Metrorail Station and the FBNA campus, with additional stops at the Saratoga Park-and-Ride lot and Patriot Ridge. Within FBNA, the route runs on Barta Road and operates between the hours of approximately 5:30 a.m. to 10:15 p.m. Ridership for Route 333 was unavailable; however, the Fairfax Connector system as a whole had an average of 37,614 weekday boardings in fiscal year 2014.

The FBNA shuttle provides service throughout the day to the Backlick Road Virginia Railway Express Station and the Backlick Park-and-Ride lot. On FBNA, the shuttle picks up passengers on Barta Road near the IPO Lot on inbound trips to NCE. Passengers are dropped off at NCE near the pedestrian access control point between the structured parking facility and the visitor parking lot; this is also the turnaround point on FBNA for the shuttle. Ridership for the FBNA shuttle was unavailable.

Impacts

Impacts of No Action

The No Action Alternative would have no impacts on mass transit service on FBNA. Existing conditions would continue.

Impacts of the Proposed Action

In the short term, it is anticipated that the number of construction workers using mass transit to access the project site would be small and within the capacity of those systems to accommodate them. Thus, the proposed action would have negligible adverse short-term impacts on mass transit service on FBNA.

Under the Proposed Action Alternative there would be no increases in NCE's working population. Thus, there would be no adverse long-term impacts on mass transit service on FBNA.

3.2.1.5 Pedestrian and Bicycle Facilities

Existing Conditions

A paved shared-use path is located along the south side of Barta Road from just west of the vehicular access control point to Backlick Road. In the vicinity of the project site, this path is accessed from the north side of the IPO Lot. On NCE, a similar path extends from Barta Road to the pedestrian access control point between the structured parking facility and the visitor parking

lot. Painted crosswalks are located on GEOINT Drive and the short loop road between the structured parking facility and visitor parking lot where those roads intersect with Barta Road.

Impacts

Impacts of No Action

The No Action Alternative would have no impacts on pedestrian and bicycle facilities on FBNA because existing conditions would continue.

Impacts of the Proposed Action

As described for mass transit, it is likely that the number of construction workers accessing the project site via pedestrian and bicycle facilities would be very small and within the capacity of those facilities to accommodate them. Thus, short-term adverse impacts on pedestrian and bicycle facilities resulting from the Proposed Action Alternative would be negligible.

There would be no increases in NCE's working population under the Proposed Action Alternative. Therefore, the proposed action would have no adverse long-term impacts on pedestrian and bicycle facilities on FBNA.

3.2.1.6 Fort Belvoir and NGA Transportation Management Plans

Existing Conditions

Fort Belvoir Draft TMP

In an effort to meet regional air quality goals, local trip reduction ordinances, and regional planning requirements, NCPC requires federal agencies in the NCR with 100 or more personnel to develop a TMP to reduce the number of single-occupant vehicle trips made by employees. To comply with this requirement, Fort Belvoir has developed a Draft TMP (IMCOM 2014) concurrently with the RPMP to reduce single-occupant vehicle trips, meet the Army's 60 percent parking allowance (1.67 employees per space) for administrative uses on the post, and increase mobility options for employees on the post. In the context of the Northern Virginia region and the NCR, the purpose of the Fort Belvoir Draft TMP is to reduce the demand on area roadways by changing commuter behavior and reducing the number of vehicle trips to the installation. The development of Fort Belvoir's installation-wide Draft TMP does not replace or eliminate the requirement of agencies on the post with 100 or more employees (including NCE) to develop their own agency-specific TMPs; rather, the installation-level TMP addresses macro-level regional resources and mission partner leadership, while agency-level TMPs are intended to influence employees with site-specific strategies (IMCOM 2014). NGA's TMP is discussed further below. While Fort Belvoir's Draft TMP suggests multiple strategies to reduce reliance on single-occupant vehicles, including the use of mass transit and other alternative means of transportation, a substantial emphasis is placed on managing and reducing the availability of parking on the installation.

With regard to parking on post, the Fort Belvoir Draft TMP establishes the maximum number of parking spaces at 60 percent of the number of employees for individual agencies and on-post

employees as a whole. This ratio equates to approximately 1.67 employees per space. In contrast, the current availability of 5,016 parking spaces for 9,992 employees as described in Chapter 1 equates to the number of parking spaces on NCE being approximately 50 percent of the number of employees or approximately 2 employees per space, thereby falling short of Fort Belvoir's established parking requirements.

As noted in Section 1.1, the number of parking spaces on FBNA will be further limited to 50 percent of the total number of employees in accordance with NCPC requirements following the completion of DAR Phase II (IMCOM 2014). This is considered to be a long-term (beyond 2017) outcome and is intended to further encourage the use of carpooling, ridesharing and other alternative means of transportation. As noted above, the construction of DAR Phase II is currently unfunded and has no schedule for completion.

NGA TMP

NGA's TMP was developed to identify, encourage and provide for the use of public transit and other alternative transportation modes for all employees, students, contractors and visitors to NCE. The TMP establishes goals to improve air quality, manage volumes, reduce traffic congestion, and minimize petroleum fuel consumption through proactive programs which encourage the use of alternatives to the single occupant vehicle. Such alternatives include buses, carpools, vanpools, bicycle riding, walking, working from home or telework centers, compressed work weeks and flexible work schedules. In an effort to fulfill these goals, the TMP provides information on ridesharing, vanpools, public transit options and subsidies, alternate work hours and teleworking. Reflecting the parking demand management strategies of the Fort Belvoir Draft TMP, NGA's TMP also affirms its commitment to achieving a parking ratio of one space for every 1.5 employees (the previous NCPC ratio) or better (NGA 2008). NGA's TMP is included as Appendix D.

Impacts

Impacts of No Action

Under the No Action Alternative, NCE would continue to fall short of the 60 percent employee parking threshold prescribed by the Fort Belvoir and NGA TMPs. This would have an adverse long-term effect on parking policies in those TMPs as they apply to NCE. Although this impact would be adverse, it would continue to be managed as it currently is; thus, the long-term impact would remain moderate.

Impacts of the Proposed Action

The proposed action would have no short-term adverse impacts on the Fort Belvoir or NGA TMPs. In the long term, the implementation of the Proposed Action Alternative would enable NCE to provide a sufficient number of parking spaces for its employees, thereby meeting parking thresholds prescribed by the Fort Belvoir and NGA TMPs. This would have a beneficial long-term impact on those policies.

3.2.2 Off-Post Transportation Network

3.2.2.1 Vehicular Circulation

Existing Conditions

Regional and local access to FBNA is primarily provided by I-95, I-95/495 (Capital Beltway), the Fairfax County Parkway (Virginia Route 286) and Backlick Road. I-95 serves region-wide commuter traffic from predominately-residential counties to the south to major employment centers in Washington, D.C. and Arlington County. It is located to the south-southeast of FBNA and was recently widened to four lanes in each direction. Reversible HOV lanes are located in the center of the facility, and a dedicated ramp from I-95 south provides direct access into FBNA.

Encircling Washington, D.C. and adjacent suburban areas in Virginia and Maryland, I-95/495 serves both local commuters and those traveling to destinations outside the region. It is five lanes wide in the vicinity of its interchange with I-95, which is less than three highway miles north of FBNA. In 2012, two HOV express lanes in each direction were added to the 14-mile segment of I-95/495 between its interchange with I-95 and the area just north of the Dulles Toll Road. Carpools with three or more people, vanpools, and transit vehicles can utilize the express lanes network for free; otherwise, vehicles are subject to dynamic tolling that adjust the rates based on real-time traffic conditions.

The Fairfax County Parkway is a limited-access urban principal arterial that runs from U.S. Route 1 near Fort Belvoir's Main Post to Leesburg Pike in northwestern Fairfax County. It effectively forms the southern and western boundaries of FBNA and was built in that area as part of the BRAC actions that also located NCE to the property. An interchange at the western end of Barta Road enables vehicular movements between FBNA and either direction of travel on the Parkway.

Backlick Road is a four-lane minor arterial road running in a generally north-south direction immediately east of FBNA. It continues as Alban Road south of the Fairfax County Parkway and continues several miles northward to its terminus at Little River Turnpike in the Annandale area of Fairfax County. As described above, vehicular access to the eastern side of FBNA is provided at the intersection of Backlick Road and Barta Road.

The Franconia-Springfield Parkway is an east-west urban minor arterial highway that is six lanes wide along its entire length and includes several interchanges as well as some signalized and non-signalized intersections. It runs to the north of FBNA but does not provide direct access to the property. To the north of FBNA, the Franconia-Springfield Parkway enables direct access to the I-95 HOV lanes, and intersects Fairfax County Parkway just north of the Fairfax County Parkway-Barta Road interchange.

An analysis of traffic conditions in the vicinity of Fort Belvoir, including FBNA, was recently conducted as part of the Fort Belvoir Draft TMP (IMCOM 2014) and *Short-term Projects and RPMP Update Draft EIS* (Fort Belvoir 2014a). As part of this analysis, traffic volume and operations data were collected at 22 intersections and 19 roadway segments during peak morning

and afternoon travel hours between November 2012 and January 2013 in the vicinity of FBNA and NCE. These data were analyzed and assigned Levels of Service (LOS) to characterize traffic operations at those intersections and roadway segments. LOS designations are briefly explained in Table 3.2-1. Table 3.2-2 presents LOS for selected intersections in the vicinity of FBNA and NCE. The locations of the selected intersections and road segments are shown on Figure 3.2-1.

Table 3.2-1: LOS Descriptions

LOS	LOS Descriptions
A	Free flow. Traffic flows at or above the posted speed limit and motorists have complete mobility between lanes.
B	Reasonably free flow. LOS A speeds are maintained, but maneuverability within the traffic stream is slightly restricted.
C	Stable flow, at or near free flow. Roads remain safely below but efficiently close to capacity and posted speed is maintained. This is the target LOS for some urban and most rural highways.
D	Approaching unstable flow. Speeds slightly decrease as traffic volume slightly increases. Examples are a busy shopping corridor in the middle of a weekday, or a functional urban highway during commuting hours. LOS D is the goal for urban streets during peak hours.
E	Unstable flow, operating at capacity. Flow becomes irregular and speed varies rapidly because there are virtually no usable gaps to maneuver in the traffic stream. This is a common standard in larger urban areas, where some roadway congestion is inevitable.
F	Forced or breakdown flow. Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Travel time cannot be predicted, with generally more demand than capacity. A road in a constant traffic jam is at this LOS.

Table 3.2-2: LOS Designations for Selected Intersections near FBNA and NCE

Map Number	Name	Type	LOS[1]	
			AM	PM
1	Franconia-Springfield Parkway Eastbound Exit Ramp to Rolling Road	Diverge	**D**	B
2	Franconia-Springfield Parkway Westbound on Ramp from Rolling Road	Merge	B	C
3	Franconia-Springfield Parkway and Spring Village Drive	Intersn[2]	C	C
4	Backlick Road at Franconia-Springfield Parkway Eastbound Ramps	Intersn	**D**	C
5	Backlick Road at Franconia-Springfield Parkway Westbound Ramps	Intersn	C	B
6	Franconia-Springfield Parkway and I- 95 HOV Ramps	Intersn	B	**D**
7	Southbound Barta Road to Eastbound Fairfax County Parkway	Merge	A	A
8	Barta Road at Fairfax County Parkway Eastbound Ramps	Intersn	C	C
8a	Fairfax County Parkway Southbound exit to Barta Road	Diverge	B	A
9	Barta Road at Fairfax County Parkway Westbound Ramps	Intersn	B	B
9a	Westbound Barta Road entrance to ramp to Fairfax County Parkway	Merge	A	B
10	Northbound Barta Road to Westbound Fairfax County Parkway	Merge	A[3]	A[4]
11	Northbound Barta Road to Eastbound Fairfax County Parkway	Merge	B	A
12	Barta Road and Backlick Road	Intersn	C	C
13	Interstate 95 Southbound Exit Ramp to Heller Road	Weave	A	B
14a	Fairfax County Parkway SB/EB Weave over I-95	Weave	C	C
14b	Fairfax County Parkway NB/WB Weave over I-95	Weave	B	B
15	Fairfax County Parkway and Loisdale Road	Intersn	**D**	C

Map Number	Name	Type	LOS[1]	
			AM	PM
16	Fairfax County Parkway and Terminal Road	Intersn	**D**	**D**
17	Fairfax County Parkway and 750' South of Terminal Road	Intersn	A	B

Notes:
1. LOS provided are for morning and afternoon peak hour periods; at each location, the starting time of the peak hour was determined separately for each day of data collection.
2. Intersn = Intersection
3. Site 40 AM - LOS based on segment density after Merge
4. Site 40 PM - LOS based on segment density after Merge

Source: IMCOM 2014.

As shown in Table 3.3-2, the majority of the selected intersections and road segments in the vicinity of FBNA and NCE operate at LOS C (the target LOS for some urban and most rural highways) or better during the morning and afternoon peak travel hours, and none operate at LOS E or F at either time of the day. The ramps and intersections operating at LOS D are indicative of urban streets operating at peak hours.

Impacts

Impacts of No Action

Existing conditions would continue under the No Action Alternative. This would have no impact on vehicular circulation in the vicinity of FBNA.

Impacts of the Proposed Action

In the short term, traffic in the vicinity of FBNA would increase from construction-related vehicles traveling to the property, which could contribute to some additional congestion on the off-post roadway network during the morning and afternoon peak travel hours. However, the volume of construction-related traffic would vary throughout the project's construction phase, and would return to pre-construction volumes upon the completion of the project. It is anticipated that any such increases in traffic would be well within the capacity of the off-post transportation network, and would not substantially contribute to the degradation of LOS at any of the intersections or road segments listed in Table 3.2-2. Therefore, adverse short-term impacts on vehicular circulation in the vicinity of FBNA would be negligible.

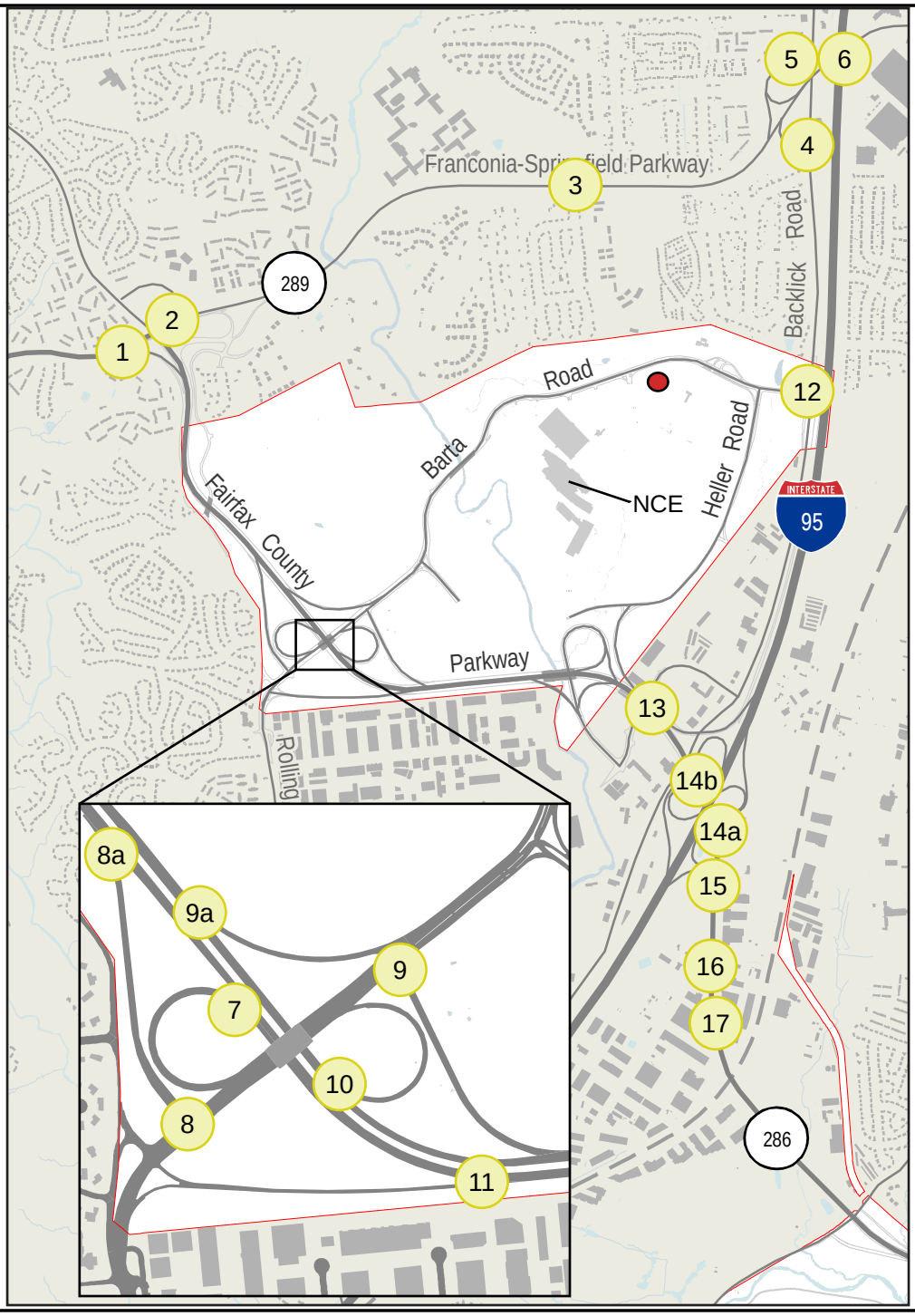
There would be no increases in employment at NCE under the Proposed Action Alternative. Thus, there would be no long-term adverse impacts on vehicular circulation in the vicinity of FBNA.

3.2.2.2 Parking

Existing Conditions

The Saratoga Park and Ride Lot is a free, 500-space commuter parking lot located on the southern side of the Barta Road-Fairfax County Parkway interchange. The lot opened in December 2012 and is served by Fairfax Connector bus routes 333 (which operates on Barta

Traffic Survey Locations



Traffic Survey Location - Public Road Intersection

Project Site Location

Not to Scale

N

Figure 3.2-1

Source: IMCOM, 2014

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Road through FBNA), 394 and 493 (VDOT 2014). Existing and planned walkways within the lot enable nearby residents to access the bus stops within the lot on foot rather than by driving (IMCOM 2014).

Impacts

Impacts of No Action

The No Action Alternative would have no impacts on parking in the vicinity of FBNA. Existing conditions would continue.

Impacts of the Proposed Action

During the construction of the proposed parking lot, it is anticipated that the number of construction workers using the Saratoga Park and Ride Lot would be low and within the capacity of the facility to accommodate them. Thus, adverse short-term impacts on parking in the vicinity of FBNA would be negligible.

The implementation of the Proposed Action Alternative would have no long-term adverse impacts on parking in the vicinity of FBNA because the number of NCE employees would not increase.

3.2.2.3 Mass Transit

Existing Conditions

Fairfax Connector routes 18R, 18S, 304, 305, 333, 334, and 371, as well as the FBNA shuttle operate on roads in the vicinity of FBNA. As noted above, Fairfax Connector route 333 and the FBNA shuttle also operate on Barta Road within FBNA.

Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions would continue. This would have no impact on mass transit systems operating in the vicinity of FBNA.

Impacts of the Proposed Action

In the short term, it is anticipated that the number of construction workers using mass transit systems to access FBNA and the project site would be low and within the capacity of those systems to accommodate them. Therefore, adverse short-term impacts on mass transit systems operating in the vicinity of FBNA would be negligible.

There would be no increase in the number of NCE employees under the Proposed Action Alternative. Thus, there would be no long-term adverse impacts on mass transit systems operating in the vicinity of FBNA.

3.2.2.4 Pedestrian and Bicycle Facilities

Existing Conditions

The availability of sidewalks, crosswalks, bicycle trails and bike lanes is limited in the vicinity of FBNA. A sidewalk along the western side of Backlick Road north of its intersection with Barta Road and a painted crosswalk across the intersection provide pedestrian connectivity to the shared-use path along Barta Road within FBNA. Fairfax County's Existing Trails map indicates paved trails along the Franconia-Springfield Parkway and along the Fairfax County Parkway west of its interchange with the Franconia-Springfield Parkway; however, neither of these provide direct access to FBNA (Fairfax County 2014a).

Impacts

Impacts of No Action

Existing conditions would continue under the No Action Alternative. This would have no impact on pedestrian and bicycle facilities in the vicinity of FBNA.

Impacts of the Proposed Action

As described above for mass transit, it is anticipated that the number of construction workers using pedestrian and bicycle facilities to access FBNA and the project site would be low and within the capacity of those systems and facilities to accommodate them. For this reason, short-term adverse impacts on those facilities would be negligible.

Under the Proposed Action Alternative, the number of NCE employees would not increase. Therefore, no long-term adverse impacts on pedestrian and bicycle facilities would occur.

3.3 Air Quality

Air quality is defined by ambient air concentrations of specific pollutants of concern with respect to the health and welfare of the general public. Air quality can be affected by air pollutants produced by mobile sources, such as vehicular traffic, aircraft, construction equipment; and by fixed or immobile facilities, referred to as "stationary sources." Stationary sources can include combustion and industrial stacks and exhaust vents.

This section describes existing air quality conditions in the vicinity of FBNA and air quality impacts resulting from the implementation of the Proposed Action Alternative.

3.3.1 National Ambient Air Quality Standards and Attainment Status, Clean Air Act Conformity, Hazardous Pollutants, and Stationary and Mobile Emissions Sources

3.3.1.1 Existing Conditions

Criteria Pollutants and National Ambient Air Quality Standards

The United States Environmental Protection Agency (USEPA), under the requirements of the 1970 Clean Air Act (CAA) as amended in 1977 and 1990, has established National Ambient Air Quality Standards (NAAQS) for six air pollutants known as criteria pollutants (40 CFR 50): carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} [particulate matter with a diameter $\leq$ 10 micrometers], and $PM_{2.5}$ [particulate matter with a diameter $\leq$ 2.5 micrometers]), lead (Pb), and sulfur dioxide (SO_2). Note that O_3 is not emitted directly into the atmosphere; instead it is created by the combination of nitrogen oxides (NO_x) and volatile organic compounds (VOC), which are referred to as O_3 precursors.

The NAAQS include primary and secondary standards. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with pollutants in the ambient air. Table 3.3-1 shows the primary and secondary standards.

Ambient Air Quality Attainment Status

Areas that meet the NAAQS for a criteria pollutant are designated "in attainment." Areas where a criteria pollutant level exceeds the NAAQS are "nonattainment" areas. A maintenance area is one that has been re-designated from nonattainment status and has an approved maintenance plan under Section 175 of the CAA.

The proposed action evaluated in this EA would occur on FBNA in Fairfax County, Virginia, an area currently designated as being in:

- Moderate nonattainment for O_3.
- Nonattainment for $PM_{2.5}$.
- Attainment for all other criteria pollutants.

Fairfax County's nonattainment status governs air quality conformity requirements for the proposed action.

Table 3.3-1: National Ambient Air Quality Standards

Pollutant	Primary/ Secondary	Averaging Time	Level[1]	Form
Carbon Monoxide (CO)	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Nitrogen Dioxide (NO_2)	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb	Annual Mean
Ozone (O_3)	Primary and secondary	8-hour	0.080 ppm[2]	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particulate Matter ($PM_{2.5}$)	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
Particular Matter (PM_{10})	Primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Lead (Pb)	Primary and secondary	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded
Sulfur Dioxide (SO_2)	Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Notes:
1. ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
2. The Commonwealth of Virginia adheres to the 1997 O_3 standard.

Source: USEPA, http://www.epa.gov/air/criteria.html.

Clean Air Act Conformity

The Clean Air Act Amendments (CAAA) of 1990 expand the scope and content of the act's conformity provisions in terms of their relationship to a State Implementation Plan. Under Section 176(c) of CAAA, a project is in "conformity" if it corresponds to a State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving their expeditious attainment. For those nonattainment areas that are re-designated attainment, the state is required to develop a ten-year maintenance plan to ensure that the areas remain in attainment status for the same pollutant. Conformity further requires that such activities would not:

- Cause or contribute to any new violations of any standards in any area.
- Increase the frequency or severity of any existing violation of any standards in any area.
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The USEPA published a final rule on general conformity (40 CFR Parts 51 and 93) in the Federal Register on November 30, 1993. The rule applies to federal actions in nonattainment

areas for any of the criteria pollutants and specifies *de minimis* emission levels by pollutant to determine the applicability of conformity requirements for a project.

The project site is located in a nonattainment area for the O_3 and $PM_{2.5}$ standard. The corresponding *de minimis* are 100 tons per year (tpy) for $PM_{2.5}$ and, as defined for O_3 precursors, 100 tpy for NO_x and 50 tpy for VOC.

3.3.1.2 Hazardous Air Pollutants

In addition to the criteria pollutants discussed above, non-criteria toxic pollutants, called hazardous air pollutants (HAPs), are also regulated under the CAA. The USEPA has identified a total of 187 HAPs that are known or suspected to cause health effects in small doses. HAPs are emitted by a wide range of man-made and naturally occurring sources, including mobile and stationary combustion sources. However, federal ambient air quality standards do not exist for non-criteria pollutants.

3.3.1.3 Stationary Sources

Virginia's air pollution control program establishes requirements for sources that emit air pollutants into the atmosphere and is implemented and enforced by VADEQ. VADEQ is also responsible for issuing air permits as applicable for the construction and operation of stationary sources in Virginia.

Stationary sources at FBNA include large boilers, generators, heaters, above ground storage tanks, and emergency generators. FBNA is a synthetic minor source currently operating under a VADEQ air registration permit (No. 73630). Permitted emission limits for FBNA are summarized in Table 3.3-2.

Table 3.3-2: Permitted Annual Emissions at FBNA (tons/year)

	VOC	NO_x	CO	PM_{10}	SO_2
Actual Emission Limits	7.0	75.0	35.5	4.3	3.1

3.3.1.4 Mobile Sources

The emissions from mobile sources such as aircraft, motor vehicles, nonroad construction equipment and the like are regulated under Title II of the CAA, which establishes emission standards that manufacturers must achieve. Therefore, unlike stationary sources, no permitting requirements exist for the operation of mobile sources.

3.3.1.5 Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions would continue. This would have no impact on air quality.

Impacts of the Proposed Action

Construction Impacts

The implementation of the Proposed Action Alternative would result in emissions of air pollutants during the construction phase and can be anticipated to result in the following short-term adverse impacts on air quality:

- Fugitive dust and VOC would be generated by construction and demolition activities including paving activities.
- Emissions of criteria pollutants and greenhouse gases would result from such activities as:
    - The use of diesel-powered construction equipment.
    - Construction workers' vehicles traveling to and from the project site.

Adverse short-term impacts on air quality would be minimized through the use of standard best management practices (BMP) such as wetting or vegetating soils that would be exposed for extended periods; covering equipment used to convey fill or excavated soils; and promptly removing spilled or tracked dirt from paved areas. Generally, impacts on air quality resulting from the implementation of the proposed action would be similar to other small road construction or paving projects. The construction contractor would comply with all applicable VADEQ air pollution control regulations such as:

- 9 Virginia Administrative Code (VAC) 5-40 Article 1, Visible Emissions and Fugitive Dust/Emissions;
- 9VAC5-40 Article 2, Odor;
- 9VAC5-45 Article 4, Emission Standards for Consumer Products Manufactured On or After August 1, 2010;
- 9VAC5-45 Article 5, Emission Standards for Architectural and Industrial Maintenance Coatings;
- 9VAC5-45 Article 6, Emission Standards for Adhesives and Sealants; and
- 9VAC5-45 Article 7, Emission Standards for Asphalt Paving Operations.

Quantitative estimates of the anticipated emissions are presented in Table 3.3-3. The estimates for construction emissions were conservatively calculated as if all activities would take place within one calendar year. The net increase in emissions is compared to the *de minimis* thresholds when applicable per the general conformity rule requirement. Refer to Appendix B for a description of the methodology used to develop these estimates.

Table 3.3-3: Estimated Construction Emissions (tons)

	VOC	NO_x	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2 *
Proposed Action	0.66	0.61	0.32	0.06	0.13	0.01	72.35
De minimis Threshold	50	100	n/a	100	n/a	100	n/a
Note: * Increases in metric tons							

Nonattainment Pollutants and General Conformity Rule Applicability

Based on the analysis of anticipated NO_x, VOC, $PM_{2.5}$ and SO_2 emissions performed consistent with the *Final Rule of Determining Conformity of Federal Actions to State or Federal Implementation Plans* (USEPA, November 30, 1993 and March 24, 2010), the proposed action would not require a formal conformity determination. Conservatively assuming that all construction activities would occur within one year, the estimates of total net emissions show no exceedance of the applicable *de minimis* threshold of 100 tpy of NO_x, $PM_{2.5}$ and SO_2, and 50 tpy of VOC (see Table 3.3-3). Therefore, adverse impacts on air quality resulting from the implementation of the proposed action would be minimal and would not require a formal conformity determination.

Based on these findings, a Record of Non-Applicability (RONA) has been prepared and is included in Appendix B.

Attainment Criteria Pollutants

There are no established *de minimis* levels for those criteria pollutants for which the project area is in attainment. Therefore, attainment criteria pollutant emissions levels are provided in Table 3.3-3 for disclosure purposes only. Given the small amount of short duration construction emissions, impacts from criteria pollutant emissions would be minimal.

Operational Impacts

Because the proposed action would accommodate the existing parking demand on FBNA and would cause no net increase in commuter vehicle trips to and from the base, there would be no increase in operational emissions and no long-term adverse impacts on air quality.

3.3.2 Greenhouse Gas Emissions and Climate Change

3.3.2.1 Existing Conditions

Greenhouse gases (GHGs) are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the surface-troposphere system (lowest portion of the earth's atmosphere), causing heating at the surface of the earth. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

The heating effect from these gases is considered the probable cause of the global warming observed over the last 50 years (USEPA 2009a). Global warming and climate change can affect many aspects of the environment. The USEPA Administrator has signed an endangerment finding regarding GHGs under Section 202(a) of the CAA (USEPA 2009b), which finds that the current and projected concentrations of the six key well-mixed gases listed above in the atmosphere threaten the public health and welfare of current and future generations.

The global warming potential (GWP) of the various GHGs is generally expressed relative to a reference gas, CO_2, which is assigned a GWP of 1. Emissions of GHGs are multiplied by their

GWP and the results are added to calculate the total equivalent emissions of CO_2 (CO_2e). However, because CO_2 is the dominant (85.4%) GHG emitted as a result of fossil fuel combustion, (USEPA 2009c), this EA considers CO_2 emissions as representative of all GHG emissions from the proposed action.

The analysis presented in this EA follows the *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas* issued by CEQ (2010). The potential effects of proposed GHG emissions are by nature global and cumulative; project-level emissions are not large enough to have a distinguishable effect on climate change. Therefore, CO_2 emissions levels are provided here for disclosure purposes only.

3.3.2.2 Impacts

Impacts of No Action

Existing conditions would continue under the No Action Alternative. This would have no impact with regard to greenhouse gas emissions and climate change.

Impacts of the Proposed Action

The change in climate conditions caused by GHG emissions is a global effect and, as such, requires that these emissions be assessed on a global scale. Therefore, the project-level emissions modeled for this EA are provided for the purpose of disclosure of localized incremental emissions, with no bearing on the issue of global climate change. These anticipated emissions would be well below the CEQ meaningful assessment threshold of 25,000 metric tons per year.

3.4 Water Resources

This section describes the existing conditions of and potential impacts on water resources on and in the vicinity of FBNA. Such resources include watersheds, surface water (i.e., lakes, ponds, streams, rivers and the like), groundwater, wetlands, and stormwater. Water resources on FBNA in the vicinity of the project site are shown on Figure 3.4-1.

Unless otherwise noted, information in this section is drawn from the *Fort Belvoir Real Property Master Plan Draft EIS* (Fort Belvoir 2014a).

3.4.1 Watersheds

3.4.1.1 Existing Conditions

The entirety of FBNA, including the project site, is located within the Accotink Creek watershed. The watershed covers approximately 52 square miles in central Fairfax County and extends from just north of I-66 to Accotink Bay along the western side of Fort Belvoir's Main Post. Approximately 87 percent of land (45 square miles) within the watershed is developed, while about 27 percent (14 square miles) is covered by impervious surfaces (Fairfax County 2011).

FBNA Water Resources

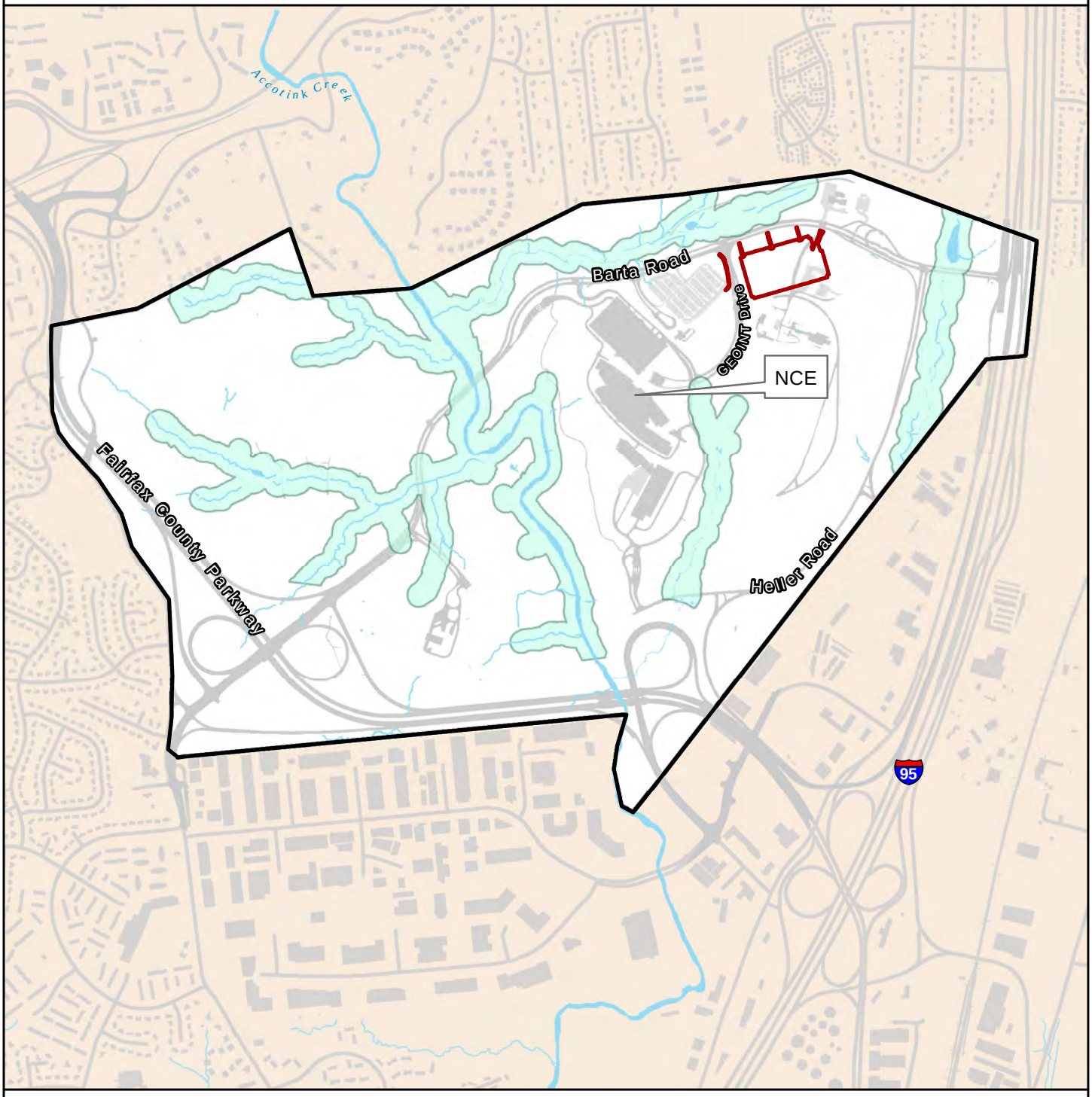

Figure 3.4-1

Source: ESRI; Fort Belvoir GIS, 2013

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3.4.1.2 Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions on the project site would continue. There would be no increase in impervious surfaces on FBNA and hence, no adverse watershed-level impacts.

Impacts of the Proposed Action

The proposed action would have no adverse short-term impacts on the Accotink Creek watershed. In the long term, the implementation of the proposed action would increase impervious surfaces on the project site by approximately 3.7 acres. In the context of the watershed, this increase would be minimal, and would be offset by the re-vegetation of approximately 9 acres on the North Subcontractor Parking Lot following the completion of the proposed parking lot. While the increase in impervious surface would result in a corresponding, localized increase in stormwater runoff from the project site, any such increase would be managed by the stormwater management basin associated with the parking lot (which would be created by modifying the existing temporary sediment basin immediately north of the project site). In accordance with Section 438 of the EISA, LID measures would be used to the maximum extent technically feasible to maintain the pre-development hydrology of the site. The use of such measures, such as permeable pavement and vegetated swales between the parking rows, would further minimize stormwater impacts. The management of stormwater generated on the site by the stormwater management basin and any additional LID measures would ensure that the volume, temperature and velocity of downstream discharges of stormwater would not increase as a result of the proposed action and that no further degradation in stream quality would occur, in accordance with Virginia Minimum Standard 19. Therefore, the implementation of the proposed action would have no long-term adverse impacts at the watershed level.

3.4.2 Surface Water

3.4.2.1 General

Clean Water Act – Section 303(d) Listing

Section 303(d) of the Clean Water Act requires states to identify and develop a list of waterbodies that are impaired and for which technology-based and other required controls have not resulted in attainment of water quality standards. Section 303(d) requires the development of Total Maximum Daily Loads (TMDLs) for waterbodies included on the 303(d) list. TMDLs target the load reductions needed to reduce the pollutants of concern (that is, the pollutants causing the impairment to the particular waterbody) for each listed waterbody. VADEQ has developed TMDL criteria for surface waters as part of the Phase II Chesapeake Bay Watershed Implementation Plan. Virginia, DoD, and other federal agencies will work together in the joint development of a Memorandum of Understanding to meet Chesapeake Bay water quality goals and achieve the necessary reductions called for by the Bay TMDL.

Chesapeake Bay Program

The Virginia General Assembly enacted the Chesapeake Bay Preservation Act (CBPA) in 1988 to improve water quality in the Chesapeake Bay and other waters of the state by requiring effective land management and land use planning. The act creates a cooperative partnership between state and Tidewater local governments to reduce and prevent nonpoint source pollution. The CBPA sets limits on development within the Chesapeake Bay resource protection areas (RPAs), and sets requirements for removal of nutrients from stormwater from developments in resource management areas.

EO 13508, *Chesapeake Bay Protection and Restoration*, issued in May 2009, directs the federal government to lead a renewed effort to restore and protect the Chesapeake Bay. Section 502 of EO 13508 directs the USEPA to publish "guidance for Federal land management in the Chesapeake Bay watershed describing proven, cost-effective tools and practices that reduce water pollution…." The agency issued final guidance in May 2010 to describe tools and practices that are appropriate to reduce water pollution from a variety of nonpoint sources, and restore and protect the Chesapeake Bay (USEPA, 2010). Section 501 of the EO directs federal agencies with ten or more acres within the Chesapeake Bay watershed to implement the Section 502 guidance.

Consistent with these directives, Fort Belvoir recognizes Chesapeake Bay RPAs on the installation. The purpose of RPAs is to maintain or restore a vegetated buffer between development and tributaries to the Chesapeake Bay, with the assumption that such a buffer traps nutrients and pollutants in runoff before it reaches the Bay. RPAs include:

- Tidal wetlands.
- Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow.
- Tidal shores.
- Such other lands considered by the local government to be necessary to protect the quality of state waters.
- A buffer area not less than 100 feet in width located adjacent to and landward of the components listed above, and along both sides of any water body with perennial flow. The full buffer area shall be designated as the landward component of the Resource Protection Area notwithstanding the presence of permitted uses, encroachments, and permitted vegetation clearing in compliance with Part IV (9VAC25-830-120 *et seq*.) of this chapter (9VAC830-80).

Development in RPAs is restricted (with certain exceptions) to water dependent activities, maintenance of public facilities, passive recreation, water wells, and historic preservation. Development within resource management areas must use best management practices to reduce nutrients in stormwater discharges.

Fort Belvoir has also adopted a policy of protecting its intermittent streams through preservation of stream buffer areas ("riparian buffers") 35 feet wide. While riparian buffers are not subject to

the Chesapeake Bay Local Assistance Division regulations, Fort Belvoir preserves these riparian areas as much as possible, to maintain habitat and water quality within the stream.

3.4.2.2 Existing Conditions

FBNA

Accotink Creek traverses FBNA from north to south and divides the property into two nearly-equal halves. At least four tributaries of Accotink Creek are also partially or wholly located within the boundaries of FBNA. Notably, an unnamed tributary flows generally east to west along the northern side of FBNA, just north of Barta Road. From FBNA, Accotink Creek continues southward through Main Post before emptying into Accotink Bay. Accotink Bay is an embayment of the Potomac River, which ultimately discharges into the Chesapeake Bay approximately 90 river-miles southeast of Fort Belvoir's Main Post. RPAs associated with Accotink Creek and its tributaries within FBNA are shown in Figure 3.4-1.

Accotink Creek within FBNA and Main Post is designated as Category 5A under Section 303(d) of the Clean Water Act, which indicates that the water quality standard is not attained, and that the assessment unit is impaired or threatened for one or more designated uses by a pollutant(s) and requires a TMDL. Accotink Creek is considered impaired for the consumption of fish resulting from polychlorinated biphenyls (PCBs) in fish tissues (Fort Belvoir 2014a).

Other than Accotink Creek and its tributaries described above, no other bodies of naturally-occurring surface water are located on FBNA. However, at least four artificial basins used for stormwater management or other purposes are located on the property east of Accotink Creek; these include a pond immediately west of the main NCE administrative building, and a pond along the eastern side of the North Subcontractor Parking Lot.

Project Site

A temporary sediment basin is located along the northern side of the project site. The basin covers approximate 0.7 acre and is densely vegetated (see Photo 2). The quantity of water contained within the feature varies based on the amount of precipitation that has fallen on the site within a given period. No other surface water bodies, RPAs or stream buffers are present on the site. Stormwater captured in this basin is ultimately discharged into the unnamed tributary of Accotink Creek that generally flows east to west along the north side of FBNA north of Barta Road.

Photo 5: Temporary sediment basin along north side of project site, looking west. IPO facility is at top left.

3.4.2.3 Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions on FBNA and the project site would continue. Sediment would continue to be carried from the unpaved IPO Lot in stormwater runoff and discharged to downstream watercourses. While this would have an adverse effect on Accotink Creek, its tributaries, and ultimately the Chesapeake Bay, this impact would remain marginal in the context of the respective watersheds of those bodies of surface water. Thus, adverse long-term impacts on surface water resulting from the No Action Alternative would be negligible.

Impacts of the Proposed Action

The implementation of the proposed action would not involve construction in, on or over bodies of surface water, nor would it involve development in or the disturbance, alteration, or filling of RPAs. In the short term, the construction of the parking lot would expose soils, increasing the potential for erosion and sedimentation of downstream water bodies from stormwater generated on the site. However, this adverse short-term impact would be minimized through the use of appropriate erosion and sediment control measures and would remain negligible.

Although stormwater generated on the paved parking lot would carry petroleum pollutants from vehicles parked on the lot, such pollutants would be filtered by vegetation in the stormwater management basin (which would be created by modifying the existing temporary sediment basin immediately north of the site) prior to being discharged into receiving water bodies. The incorporation of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA would further minimize these impacts. Such measures could include the use of vegetated swales between the parking rows and/or permeable pavement. The use of appropriate erosion and sediment control measures and long-term LID measures would ensure that neither the construction nor the operation of the proposed parking lot would contribute to further degradation of water quality or exceed TMDLs established for Accotink Creek as regulated under Section 303(d). Therefore, short-term and long-term adverse impacts on surface water quality on and in the vicinity of FBNA would be negligible.

3.4.3 Groundwater

3.4.3.1 Existing Conditions

Groundwater underlying FBNA is predominately derived from unconfined aquifers and can be attributed to an unconfined aquifer with water table contours closely mimicking surface topography. Additional water may be supplied from fracture zones in the deeper, less weathered rock. These fracture zones may be under enough pressure to cause higher water heads; however, only minimal artesian conditions have been found to exist during previous sampling conducted on the property. Previous groundwater surveys of Fairfax County conducted by the United States Geological Survey (USGS) determined that the chances of obtaining a yield of more than 5 gallons per minute in shallow bedrock wells is good; however, chances of obtaining a yield of more than 50 gallons per minute in deep bedrock wells is listed as very unlikely (USACE 2006).

As described further in Section 3.8.2.1, groundwater underlying portions of the project site is contaminated with benzene. Multiple temporary wells are located on and in the vicinity of the project site to monitor the natural attenuation of the contamination. Land use controls are in place on the site to prevent the withdrawal of groundwater for potable use.

3.4.3.2 Impacts

Impacts of No Action

Existing conditions on and in the vicinity of the project site and FBNA would continue under the proposed action. This would have no impact on groundwater underlying the site or FBNA.

Impacts of the Proposed Action

The construction and operation of the proposed parking lot would not involve new withdrawals of groundwater for potable or non-potable uses. In addition, the implementation of the proposed action would not involve the drilling of new wells; however, during the construction of the proposed parking lot, it may be necessary to relocate or reinstall some or all of the temporary wells used to monitor the natural attenuation of contaminated groundwater underlying the project site. Any existing monitoring wells identified for relocation would be closed in accordance with 12VAC5-630-450. Any such relocation or reinstallation of monitoring wells would be coordinated with Fort Belvoir DPW as needed.

In the long term, the parking lot would increase impervious surface on the project site by about 3.7 acres. Such an increase would somewhat impair groundwater recharge from precipitation on the project site. However, the amount of new impervious surface created by the proposed action would be negligible in the context of FBNA and the surrounding area and would only marginally impact the recharge rate of the underlying aquifer. The re-vegetation of approximately 9 acres on the North Subcontractor Parking Lot would further offset and minimize this impact. The incorporation of LID measures, such as permeable pavement, to the maximum extent technically feasible in accordance with Section 438 of the EISA would also minimize this impact. For the reasons described above, the implementation of the proposed action would have negligible adverse short-term and long-term impacts on groundwater underlying the project site, FBNA and the surrounding area.

3.4.4 Stormwater

3.4.4.1 General

The National Pollutant Discharge Elimination System Program under Section 402 of the Clean Water Act requires permits for the discharge of pollutants from point sources. The National Pollutant Discharge Elimination System program in Virginia (referred to as the Virginia Pollutant Discharge Elimination System or VPDES Program) is administered by VADEQ. VADEQ regulates point source dischargers such as manufacturing and wastewater treatment plants as well as discharges of stormwater from construction activities and municipal separate storm sewer systems (MS4s) through the Virginia Stormwater Management Program (VSMP).

Fort Belvoir operates an MS4 and discharges stormwater runoff under VPDES Stormwater Permit No. VAR040093. Stormwater runoff generated by development on FBNA, including NCE and the project site, is included under the permit. Fort Belvoir has applied for coverage under an industrial stormwater permit for the entire installation; approval of this permit is pending.

Fort Belvoir DPW reviews all construction site plans involving 2,500 square feet or more of earth disturbance for compliance with the state's Stormwater Management Act (by incorporating the approaches in the Virginia BMP Clearinghouse and Virginia Runoff Reduction Method); Erosion and Sediment Control law (by incorporating the approaches in the *Virginia Erosion and Sediment Control Handbook*); the Fairfax County Public Facilities Manual, and the installation's MS4 permit conditions. Projects located in areas designated as Chesapeake Bay Preservation Areas (which includes all of Fairfax County) disturbing 2,500 square feet or more are required to prepare and implement an erosion and sediment control plan in compliance with 9VAC25-840 and in conformance with the *Virginia Erosion and Sediment Control Handbook, Third Edition, 1992*. Such projects must also comply with the stormwater management criteria consistent with the water quality provisions of the Virginia Stormwater Management Regulations (9VAC25-870).

Generally, development in Chesapeake Bay Preservation Areas is subject to general performance criteria set forth in 9VAC25-830-130 of the Chesapeake Bay Preservation Area Designation and Management Regulations, including requirements to:

- minimize land disturbance (including access and staging areas);
- retain indigenous vegetation; and
- minimize post-development impervious surfaces.

Construction activities disturbing one or more acres are required to obtain from VADEQ a General Permit for the Discharge of Stormwater from Construction Activities (Construction General Permit) administered by the VSMP. The acquisition of a Construction General Permit requires the project proponent to develop a stormwater pollution prevention plan (SWPPP) based on the stormwater management measures in the approved site plan, and demonstrate how these will be maintained for the duration of the construction period, as well as who will be responsible for their maintenance. VADEQ is the approval and/or permitting authority for any of the types of ground-disturbing construction activities described above occurring at Fort Belvoir and FBNA.

Section 438 of the EISA requires federal projects with a footprint of 5,000 square feet or greater to incorporate LID measures to the maximum extent technically feasible to maintain the pre-development hydrology of the project site.

3.4.4.2 Existing Conditions

FBNA

Stormwater runoff on FBNA is collected by a man-made network of inlets, culverts, ditches, and underground pipes and conveyed to multiple discharge points on the property.

Project Site

Stormwater generated on the portion of the site west of the unnamed access road drains to the temporary sediment basin immediately north of the site, while runoff generated east of the access road drains to the south and east. Stormwater captured in the temporary sediment basin is discharged via an outfall to the jurisdictional wetland just northwest of the Barta Road-GEOINT Drive intersection. Discharge from the outfall is regulated under Fort Belvoir's VPDES stormwater permit. The receiving wetland is associated with a tributary of Accotink Creek that flows generally from east to west along the northern side of FBNA (see Section 3.5.3.2). Ultimately, stormwater runoff from the project site drains to Accotink Creek and, further downstream, the Potomac River.

3.4.4.3 Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions on the project site would continue. Sediment from the IPO Lot would continue to be carried from the site by stormwater runoff, resulting in the sedimentation of downstream watercourses such as Accotink Creek and its tributaries. While this would have an adverse impact on those water bodies, it would be minor in the context of the Accotink Creek watershed.

Impacts of the Proposed Action

In the short term, construction activities associated with the proposed action would disturb approximately 7 acres of soils on the project site. This would potentially increase the amount of sediment carried off the site by stormwater and degrade the quality of downstream watercourses. The contractor would use appropriate erosion and sediment control measures as specified in the construction SWPPP and VSMP Construction General Permit. While these impacts cannot be entirely eliminated, they would be minimized and remain non-significant. Thus, adverse short-term impacts on stormwater resulting from the proposed action would be minor.

The construction of the proposed parking lot would increase the amount of impervious surfaces on the project site by approximately 3.7 acres, thereby resulting in a corresponding increase in the volume of stormwater generated on the site. Stormwater generated on the project site would be managed by the stormwater management pond (which would be created by modifying the existing temporary sediment basin immediately north of the project site), which would ensure that any increase in the volume, velocity or temperature of stormwater generated on the site would be minimized prior to discharge into receiving water bodies. While stormwater generated by the paved surface of the parking lot would inevitably carry petroleum-based pollutants from vehicles parked on the lot, much of these pollutants would be filtered by vegetation in the stormwater management basin prior to their discharge into downstream watercourses. The incorporation of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement and vegetated swales between the parking rows, could further minimize concentrations of pollutants in stormwater generated on the site. Thus, it is anticipated that the parking lot would contribute marginally to pollutant levels in Accotink Creek and other water bodies further downstream. For these reasons, the

implementation of the proposed action would have negligible long-term adverse impacts on stormwater on and in the vicinity of the project site and FBNA.

3.5 Biological Resources

Fort Belvoir is located in an ecologically complex area that includes the largest continuous and most diverse habitat area in eastern Fairfax County. In recognition of the sensitive environmental resources with its boundaries, Fort Belvoir has implemented an ecosystem-based natural resources management program based in part on DoD Instruction 4715.3, *Natural Resources Conservation Program* and Army Regulation 200-1, *Environmental Protection and Enhancement* to guide development on the post. Biological resources discussed in this section include vegetation, wildlife, wetlands, habitat areas, and threatened and endangered species. Relevant regulations and policies are also discussed when applicable.

Unless otherwise noted, information in this section is drawn from the *Fort Belvoir Real Property Master Plan Update Draft EIS* (Fort Belvoir 2014a).

3.5.1 Vegetation

3.5.1.1 Existing Conditions

FBNA

A vegetation survey conducted in 1999 identified 11 plant community types on FBNA. Oak/ericad forest and Virginia pine forest are the most prevalent plant communities on FBNA, covering 225 acres and 185 acres, respectively. Urban lands—i.e., those that have been largely cleared of vegetation and/or developed with paved surfaces, buildings and/or roads—cover about 136 acres on FBNA and make up the third-largest community on the property. Plant communities such as loblolly pine (11 acres) and Virginia pine have been intentionally planted, while native plant communities have grown in response to natural constraints of soil type, topography, and moisture. Native plant communities are prevalent in undeveloped or minimally-developed areas of FBNA, particularly in areas west of Accotink Creek.

Project Site

Vegetation covers approximately 3.7 noncontiguous acres on the site of the proposed parking lot and is shown in Figure 3.5-1. These areas include a 1.8-acre area in the southwestern corner of the site; a 1.7-acre area on the eastern side; and landscape vegetation adjacent to the IPO facility. Vegetation within the temporary sediment basin immediately north of the site constitutes an additional 0.7 acres. Vegetation in the temporary sediment basin primarily consists of a variety of grasses, herbaceous species and woody shrubs – many of which are invasive (Hudson, pers. comment 2014) – that have grown in the basin since it was established during the construction of NCE around 2008. The area of vegetation in the southwestern corner of the site has been planted predominantly with varieties of herbaceous and woody scrub/shrub vegetation as well as cedar trees and pine seedlings (Russell, pers. comment 2014). Vegetation on the eastern side of the site includes several mixed pine and hardwood specimens as well as herbaceous and woody scrub-shrub varieties.

Project Site Vegetation

Project Site Boundary
Mixed Pine-Hardwood
Herbaceous & Woody Scrub-Shrub
Temporary Sediment Basin

0 50 100 200
Feet
N

Figure 3.5-1

Source: ESRI; Fort Belvoir GIS, 2013

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Vegetation in the southwestern area of the site, and some vegetation in the eastern area, was planted in partial fulfillment of restoration requirements associated with the construction of NCE and set forth in a memorandum from USACE to Fort Belvoir DPW dated 20 March 2008. Additional discussion of these restoration requirements is included in Section 3.5.4.2.

Substantial areas of vegetation on FBNA are considered by Fort Belvoir to be valuable as habitat for Partners-in-Flight (PIF) species of concern (Fleming, pers. comm. 2013). Further discussion of PIF habitat and species is provided in Section 3.5.4.2 and Section 3.5.5.2, respectively.

3.5.1.2 Impacts

Impacts of No Action

The No Action Alternative would have no impact on vegetation. Existing conditions on FBNA and the project site would continue.

Impacts of the Proposed Action

The modification of the existing temporary sediment basin immediately north of the project site to a stormwater management basin with the capacity to manage stormwater generated on the proposed parking lot would likely require the clearing of all vegetation within the sediment basin. New vegetation would be planted in and around the stormwater management basin in accordance with the landscaping plan that would be developed for the proposed action. Thus, the proposed action would have a beneficial impact on vegetation in this area by removing invasive species and planting native or adapted species.

The implementation of the Proposed Action Alternative would clear approximately 3.7 noncontiguous acres of vegetation from the eastern and southwestern sides of the project site and replace it with an impermeable asphalt surface. Although this would be a long-term adverse impact, it would be offset through the planting of 9 acres of vegetation on the North Subcontractor Parking Lot following the completion of the proposed parking lot. It would be further offset by the planting of tress in accordance with the landscaping plan that would be developed for the project, which would specify the number and types of trees to be planted in accordance with ratios agreed to by Fort Belvoir DPW and NGA. Vegetation to be planted on the project site and the North Subcontractor Parking Lot would include native and/or drought-tolerant species. These re-vegetation requirements are further discussed in Section 3.5.4.3 and Section 4.2. Thus, short-term and long-term adverse impacts on vegetation resulting from the Proposed Action Alternative would remain negligible.

3.5.2 Wildlife

3.5.2.1 Existing Conditions

FBNA

Common wildlife species identified on FBNA include Virginia opossum (*Didelphis marsupialis*), white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), wild turkey (*Meleagris gallopavo*), and gray squirrel (*Sciurus carolinensis*). Recent surveys performed on FBNA have also identified species not previously seen on property such as red fox (*Vulpes vulpes*) and coyote (*Canis latrans*).

Due in part to the post's location along the Atlantic Flyway and available acreage of favorable habitat, a number of bird species have been identified on post through annual bird surveys; these include a number of PIF species of concern, discussed further in Section 3.5.5.2, *Existing Conditions*. Generally, FBNA provides good habitat for bird species favoring old field habitats, such as the eastern towhee (*Pipilo erythrophthalmus*) and field sparrow (*Spizella pusilla*), in the form of forest clearings associated with former training ranges west of Accotink Creek and the open areas within the Barta Road-Heller Road loop. Species favoring forest habitats can also be found in the mature upland forests on the slopes adjoining Accotink Creek and within the dense Virginia pine forests along Heller Road.

Other wildlife species favoring the old fields of the former training ranges on FBNA include snakes common to brushy upland areas and turtles common to upland areas, such as the eastern box turtle (*Terrapene carolina carolina*). The sole venomous snake endemic to Belvoir is the copperhead (*Agkistrodon contortix*), which occurs in moist, deciduous/mixed woods. The small, narrow areas of wetlands on FBNA along Accotink Creek and its tributaries provide favorable habitat for amphibians. These areas are surrounded by undeveloped forested uplands, providing improved habitat value.

Project Site

Favorable wildlife habitat within the project site is limited. As previously noted, vegetation on the site is limited to approximately 3.7 noncontiguous acres, with the remainder primarily consisting of a previously-disturbed area covered with compacted gravel and structures. Due to its sparse character and proximity to traffic on Barta Road and the unnamed road along the east side of the IPO Lot, it is likely that the small tract of mixed pine-hardwood forest along the eastern side of the project site is used transiently as habitat by common species such as the gray squirrel or fox; much more suitable habitat areas are located elsewhere on FBNA, particularly to the west of NCE within the Accotink Creek Conservation Corridor. The vegetation restoration area immediately south of the IPO facility may provide habitat for common species of small wildlife such as mice, reptiles, snakes and birds. Vegetation in the temporary sediment basin along the north side of the site may also provide habitat for individual specimens of similar species. Generally, it is likely that wildlife occurring on the site is limited to individuals of common species that have adapted to disturbed habitats in urbanized areas and in close proximity to human activity.

3.5.2.2 Impacts

Impacts of No Action

The No Action Alternative would have no impact on wildlife. Existing conditions at the project site would continue.

Impacts of the Proposed Action

Construction activities associated with the proposed parking lot would clear approximately 3.7 acres of mixed pine-hardwood, herbaceous and woody scrub/shrub vegetation from the project site. In addition, approximately 0.7 acre of vegetation would be cleared from the existing temporary sediment basin immediately north of the project site during its conversion to a permanent stormwater management basin. This clearing and disturbance would likely displace individual specimens of species using those vegetated areas as habitat. More mobile individuals would likely relocate to similar areas of habitat on FBNA while less-mobile or slower-moving specimens could be destroyed. The noise and activity associated with the parking lot construction could also disrupt the nesting, breeding or foraging patterns of individual specimens. However, such disruptions would likely cease once the individuals have relocated to other suitable areas of habitat on or in the vicinity of FBNA. Therefore, while adverse, short-term impacts on wildlife resulting from the implementation of the proposed action would occur at the individual rather than species level, and would be minor in the context of common wildlife species on FBNA.

The construction of the proposed parking lot would result in the permanent loss of approximately 3.7 acres of vegetation on the project site. However, this loss would be offset through the planting of approximately 9 acres of similar vegetation on the North Subcontractor Parking Lot as described in Section 3.5.4.3 and Section 4.2. This vegetation would attract and provide similar suitable habitat for individual specimens preferring such habitat that were displaced by the construction of the parking lot. Similarly, vegetation planted in the stormwater management basin would provide additional habitat and partially or fully offset vegetation that would be cleared from the temporary sediment basin. LED lighting installed in the parking lot would use cutoff light shields to minimize the disturbance of wildlife that use nearby areas as breeding and foraging habitat. Therefore, long-term adverse impacts on wildlife on FBNA resulting from the Proposed Action Alternative would be negligible.

3.5.3 Wetlands

3.5.3.1 General

EO 11990, *Protection of Wetlands*, requires that federal agencies provide leadership and take actions to minimize or avoid the destruction, loss, or degradation of wetlands and to preserve and enhance their natural and beneficial values. Wetlands are complex natural systems that support extensive vegetative and wildlife habitats and perform diverse biologic and hydrologic functions. These functions include water quality improvement, groundwater recharge and discharge, filtering of pollutants, nutrient cycling, and erosion protection. USACE is responsible for making jurisdictional determinations and regulating development of wetlands under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899.

3.5.3.2 Existing Conditions

FBNA

There are approximately 26 acres of wetlands on FBNA. These areas are shown on Figure 3.5-2. Wetlands on FBNA are generally found along perennial and intermittent streams associated with Accotink Creek.

Project Site

There are no wetlands on the project site. Stormwater generated on the site discharges to an area of jurisdictional wetlands associated with the unnamed tributary of Accotink Creek located just north of Barta Road. These wetlands are classified as palustrine forested (PFO), palustrine open water (POW), and riverine upper perennial (R3). Functional values provided by these wetlands include wildlife habitat, flood water abatement, nutrient and sediment removal, and groundwater recharge.

3.5.3.3 Impacts

Impacts of No Action

Under the No Action Alternative, stormwater generated on the IPO Lot would continue to carry sediment into downstream watercourses, including the wetland associated with the tributary of Accotink Creek located north of Barta Road. While this would have a long-term adverse impact on water quality in the wetland, it would be minor in the context of wetlands on FBNA or in the Accotink Creek watershed.

Impacts of the Proposed Action

The implementation of the Proposed Action Alternative would not involve the disturbance, alteration or filling of wetlands. Thus, the proposed action would have no direct, adverse short-term or long-term impacts on wetlands on or in the vicinity of FBNA.

In the short term, construction activities associated with the proposed action would disturb soils and increase the potential for sedimentation of downstream watercourses, including wetlands. The construction contractor would use erosion and sediment control measures such as silt fences to minimize this impact. While this indirect short-term adverse impact would not be completely eliminated, it would be minimized and remain negligible.

The implementation of the Proposed Action Alternative would increase impervious surfaces on the project site by approximately 3.7 acres, thereby resulting in an increased volume of stormwater generated on the site. Stormwater generated on the parking lot would be managed by the stormwater management basin, which would be created by modifying the existing temporary sediment basin. While stormwater flowing across the paved surface would carry petroleum pollutants from vehicles parked on the lot, these pollutants would be filtered through vegetation planted in the stormwater management basin. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable paving and

FBNA Wetlands

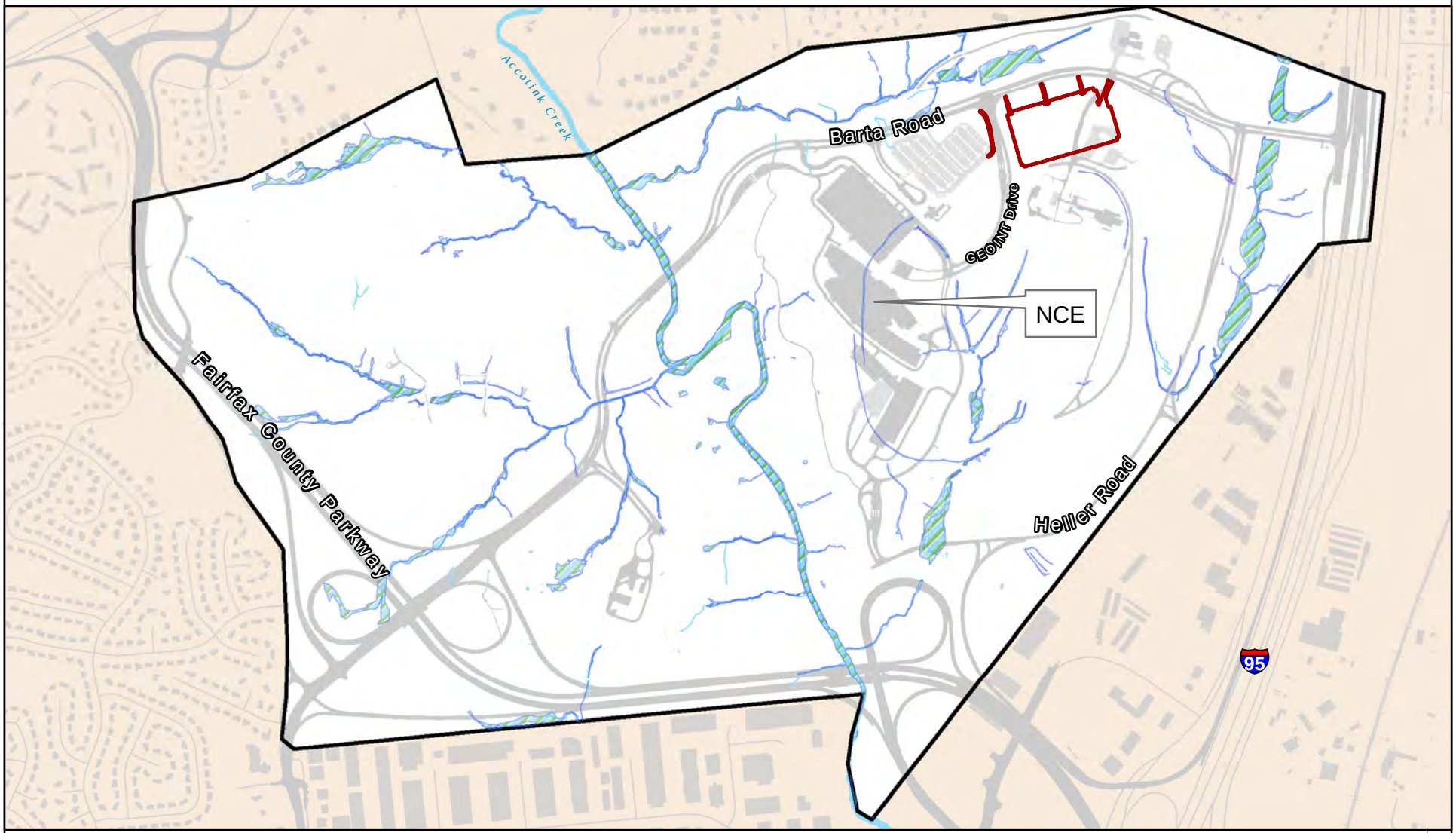

Figure 3.5-2

Source: ESRI; Fort Belvoir GIS, 2013

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vegetated swales between the parking rows, would also minimize the concentrations of pollutants and sediments carried in stormwater generated on the lot. Any necessary modification of the stormwater discharge point to the wetland along the north side of Barta Road to compensate for the increase in impervious surface on the project site would be made in compliance with all applicable permits and regulations. The management of stormwater generated on the site by the stormwater management basin and any additional LID measures, as well as any necessary modification of the stormwater discharge point, would ensure that the volume, temperature and velocity of downstream discharges of stormwater would not increase as a result of the proposed action and that no further degradation in stream quality would occur, in accordance with Virginia Minimum Standard 19. For these reasons, the proposed action would have no indirect long-term adverse impacts on wetlands near the project site.

3.5.4 Habitat Areas and Mitigation Sites

3.5.4.1 General

Habitat Areas

Fort Belvoir has designated multiple, substantial habitat areas within the installation. The majority of these are located on Main Post and include the 1,480-acre Accotink Bay Wildlife Refuge along Accotink and Pohick Bays, and the 234-acre Jackson Miles Abbott Wetland Refuge along Dogue Creek. These large areas of habitat not only are valuable in and of themselves, but recognize the sensitive ecological resources within these areas and provide for ecological connectivity through the installation to other regional habitats. Fort Belvoir has also designated approximately 4,200 acres of Partners in Flight (PIF) habitat within its boundaries. PIF is a cooperative effort launched in 1990 between federal, state, and local government agencies, philanthropic foundations, professional organizations, conservation groups, industry, the academic community, and private citizens to emphasize the conservation of birds not covered by existing conservation initiatives.

Mitigation Sites

Belvoir has provided mitigation in association with wetland permits or as specified in NEPA-required FNSIs or RODs for various actions. Belvoir has also performed restoration and enhancement work in various locations on the post, such as PIF habitat projects, as stewardship actions, not necessitated by the requirements of a permit or FNSI/ROD. In addition to these existing areas, multiple locations on the installation have been identified as potential sites for future mitigation actions.

Fort Belvoir's Tree Removal and Protection Policy requires the protection of existing trees and, where tree loss is unavoidable, mitigation for the removal of trees must be performed unless expressly exempted. In-kind mitigation measures include replacing any trees four inches or greater in diameter at breast height that are removed with the planting of two new trees. Out-of-kind compensatory mitigation, such as environmentally beneficial restoration, enhancement, or

preservation measures may be completed if in-kind mitigation is not a feasible option (U.S. Army 2012).

Reflecting this policy, the ROD issued for the 2007 BRAC EIS outlined requirements for mitigating the loss of biological resources resulting from the implementation of BRAC projects at Fort Belvoir. Among these requirements, trees measuring four inches or greater in diameter at breast height were to be replaced with two new trees.

3.5.4.2 Existing Conditions

FBNA

Fort Belvoir has established the 204-acre Accotink Creek Conservation Corridor through FBNA. This area is shown on Figure 3.5-3. Established as a mitigation measure for BRAC 2005 projects, the Accotink Creek Conservation Corridor recognizes the land conditions and sensitivity of the riparian area along the creek and encompasses floodplains, steep slopes and wetlands. Most types of development are prohibited within the corridor.

Fort Belvoir has also designated approximately 396 acres of PIF habitat on FBNA (Figure 3.5-3).

There are approximately 88.5 acres of completed mitigation sites on FBNA. An additional 30 acres on FBNA have been identified as potential tree planting sites. These areas are shown on Figure 3.5-3.

Project Site

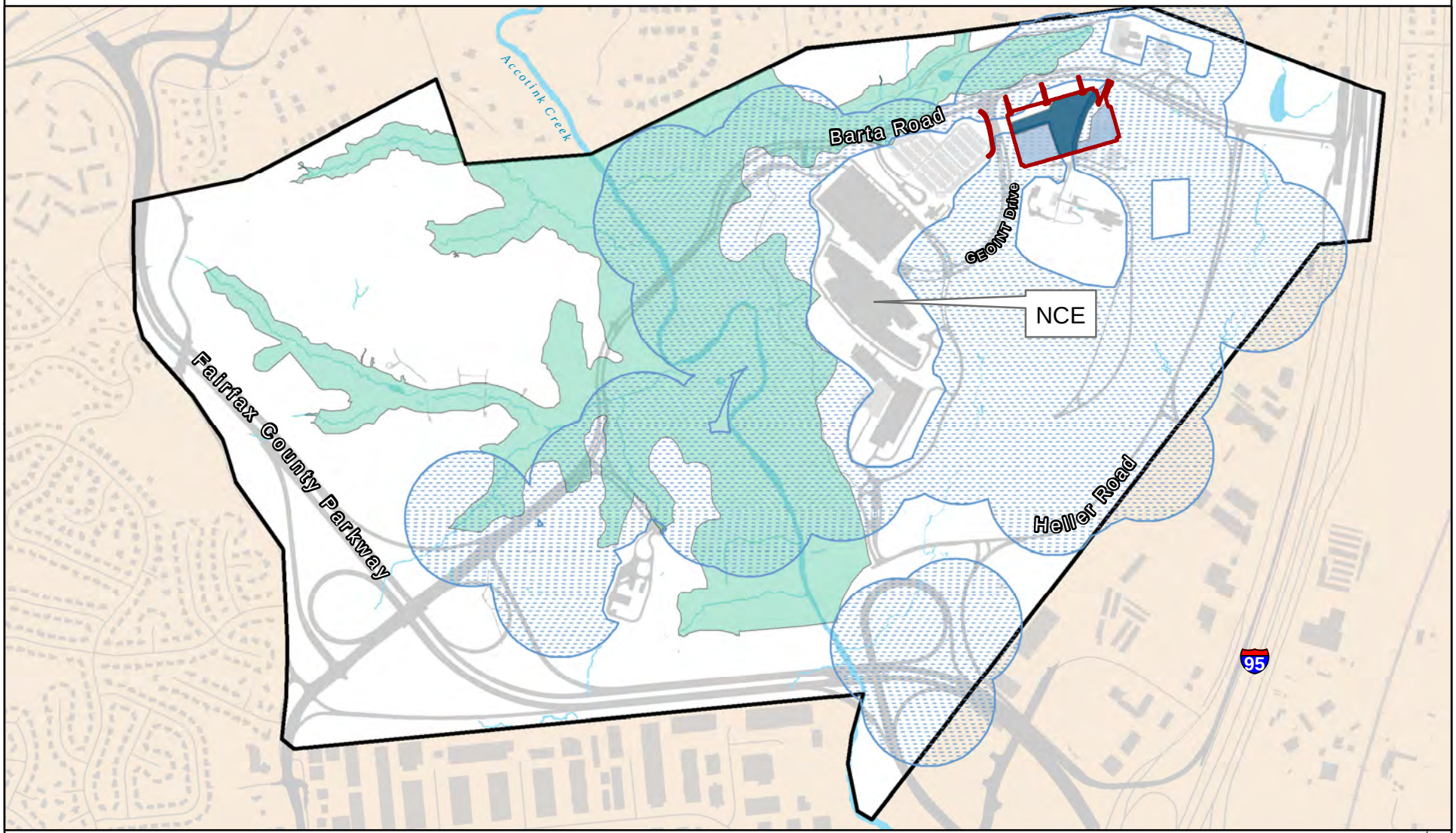
Approximately 4.2 acres of PIF habitat overlaps the site of the proposed parking lot (Figure 3.5-3). The project site is also located less than 300 feet from a portion of the Accotink Creek Conservation Corridor.

Approximately 2.9 acres of existing tree planting sites are located on the project site (Figure 3.5-3). The project site also includes approximately 3.3 acres of potential tree planting sites.

In a memorandum dated 20 March 2008, USACE committed to Fort Belvoir's tree replacement requirement by agreeing to restore areas of vegetation cleared outside the NCE limits of disturbance, including the site of the IPO facility, IPO Lot and North Subcontractor Parking Lot, to their original condition or better to replace trees and vegetation lost as a result of that clearing. USACE has also developed a re-vegetation plan (USACE 2010) for those areas in accordance with the requirements of the memorandum. In partial fulfillment of the restoration requirements

Photo 6: Vegetated mitigation area on southwestern side of project site, looking south.

FBNA Habitat Areas, Restoration Areas and Mitigation Sites



Wetland Sites & Tree Planting Sites

- Completed Restoration Area
- Potential Mitigation Site
- Partners-in-Flight Habitat
- Accotink Creek Conservation Corridor
- Project Site Boundary
- FBNA Boundary

0 500 1,000 2,000 Feet

N

Figure 3.5-3

Source: ESRI; Fort Belvoir GIS, 2013

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set forth in the 20 March 2008 USACE memorandum, USACE and NGA planted the vegetated areas included in the southwestern and eastern portions of the project site with landscape size cedar trees at 20 trees per acre, and pine seedlings at 480 seedlings per acre (Russell, pers. comm., 2014). Those quantities were in accordance with planting targets outlined in the USACE re-vegetation plan.

3.5.4.3 Impacts

Impacts of No Action

The No Action Alternative would have beneficial impacts on habitat areas and restoration areas on the project site, because those areas would not be disturbed and existing conditions would continue. Within the context of such areas on Fort Belvoir, however, such impacts would be negligible.

Impacts of the Proposed Action

Construction activities associated with the proposed action would disturb approximately 2.9 acres of existing restoration areas and 4.2 acres of PIF habitat on the project site. While this would be an adverse impact, it would be negligible because it would be offset by the planting of 9 acres of vegetation on the North Subcontractor Parking Lot by NGA following the completion of the proposed parking lot. This vegetation would be planted in fulfillment of the requirements set forth in the 20 March 2008 USACE memorandum to replace vegetation that was cleared outside the NCE limits of disturbance, including the IPO facility, IPO Lot and North Subcontractor Parking Lot. Short-term impacts on PIF habitat would be further minimized by avoiding the cutting and removal of vegetation on the project site between April 1 and July 15. Alternatively, if disturbance of vegetation cannot be avoided in that time frame, Fort Belvoir DPW would conduct surveys for active bird nests and/or construction activities would avoid disturbing areas where such nests are located.

Construction activities would disturb approximately 7 acres of soils on the site, thereby potentially resulting in increased sedimentation of Accotink Creek and its tributaries within the Accotink Creek Conservation Corridor. The construction contractor would use erosion and sediment control measures specified in the Construction General Permit, the construction SWPPP, and the erosion and sediment control plan to minimize sediment runoff from the site. While this adverse impact would not be entirely eliminated, it would remain negligible.

In the long term, approximately 2.9 acres of existing restoration areas and 3.3 acres of potential mitigation sites on the project site would be lost. However, this loss would be offset by the planting of trees in accordance with the landscaping plan that would be developed for the proposed action. The landscaping plan would specify the number and types of trees to be planted and would be based on the following ratios agreed to by Fort Belvoir DPW and NGA (Russell, pers. comm., 2014):

- Landscape size cedar trees: Originally planted at 20 trees per acre. Replant on a 1 for 1 basis. Replacement trees do not have to be eastern red cedar.

- Pine seedlings: Originally planted at 480 seedlings per acre. Replant on a 2 seedling per tree equivalent basis.

In accordance with Fort Belvoir's Tree Replacement Policy, NGA would also plant two new trees for every "volunteer tree" (i.e., those growing on the site that were not planted as mitigation) that would be lost through the implementation of the proposed action. Vegetation to be planted on the project site and the North Subcontractor Parking Lot would include native and/or drought-tolerant species.

These planting requirements are further described in Section 4.2. Adherence to these requirements would ensure that adverse impacts on restoration areas and mitigation sites within the project site remain negligible.

The implementation of the Proposed Action Alternative would increase impervious surface on the site by approximately 3.7 acres. While this would increase the volume of stormwater generated on the site, any additional stormwater would be managed by the stormwater management basin associated with the proposed parking lot (which would be created by modifying the existing temporary sediment basin along the north side of the site), thereby ensuring that no increases in the volume, temperature and velocity of stormwater discharged to receiving bodies of surface water within the Accotink Creek Conservation Corridor would occur. Although stormwater flowing across the paved parking lot would carry petroleum pollutants from vehicles parked on the lot, these pollutants would be filtered by the vegetation in the stormwater management basin. The use of additional LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement and vegetated swales between the parking rows, would also provide additional filtration of pollutants in stormwater generated on the lot. For these reasons, long-term adverse impacts on FBNA habitat areas would be negligible.

3.5.5 Threatened and Endangered Species

3.5.5.1 General

Endangered Species Act

The Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of threatened and endangered species of animals and plants, and the habitats in which they are found. The ESA prohibits jeopardizing endangered and threatened species or adversely modifying critical habitats essential to their survival without specific authorization from USFWS or the National Marine Fisheries Service (NMFS), depending on the species and the area within which it occurs. Section 7(a)(2) of the ESA requires federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. Federal agencies are required to consult with USFWS or NMFS if an action may affect a listed species.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 prohibits the taking of bald and golden eagles or their nests and eggs. Under the Act, taking is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Although bald eagles were removed from the federal Endangered Species List in 2007, they remain protected under this Act.

Partners in Flight

PIF species of concern include avian species recognized by USFWS's Migratory Bird Rule; EO 13186, *Migratory Bird Conservation*; and the Memorandum of Understanding for Migratory Bird Conservation.

3.5.5.2 Existing Conditions

FBNA

The northern long-eared bat (*Myotis septentrionalis*) was listed as threatened under the Endangered Species Act in April 2015. The range of the northern long-eared bat covers 37 states in the eastern and north-central United States. Northern long-eared bats hibernate during the winter in the small crevices and cracks of caves and mines with constant temperatures, high humidity and no air currents. In the summer, the species roost singly or in colonies underneath bark, in cavities or in crevices of live and dead trees three inches or greater in diameter at breast height. Northern long-eared bats tend to choose roost trees based on suitability to retain bark or provide cavities and crevices (USFWS 2015). As such, the species has the potential to occur in forested areas, wetlands, streams and open fields on Fort Belvoir and FBNA.

The federally-threatened small whorled pogonia (*Isotria medeoloides*), a perennial terrestrial orchid, has been documented on FBNA. Its preferred habitat is open, dry, deciduous woods with acidic soil, a relatively open understory and sparse ground cover, or shaded openings in mixed hardwood-pine woods. FBNA is the only location where the species has been documented (Fort Belvoir 2014a). No federally-listed threatened, endangered, candidate or proposed animal species, or critical habitats have been documented on Fort Belvoir. No bald eagle nests or concentration areas are known to currently exist on FBNA (CCB 2014; VDGIF 2014).

Inventories conducted by the Virginia Department of Conservation and Recreation's Division of Natural Heritage (VDCR-DNH) on Fort Belvoir identified two rare species that occur or potentially occur on FBNA: American peregrine falcon (*Falco peregrinus*) and the North American wood turtle (*Clemmys insculpta*) (US Army 2007). The American peregrine falcon is a state-listed threatened species that occurs seasonally at Fort Belvoir but is not considered a resident. Peregrine falcons are likely to forage along the Accotink Creek corridor, where it crosses the central part of the FBNA (US Army 2007). A survey conducted on FBNA in 2002 noted that the physical characteristics of the Accotink Creek corridor were similar to suitable North American wood turtle habitats in more rural settings, but the conditions identified were not optimal. No wood turtles were documented on FBNA during the survey.

As noted above, approximately 396 acres on FBNA are designated as PIF habitat. PIF species of concern identified on FBNA include the eastern towhee (*Pipilo erythrophthalmus*), Baltimore

oriole (*Icterus galbula*), chimney swift (*Chaetura pelagic*), northern flicker (*Colaptes auratus*), brown thrasher (*Toxostoma rufum*), eastern wood-pewee (*Contopus virens*), grasshopper sparrow (*Ammodramus savannarum*), field sparrow (*Spizella pusilla*), and prairie warbler (*Dendroica discolor*).

Project Site

An online query was conducted through the USFWS's Information, Planning and Conservation System (IPAC) online project review tool in October 2014 to determine the potential impacts on rare, threatened and endangered species and/or critical habitat that may be present within the project area. The query results are included in Appendix A. Although the query indicated that no federally-listed threatened or endangered species, or critical habitats are located on the project site, additional consultation with the USFWS has determined that the northern long-eared bat has the potential to occur in forested areas, wetlands, streams and open fields on Fort Belvoir, including those within the project site.

As noted in Section 3.5.4.2, approximately 4.2 acres of PIF habitat are located within the project site. Brown thrasher (*Toxostoma rufum*) was observed in the tree line on the east side of the project site during a breeding bird survey conducted in 2014. Beyond this, however, the number of individual specimens of PIF species of concern occurring on the project site is unknown.

3.5.5.3 Impacts

Impacts of No Action

Existing conditions on FBNA and the project site would continue under the No Action Alternative. This would have no adverse impact on federally listed threatened and endangered species, and would have a beneficial impact on individual specimens of PIF species of concern that use vegetated areas within the project site as habitat.

Impacts of the Proposed Action

The Army has completed Programmatic Informal Consultation on the northern long-eared bat with the USFWS under Section 7 of the Endangered Species Act. The Programmatic Informal Consultation identified criteria under which construction projects would be considered "not likely to adversely affect" the species (*Informal Conference & Management Guidelines on the Northern Long-eared Bat [*Myotis septentrionalis*] for Ongoing Operations on Installation Management Command Installations*, US Army Environmental Command, May 2015). Fort Belvoir will use the Army's Programmatic Informal Consultation for the northern long-eared bat when screening upcoming construction projects – including the proposed action – and will conduct local Section 7 consultation for any project that does not meet the criteria for "not likely to adversely affect". In addition, Fort Belvoir will conduct a survey to determine if the species is present on the installation.

The Proposed Action Alternative would have no short-term or long-term adverse impacts on any other federally-listed threatened and endangered species because none are known to exist on the project site.

No habitat for Virginia state-rare or state-threatened species exists on the site; thus, the proposed action would have no short-term or long-term adverse impacts on those species.

In the short term, construction of the proposed parking lot would clear approximately 4.2 acres of habitat that could be used by individual specimens of PIF species of concern, thereby displacing those individuals and resulting in an adverse impact. However, such impacts would be at the individual, rather than species level, and would thus be minor. Short-term adverse impacts on PIF species would be further minimized by avoiding the cutting and removal of vegetation on the project site between April 1 and July 15. Alternatively, if disturbance of vegetation cannot be avoided in that time frame, Fort Belvoir DPW would conduct surveys for active bird nests and/or construction activities would avoid or minimize the disturbance of areas where such nests are located.

In the long term, it is likely that individual specimens displaced from vegetated areas on the project site would eventually be attracted to the approximately 9-acre area on the North Subcontractor Parking Lot that would be replanted following the completion of the proposed parking lot. Therefore, long-term adverse impacts on individual specimens of PIF species of concern would be negligible.

3.6 Geological Resources

This section describes the existing conditions of and potential impacts on geologic, topographic and soil resources underlying FBNA and the project site.

3.6.1 Geology

3.6.1.1 Existing Conditions

FBNA is near the Piedmont/Coastal Plain fall line. Piedmont areas consist largely of Precambrian metamorphic and Cambrian igneous rock formations, whereas Coastal Plain areas consist of an eastward thickening wedge of unconsolidated sediments of gravel, sand, silt, and clay from the Cretaceous to Tertiary periods. Rock formations from both provinces can be found within the boundaries of FBNA. A finger of Piedmont Upland province bedrock extends from north to south along Accotink Creek. Piedmont Upland bedrock outcrops form the bed and adjacent slopes of the creek. Most of the more gently sloping areas to the east and west of the creek consist of unconsolidated deposits from the Coastal Plain province (Fort Belvoir 2014a).

3.6.1.2 Impacts

Impacts of No Action

Existing geological conditions underlying FBNA and the project site would continue under the No Action Alternative. This would have no impact on geologic resources.

Impacts of the Proposed Action

The Proposed Action Alternative would not involve piledriving or other penetration of geological strata underlying FBNA or the project site. Therefore, there would be no short-term or long-term adverse impacts on geologic resources.

3.6.2 Topography

3.6.2.1 Existing Conditions

FBNA

The topography of FBNA is gently rolling, except for steep slopes bordering Accotink Creek. Accotink Creek enters FBNA from the north at an elevation of approximately 120 feet above mean sea level and descends to an elevation of approximately 100 feet above mean sea level before exiting FBNA to the south. Steep slopes rise from both the eastern and western banks of Accotink Creek to an elevation of approximately 200 feet above mean sea level, forming a narrow stream valley. The grades on the slopes range between 20 and 30 percent at most locations. Areas to the east of Accotink Creek range in elevation from approximately 200 to 230 feet above mean sea level. The highest lands are situated near the northwest corner of FBNA, and elevations descend gently to the south and east (Fort Belvoir 2014a).

Project Site

The site of the proposed parking lot is generally flat, having been previously graded and developed as the site of modular buildings and associated parking areas that comprised the IPO facility. A steep slope is located at the northwestern corner of the site, where there is an approximately 20-foot difference between the elevation of the project site and the intersection of GEOINT Drive and Barta Road below. There are no particularly unique or noteworthy topographic features on or in the vicinity of the project site.

3.6.2.2 Impacts

Impacts of No Action

The No Action Alternative would have no adverse impacts on topography on FBNA or the project site because existing conditions would continue.

Impacts of the Proposed Action

Other than minor grading to prepare the project site for paving, the proposed action would not involve substantial alteration of the project site's topography. The implementation of the Proposed Action Alternative would not result in the alteration or destruction of any unique or noteworthy topographic features. Thus, short-term and long-term adverse impacts on topography would be negligible.

3.6.3 Soils

3.6.3.1 Existing Conditions

FBNA

Soils on FBNA were surveyed by the Natural Resources Conservation Service from 2002 to 2008. The predominant soil types surveyed, which cover a total of 597 acres or approximately 74 percent of the property, include Beltsville Silt Loam, 2-7% slope (173 acres); Kingstowne Sandy Clay Loam, 0-45% slope (considered a disturbed soil type) (155 acres); Sassafras-Marumsco Complex, 7-45% slope (135 acres); and Rhodhiss Sandy Loam, 7-45% slope (134 acres). It should be noted that the survey was conducted prior to the construction of NCE and other recently-built facilities on FBNA; thus, the survey results may not reflect the soil disturbance that occurred during those construction activities.

Project Site

Soils underlying the project site include Sassafras-Marumsco complex, 0 to 45 percent slopes; Kingstowne sandy clay loam, 0 to 45 percent slopes; and urban land. These soils are distributed through the site from north to south, respectively. Kingstowne sandy clay loam and urban land soils make up the majority of soils on the site, with Sassafras-Marumsco complex soils underlying a smaller portion in the northwest corner. As noted above, these soil types may not reflect pre-construction soil conditions observed during the 2002-2008 NRCS survey on FBNA. Selected characteristics of these soils are presented in Table 3.6-1.

Table 3.6-1: Selected Soil Characteristics

Soil	Suitability for Roads and Streets, Shallow Excavation, and Lawns and Landscaping	Farmland Classification	Hydric[1]	K factor[2]
Sassafras-Marumsco complex, 0-45 percent slopes	Somewhat limited to Very Limited	Farmland of Statewide Importance	No	0.28-0.32
Kingstowne sandy clay loam	Very limited	Not prime farmland	No	0.2
Urban land	Not rated	Not prime farmland	No	Not available (NA)

Notes:
1. Hydric criteria refer to the potential of a soil to support vegetation and/or hydrologic conditions indicative of wetlands.
2. A soil's K factor indicates potential for erodibility and represents the susceptibility of a soil to erosion and the rate of runoff. Values between 0.05 and 0.25 are considered low; 0.25 to 0.4, moderate; and values above 0.4, high.

Source: NRCS 2014.

As discussed further in Section 3.8.2.1, portions of the project site are underlain by groundwater contaminated with benzene. Depending on seasonal fluctuations of the water table, soils on the site could contain concentrations of benzene exceeding applicable regulatory thresholds for human exposure.

3.6.3.2 Impacts

Impacts of No Action

Under the No Action Alternative, soils covering approximately 2.2 acres would remain exposed, resulting in continued erosion from wind and rain. However, this condition would not result in the loss of any particularly valuable or important soils. Thus, while adverse, long-term impacts on project site soils resulting from the No Action Alternative would remain minor.

Impacts of the Proposed Action

Construction activities associated with the proposed action, including grading of the site and trenching to install a buried electrical distribution system for lighting associated with the parking lot, would expose soils and increase the potential for erosion from wind and rain. Approximately 7 acres of soils would be disturbed through the implementation of the proposed action. In addition, the modification of the existing temporary sediment basin to create an adequately-sized stormwater management basin for the proposed parking lot would require the excavation of approximately 2,609 cubic yards of soils (assuming that the parking lot is fully paved with asphalt; no additional excavation of the temporary sediment basin would be required if permeable pavement is used in 50 percent or more of the parking lot). Because the project is located within a Chesapeake Bay Preservation Area and would disturb more than 2,500 square feet, the contractor would be required to prepare an erosion and sediment control plan in compliance with the Virginia Erosion and Sediment Control Law (9VAC25-840) and in conformance with the *Virginia Erosion and Sediment Control Handbook, Third Edition, 1992*. The plan would be submitted to Fort Belvoir for review and approved by VADEQ's Northern Regional Office (NRO). The contractor would implement erosion and sediment control measures specified in the plan to minimize soil erosion during the project's construction phase. As noted in Section 3.4.4.1, the contractor would also obtain a Construction General Permit and prepare a construction SWPPP to minimize the sedimentation of downstream receiving water bodies. While these measures would not completely eliminate the potential for erosion and sedimentation, they would ensure that short-term adverse impacts remain negligible.

Soils excavated or otherwise disturbed during the project's construction phase would be tested for contaminants in accordance with established Fort Belvoir policies and procedures. If it is determined prior to or during construction that concentrations of contaminants in soils exceed applicable regulatory thresholds for re-use on the site, any affected soils would be removed from the site and disposed of at a permitted facility off FBNA in accordance with Virginia Solid Waste Disposal Regulations. Thus, the proposed action would have no short-term impacts on workers' health resulting from exposure to contaminated soils.

Additional geotechnical studies would also be conducted prior to construction to determine the suitability of soils on the site to support the development of the parking lot and associated driveways. If such studies confirm the suitability of on-site soils to be somewhat or very limited to support roads and streets or shallow excavations, as described in Table 3.6-1, appropriate fill soils would be imported to the site to support such construction. Thus, the proposed action would have no adverse impacts on soil suitability.

The implementation of the Proposed Action Alternative would increase impervious surfaces on FBNA by approximately 3.7 acres, thereby decreasing soil permeability and groundwater recharge in the vicinity of the project site. However, while this would be a long-term adverse impact, it would be offset by the re-vegetation of approximately 9 acres on the North Subcontractor Parking Lot following the completion of the proposed parking lot. Thus, in the context of remaining permeable area on FBNA and in the Northern Virginia region, this impact would remain negligible.

Although the implementation of the Proposed Action Alternative would result in the long-term loss of soils considered to be Farmland of Statewide Importance, this loss would be negligible for multiple reasons: they are not currently used for agricultural purposes; they have no potential for agricultural use, as they are located on a federal military installation; and the area of such soils that would be lost through the implementation of the proposed action is marginal in the context of all such soils in the state. Therefore, long-term adverse impacts on soils classified as Farmland of Statewide Importance would be negligible.

3.7 Cultural Resources

3.7.1 General

Cultural resources include archaeological and architectural sites that provide essential information to understand the prehistory and historical development of the United States. The primary law protecting cultural resources is the National Historic Preservation Act (NHPA) of 1966. Under Section 106 of the act, federal agencies must integrate consideration of historic preservation issues into their planning. The head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally-financed undertaking is required to account for the effects of this undertaking on any historic property, that is any district, site, building, structure, or object that is listed or eligible for listing in the National Register of Historic Places (NRHP). As much as possible, adverse effects on these resources must be avoided, minimized, or mitigated in consultation with the State Historic Preservation Officer (SHPO) and other consulting parties, as appropriate. The Virginia Department of Historic Resources is Virginia's SHPO. In general, if under Section 106 an action would have an adverse effect on a historic property listed in or eligible for the National Register, this action would have an adverse impact under NEPA. An adverse effect that is mitigated in consultation with the SHPO and other parties, as appropriate, can generally be considered a non-significant impact under NEPA.

The 1999 Department of Defense *American Indian and Alaska Native Policy* recognizes the "importance of increasing understanding and addressing tribal concerns, past, present, and future" and states that "these concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands." Based on this policy, DoD must consult with tribes when its proposed actions may have the potential to significantly affect Indian lands, treaty rights, or other tribal interests protected by statute, regulation, or executive order. Department of Defense Instruction 4710.02 (September 14, 2006) implements the above and other related policies.

Fort Belvoir has been the subject of extensive archaeological and architectural surveys since the 1920s. Phase I archaeological surveys of the entirety of Fort Belvoir, including FBNA, were

conducted in 1994. Following these surveys, VDHR concurred that Phase I archaeological investigations on Fort Belvoir were complete (DHR File 92-2348-F). To date, 303 sites have been identified, including one listed on the NRHP; 12 determined eligible; and 150 recommended for further study. All of these sites are located on Main Post (Fort Belvoir 2014a).

One historic district and five other architectural resources at Fort Belvoir, all on Main Post, have been determined to be eligible for listing on the National Register. An architectural survey of FBNA was conducted in 2007; no resources on the property were recommended eligible for listing in the National Register, and the Virginia SHPO concurred with this finding (Fort Belvoir 2014b).

All undertakings on FBNA are reviewed by Fort Belvoir's Cultural Resource Manager (CRM) in accordance with procedures established in the post's Integrated Cultural Resources Management Plan to determine the potential effects of the undertaking on cultural resources. If the CRM determines that the proposed project may affect historic properties, the Section 106 review process is initiated (Fort Belvoir 2014b). The proposed action qualifies as an undertaking for the purposes of Section 106. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the proposed parking lot. The Fort Belvoir CRM has initiated consultation with the Virginia SHPO to determine the potential effects on historic properties within the APE.

3.7.2 Summary of FBNA History

FBNA, formerly known as the Engineer Proving Ground (EPG), was acquired in the early 1940s by the Army Research, Development, and Engineering Command and used for the testing of military engineering equipment and supplies, including explosive devices such as mortars, rockets, grenades and land mines. This activity was gradually curtailed following the end of World War Two and ceased entirely in the 1960s with the increasing encroachment of residential and commercial uses around the property. Due to the potential presence of unexploded ordnance (UXO) and other hazardous materials, the property sat largely unused until it was returned to Fort Belvoir's jurisdiction in 1988. FBNA's development potential was recognized during the 2005 BRAC process, when several projects—including NCE—were identified for and built on the property. The majority of buildings associated with FBNA's former use as a testing site have been demolished, either as part of the recent construction of new facilities or in anticipation of future (but currently undefined) development on the property (USACE 2014).

3.7.3 Existing Conditions

No archaeological sites listed or determined eligible for listing on the NRHP, or sites recommended for further investigation, have been identified on FBNA, including the APE. Similarly, no NRHP-eligible architectural resources were identified on FBNA as a result of the 2007 architectural survey. Fort Belvoir previously conducted both archaeological and architectural surveys of NCE and determined no historic properties are present, and SHPO concurred with Fort Belvoir's determination (VDHR files No. 90-0901-F and No. 2007-0250).

3.7.4 Impacts

3.7.4.1 Impacts of No Action

The No Action Alternative would have no adverse effect on historic properties because existing conditions on FBNA and the project site would continue.

3.7.4.2 Impacts of the Proposed Action

Fort Belvoir has determined that no historic properties are present within the APE of the proposed NCE parking lot in accordance with 36 CFR § 800.4. The Fort Belvoir CRM initiated consultation with the Virginia SHPO under Section 106 to determine adverse effects on historic properties potentially resulting from the implementation of the Proposed Action Alternative. In a letter dated March 4, 2015 the SHPO concurred with Fort Belvoir's determination that no historic properties would be affected.

As noted above, the potential for unknown archaeological resources to be present within the APE is minimal. However, in the event of inadvertent discovery of archaeological resources during the construction of the proposed parking lot, all work would stop immediately and procedures outlined in Fort Belvoir's *Integrated Cultural Resource Management Plan* (ICRMP) for the protection of such resources would be implemented and followed. Thus, the Proposed Action Alternative would have no adverse impacts on archaeological resources at FBNA.

3.8 Hazardous Substances, Solid Waste and Unexploded Ordnance

This section describes the existing conditions of, and potential impacts on or resulting from, hazardous materials, hazardous substances and solid waste on FBNA and the project site. Unless otherwise noted, the information in this section is drawn from the *Fort Belvoir Real Property Master Plan Update EIS* (Fort Belvoir 2014a).

3.8.1 General

Hazardous materials are defined by 49 CFR 171.8 as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions" in 49 CFR 173. Transportation of hazardous materials is regulated by the US Department of Transportation regulations within 49 CFR Parts 105–180.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC §6903(5), as amended by the Hazardous and Solid Waste Amendments, as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

In addition to threatening human health and well-being, the improper release of or exposure to hazardous materials and wastes may also threaten wildlife, plants, fish, and their habitats, soil systems, and water resources. Localized conditions such as soil, topography, water resources, and climate may affect the extent of contamination from or exposure to hazardous substances.

Special hazards are those substances that might pose a risk to human health but are not regulated as contaminants under the hazardous wastes statutes. Special hazards include PCBs.

3.8.2 Hazardous Materials and Hazardous Wastes

3.8.2.1 Existing Conditions

FBNA

A total of 35 petroleum storage areas have been documented on FBNA. Of these, 18 were aboveground storage tanks and 17 were underground storage tanks. Nearly all of the tanks associated with these petroleum storage areas have been removed, and where releases were confirmed, initial abatement measures were performed. Site characterizations were also performed at the release sites and in all cases a letter of No Further Action (NFA) from VADEQ was received. Natural attenuation was the approved remedy for all sites based on the land use at the time the NFA letter was issued. Were the land use to change because of proposed development, the regulatory community may request additional investigations to provide current site condition data.

In September 2005, USEPA Region III issued a Resource Conservation and Recovery Act (RCRA) Section 3013 Unilateral Administrative Order that requires Fort Belvoir to investigate sites at FBNA and monitor, test, analyze, and report hazardous waste releases to USEPA Region III. Fort Belvoir identified and investigated potential releases of hazardous substances to the environment on FBNA. As of December 2013, a total of 70 sites were identified, 62 of which received NFA concurrence from the USEPA. Ten sites will require additional actions with regard to soil or groundwater contamination in accordance with CERCLA.

Project Site

Much of the eastern and southern portions of the project site are underlain by a plume of benzene contamination, referred to as Restoration Site CC-MPS2009. The contamination originated from petroleum storage tanks that were formerly located to the south of the project site. Multiple wells used to monitor the natural attenuation of the contaminants are located throughout the site, and land use controls are in effect that prohibit the withdrawal of groundwater for potable uses as well as the development of inhabited facilities.

There are no above-ground or underground petroleum storage tanks on the project site.

3.8.2.2 Impacts

Impacts of No Action

The No Action Alternative would have no impacts on hazardous materials or hazardous wastes on FBNA. Existing conditions would continue.

Impacts of the Proposed Action

The implementation of the proposed action would not impede the continuing remediation of the contaminant plume underlying the project site. The locations of all monitoring wells would be identified prior to the start of construction and would be incorporated into the design of the project, or relocated. Any existing monitoring wells identified for relocation would be closed in accordance with 12VAC5-630-450. Any such work would be coordinated with Fort Belvoir DPW as needed.

The presence of the contaminant plume would not pose a threat to the health of NCE employees parking on the lot because they would not be exposed to the constituents of the plume. Site workers would use appropriate PPE if geotechnical studies determined that exposure to soils during construction activities posed a health risk.

Soils excavated or otherwise disturbed during the project's construction phase would be tested in accordance with established Fort Belvoir policies and procedures. If concentrations of contaminants in soils are determined to exceed applicable regulatory thresholds for re-use on the site, any affected soils would be removed from the site and disposed of at a permitted facility off FBNA in accordance with Virginia Solid Waste Disposal Regulations as well as all other federal, state and local laws and regulations.

For these reasons, the implementation of the Proposed Action Alternative would have no adverse short-term or long-term impacts on or from hazardous materials and hazardous wastes.

3.8.3 Hazardous Substances

3.8.3.1 Existing Conditions

FBNA

Facilities on FBNA use a variety of hazardous substances such as paints, solvents, thinners, petroleum-based greases and lubricants, fertilizers, pesticides, herbicides and rodenticides as part of routine maintenance and upkeep operations. These substances are handled and applied by authorized personnel or staff and, when kept onsite, stored in secured rooms or cabinets that are not accessible to the general public. Empty or spent containers for these substances are managed in accordance with applicable DoD and Fort Belvoir policies and collected by a licensed contractor for disposal at off-post facilities. Larger quantities of these substances, such as fertilizers, pesticides, herbicides and rodenticides applied throughout the buildings or grounds of a particular facility, are mixed and stored offsite and applied by a licensed contractor in accordance with Fort Belvoir's integrated pest management (IPM) program. FBNA is considered a Conditionally Exempt Small Quantity Generator.

Project Site

No hazardous substances are stored on the project site. Fertilizers, pesticides and rodenticides are applied sparingly and on an as-needed basis.

3.8.3.2 Impacts

Impacts of No Action

Under the No Action Alternative, existing conditions on FBNA and the project site would continue. This would have no effect from hazardous substances.

Impacts of the Proposed Action

During the construction of the proposed parking lot, small quantities of hazardous substances would be used and stored on the project site. Such substances would be handled, applied and discarded in accordance with applicable Fort Belvoir policies. When not in use, hazardous substances would be stored in secured containers where the general public could not access them. The contractor would prepare and adhere to a spill prevention, control and countermeasures (SPCC) plan to establish practices that minimize the potential for accidental spills of petroleum products or other hazardous substances and procedures for containing and cleaning up any spills that may occur. Thus, short-term adverse impacts from hazardous substances would be negligible.

In the long term, no hazardous substances would be stored on the project site. Any such substances used as part of routine maintenance activities would be stored elsewhere, handled and applied by authorized personnel or licensed contractors, and discarded in accordance with applicable DoD and Fort Belvoir policies. Fertilizers, pesticides, herbicides and rodenticides would continue to be applied in accordance with Fort Belvoir's IPM program. Therefore, the implementation of the Proposed Action Alternative would result in no long-term adverse impacts from the use or storage of hazardous substances.

3.8.4 Polychlorinated Biphenyls

3.8.4.1 Existing Conditions

FBNA

Historically, PCBs were used in electrical equipment, primarily capacitors and transformers, because they are electrically nonconductive and stable at high temperatures. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain. The disposal of PCBs is regulated under the Toxic Substances Control Act, which banned their manufacture and distribution. By Federal definition, PCB equipment contains 500 ppm or more of PCB, whereas PCB-contaminated equipment contains PCB concentrations of more than 50 ppm but less than 500 ppm. USEPA regulates the removal and disposal of all sources of PCBs containing 50 ppm of PCBs or more.

Fort Belvoir surveys buildings and equipment scheduled for demolition and samples all transformers that are being taken offline for PCB content. Twenty pole- and pad-mounted transformers have been removed from, and another 55 have been sampled on, FBNA since 1990. Of these, only four had PCB concentrations of 50 ppm or greater. The Army considers Belvoir to be compliant with the Toxic Substances Control Act, but because of the size, complexity, and age of the electrical infrastructure at Belvoir, the possibility of encountering PCB-containing electrical equipment still exists.

Project Site

A pad-mounted transformer is located near the northeastern side of the IPO facility.

3.8.4.2 Impacts

Impacts of No Action

Existing conditions on FBNA and the project site would continue. There would be no adverse impacts from PCBs.

Impacts of the Proposed Action

During the construction of the proposed parking lot, the existing transformer on the project site, as well as any other equipment on the site suspected of containing PCB, would be tested and removed in accordance with applicable Fort Belvoir policies. Any new electrical equipment installed as part of the project would be PCB-free. For these reasons, there would be no short-term or long-term adverse impacts from PCBs resulting from the implementation of the Proposed Action Alternative.

3.8.5 Solid Waste

3.8.5.1 Existing Conditions

FBNA

Solid waste and recyclable items (such as paper and cardboard) generated by facilities on FBNA are collected by private, licensed contractors and disposed of at appropriate off-post facilities.

Project Site

No solid waste is generated on the project site, as the IPO facility is vacant and scheduled for demolition.

3.8.5.2 Impacts

Impacts of No Action

The No Action Alternative would have no impacts on solid waste. Existing conditions on FBNA and the project site would continue.

Impacts of the Proposed Action

The implementation of the Proposed Action Alternative would generate construction-related solid waste. At least 50 percent of construction waste would be recycled or reused in accordance with Fort Belvoir and Army policies to meet waste diversion requirements. Any non-recyclable waste would be discarded in an on-site construction refuse container and transported by a licensed contractor to an appropriate off-post facility for disposal. In the context of construction projects on Fort Belvoir and in the Northern Virginia region, any waste generated during the construction phase of the proposed action would be marginal. Thus, adverse short-term impacts on solid waste would be negligible.

In the long term, no solid waste would be generated by the operation of the proposed parking lot. Therefore, the Proposed Action Alternative would have no long-term adverse impacts on solid waste.

3.8.6 Unexploded Ordnance

3.8.6.1 Existing Conditions

FBNA

FBNA was historically used as a testing area for various types of explosive devices. Multiple cleanup activities have occurred on the property over the last several years, including those associated with the construction of NCE and the establishment of the IPO Facility, IPO Lot and North Subcontractor Parking Lot. However, due to the continuing potential presence of UXO, munitions and explosives of concern (MEC), and munitions constituents (MC) on less-developed areas of the property, the U.S. Army Environmental Command (USAEC) has designated the entirety of FBNA as a Munitions Response Site (MRS) to address continuing and future cleanup efforts within the framework of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 United States Code §§ 9601 *et seq*.) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300.400) (USACE 2014).

The Army has determined that the actual or potential presence of MEC and MC on FBNA may present an imminent and substantial endangerment to public health, welfare or the environment through “threat of fire or explosion” (40 CFR 300.415[b][2][vi]). Possible exposure is limited to installation personnel, contractors, visitors, and trespassers. MEC exposure is a safety concern, while MC could expose personnel and others to contaminants. Future actions to address their cleanup and removal from the property are considered non-time critical removal actions (NTCRA). Therefore, to restrict personnel and the general public from MEC and MC on FBNA Fort Belvoir, in coordination with VADEQ, is in the process of developing and implementing land use controls (LUC) that will be used on an interim basis until permanent remedial actions under the Military Munitions Response Program (MMRP) are selected and implemented (anticipated in approximately fiscal year 2017), or when a particular MRS is recommended for NFA (USACE 2014).

Land use controls being considered for undeveloped areas and areas identified for potential redevelopment on FBNA include:

- **Restrictions on Land Use:** MRS (and soil or gravel from MRS) should not be used for residential purposes, daycares, hospitals, or schools.
    - *Media-specific restriction*: Prohibit or otherwise manage digging (already in effect; see below).
    - *Restrict land use*: No new daycare, hospital, school or residential use without appropriate review of installation Master Plan and application of safety requirements, possibly including UXO construction support (i.e., qualified on-site or on-call observers trained to identify UXO, MEC and/or MC and implement appropriate safety, neutralization and/or removal methods).
- **Notations in Master Plan:** The installation Master Plan will be updated to include information regarding the potential MC and/or MEC hazards MRSs.
- **Excavation Permits** (already in effect)**:** Fort Belvoir DPW reviews all development plans and requires that an excavation permit be obtained for all earth-disturbing work. Explosive ordnance disposal (EOD) support is also required for areas that have known or potential MEC.
- **Public Advisories:** Periodic advisories will be issued to remind military and civilian personnel (including families) of the potential presence of MEC and/or MC.
- **Improved Placement of Signs:** Signage will be added at the perimeter of each MRS on the installation (including FBNA) to supplement existing fencing or barriers, or in lieu of fencing/barriers in areas where the degree of risk is low.
- **Monitoring and Enforcement:** The MRSs at Fort Belvoir will be reviewed annually to ensure that LUCs remain effective and land use has not changed.

Project Site

The site of the proposed parking lot has undergone extensive previous disturbance, most recently for site grading and preparation for the construction of the IPO facility and establishment of the IPO Lot and North Subcontractor Parking Lot. However, consistent with its location on FBNA, a potential for exposure to UXO, MEC and/or MC remains. As with other areas of FBNA, digging and excavation activities on the site are prohibited without a permit from Fort Belvoir DPW.

3.8.6.2 Impacts

Impacts of No Action

Existing conditions on FBNA and the project site would continue under the No Action Alternative. This would have no effect on UXO, MEC and MC or applicable LUCs.

Impacts of the Proposed Action

Fort Belvoir DPW would review the project's construction plans and existing documentation for the site to determine the potential for worker exposure to UXO, MEC or MC. Once cleared by DPW, an excavation permit would be issued to the construction contractor; however, depending on the results of the project review by DPW the presence of UXO or EOD support may be

required during some or all of the project's construction phase. Compliance with these requirements and other requirements stipulated by DPW would ensure that risks from worker exposure to UXO, MEC or MC remain low. Therefore, short-term adverse impacts from UXO, MEC or MC would be negligible.

Following the completion of construction activities, the operation of the proposed parking lot would have no potential to expose individuals to UXO, MEC or MC. For this reason, there would be no long-term adverse impacts from these materials under the proposed action.

3.9 Utilities

This section describes the existing conditions of and potential impacts on electrical service and the electrical distribution network on FBNA.

3.9.1 Electricity

3.9.1.1 Existing Conditions

FBNA

Dominion Virginia Power provides electrical service to FBNA and maintains distribution lines on the property. Transmission lines and a recently-built substation off FBNA have capacity to support some additional development. No system upgrades are planned for FBNA in the near term.

Project Site

Overhead electrical transmission lines suspended between wooden poles run along the northern and western sides of the IPO Lot and supply power to the IPO facility.

3.9.1.2 Impacts

Impacts of No Action

The No Action Alternative would have no impacts on electrical service on the project site because existing conditions would continue.

Impacts of the Proposed Action

Overhead electrical transmission lines crossing the project site and their respective poles would be removed prior to the implementation of the proposed action. Thus, the proposed action would have no short-term adverse impacts on electrical service on FBNA.

The proposed parking lot would include new overhead LED lamps mounted on 35-foot poles in selected locations. Lighted handrails would also be included on the three pedestrian bridges to be constructed over the stormwater management basin. A buried electrical distribution network with adequate capacity for the new lighting would be installed during the project's construction phase. It is anticipated that the electrical system on FBNA would have sufficient demands for the new

lighting associated with the proposed parking lot. Use of the lighting would be limited to overnight hours primarily outside of peak usage periods, further minimizing the demand on the FBNA electrical system. For these reasons, impacts on FBNA's electrical system resulting from the Proposed Action Alternative would be negligible.

3.10 Cumulative Impacts

Cumulative impacts are "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over time by various agencies (federal, state, and local) or private parties.

The scope of the cumulative effects analysis involves both the timeframe and geographic extent in which effects could be expected to occur, as well as a description of what resources could potentially be cumulatively affected. Considering the relatively small scale of the proposed action and its minimal potential to affect off-post resources, the geographic extent of this cumulative effects analysis consists of FBNA. The timeframe of the analysis is restricted to projects likely to occur on FBNA within the next five years.

Recently completed projects on FBNA are factored into the existing conditions and impacts analysis for each resource area evaluated in this chapter. Two reasonably foreseeable projects are currently planned for FBNA:

- **NCE Working Animal Support Building (WASB):** This project would be built at the Remote Inspection Facility on the southwestern side of FBNA and would consist of a 672-square foot climate controlled kennel building; a 19,580-square foot exercise yard; and the reconfiguration of 431 square feet of existing interior space. The WASB would provide dedicated areas for veterinary care, grooming, training, exercise and rest of working dogs used for vehicle inspection and other duties on FBNA.
- **Demolition of the IPO facility:** Two modular buildings located on the northwestern portion of the project site are scheduled for removal in 2015 as part of an action unrelated to the proposed action evaluated in this EA. The buildings have a combined footprint of approximately 28,000 square feet and were formerly used for office and administrative space to support the construction of NCE. Fort Belvoir determined that the removal of these facilities is categorically excluded under the provisions of CX (C)(2), AR 200-2, 32 CFR Part 651, Appendix B, Section 2. A RONA has also been prepared for this project because emissions from the demolition activities would remain below applicable conformity thresholds for criteria pollutants.

The construction of the WASB and demolition of the IPO facility could potentially have short-term adverse impacts on transportation (increased traffic congestion from construction-related vehicles); air quality (increased emissions from construction equipment and construction-related vehicles traveling to and from the project site); and water quality (increased erosion of soils exposed during construction and corresponding increase in sedimentation of receiving water bodies from sediments carried in stormwater). In addition, the construction of the WASB would

likely have adverse impacts from hazardous substances (substances used during the construction of the facility). It is likely that short-term adverse impacts resulting from these projects would be typical of similarly-sized projects and would remain negligible or minor.

Adverse impacts potentially resulting from the long-term operation of the WASB could include transportation (increased traffic congestion from employee vehicles); air quality (increased emissions from heating boilers and emergency generators); water quality (increased stormwater runoff from increase in impervious surface on the site [approximately 672 square feet]); and hazardous substances (substances used for canine care and routine facility maintenance activities). The demolition of the IPO facility would have no long-term adverse impacts on any of these resources because it would result in no additional traffic or new emissions, and because the quantity of impervious surface on the site (i.e., the compacted soils and gravel underlying the trailers) would remain the same. Considering the limited size and scope of these projects, it is likely that long-term adverse impacts would remain negligible or minor. Therefore, the construction and operation of the proposed parking lot, when considered with impacts potentially resulting from the WASB and demolition of the IPO facility, would contribute negligibly to cumulative adverse impacts on the human and natural environment and would not be significant.

As noted in Section 3.1.2.1, *Existing Conditions* the site of the proposed parking lot is included within a larger, 84-acre parcel identified for future long-term development (beyond 2018) of a secure administrative campus similar in size and staffing to NCE, or several smaller tenants. Any future development occurring in this area of FBNA would be the subject of future NEPA analysis, which would incorporate the proposed NCE Parking Lot into its impact analysis. Therefore, it cannot be determined at this time whether the proposed action evaluated in this EA would contribute to cumulatively significant impacts on the human and natural environment when considered with future long-term development on FBNA.

4 Findings and Conclusions

4.1 Unavoidable Adverse Impacts

Unavoidable impacts are those that would result from the construction and operation of the proposed parking lot. Impacts resulting from the No Action Alternative and Proposed Action Alternative are presented in Chapter 3. Impacts of the No Action Alternative and Proposed action Alternative are summarized in Table 4.1-1 using a numerical scale, with 0 representing no or negligible adverse impacts and 4 representing significant adverse impacts. Beneficial impacts are indicated with a (+)

Table 4.1-1: Summary of Impacts

Resource	No Action	Proposed Action	
		ST*	LT*
Land Use, Plans and Coastal Zone Management			
Land Use	0	1	0
Plans	0	0	0
Coastal Zone Management	2	C	C
Transportation			
On-Post Transportation Network			
Vehicular Circulation	0	1	0
Vehicular Access	0	1	0
Parking	3	1	+
Mass Transit	0	1	0
Pedestrian and Bicycle Facilities	0	1	0
Fort Belvoir and NGA TMPs	3	0	+
Off-Post Transportation Network			
Vehicular Circulation	0	1	0
Parking	0	1	0
Mass Transit	0	1	0
Pedestrian and Bicycle Facilities	0	1	0
Air Quality	0	2	0
Water Resources			
Watersheds	0	0	0
Surface Water	1	1	1
Groundwater	0	1	1
Stormwater	2	2	1
Biological Resources			
Vegetation	0	1	1
Wildlife	0	2	1
Wetlands	2	1	0
Habitat Areas	0	1	1
Mitigation Sites	+	1	1
Threatened and Endangered Species	0	0	0

Resource	No Action	Proposed Action	
		ST*	LT*
PIF Species	+	2	1
Geological Resources			
Geology	0	0	0
Topography	0	1	1
Soils	2	1	1
Cultural Resources	0	0	0
Hazardous Materials and Solid Waste			
Hazardous Materials and Hazardous Waste	0	0	0
Hazardous Substances	0	1	0
Polychlorinated Biphenyls	0	0	0
Solid Waste	0	1	0
Unexploded Ordnance	0	1	0
Utilities (Electrical Distribution Network and Capacity)	0	0	1
Cumulative Impacts	0	1	

Notes:
0 = no adverse impact; 1 = negligible adverse impact; 2 = minor impact; 3 = moderate impact; 4 = significant impact; (+) = beneficial impact; C = consistent, to the maximum extent practicable
* ST = Short-term impact; LT = Long-term impact

As summarized in Table 4.1-1, the No Action Alternative and Proposed Action Alternative would predominantly have no or negligible adverse impacts and no more than moderate adverse impacts on the human and natural environment. In addition, the No Action Alternative would have beneficial impacts on individual specimens of PIF species of concern, while the Proposed Action Alternative would have beneficial impacts on on-post parking and the Fort Belvoir and NGA TMPs.

4.2 Best Management Practices and Mitigation Measures

The No Action Alternative and the Proposed Action Alternative would result in no more than minor adverse impacts on the human or natural environment. Erosion and sediment control measures, BMP and mitigation measures will be incorporated into the construction and operation of the proposed parking lot when applicable to minimize adverse impacts. These measures are discussed in the following paragraphs.

Air Quality: Fugitive dust generated during construction will be minimized using BMP such wetting or vegetating soils that would be exposed for extended periods; covering equipment used to convey fill or excavated soils; and promptly removing spilled or tracked dirt from paved areas.

Soils: Because the project is located in a Chesapeake Bay Preservation Area and would disturb more than 2,500 square feet of soils, the contractor would be required to prepare an erosion and sediment control plan in compliance with the Virginia Erosion and Sediment Control Law (9VAC25-840) and in conformance with the *Virginia Erosion and Sediment Control Handbook, Third Edition, 1992*. The plan would be submitted to Fort Belvoir

for review and approved by VADEQ's Northern Regional Office (NRO). The contractor would also prepare a construction SWPPP to minimize the sedimentation of downstream receiving water bodies and obtain from VADEQ a General Permit for the Discharge of Stormwater from Construction Activities (Construction General Permit) in compliance with the requirements of the Virginia Stormwater Management Program. Erosion and sediment control measures specified in these documents would be implemented to minimize impacts from soil erosion during the project's construction phase.

Water Resources: To minimize construction-related impacts on surface water quality, the construction contractor will implement erosion and sediment control measures as specified in the Construction General Permit and construction SWPPP. Such measures would include erecting silt fences; the use of storm drain inlet protection devices; and providing stabilized entrances for construction vehicles. The project would comply with the stormwater management criteria consistent with the water quality provisions of the Virginia Stormwater Management Regulations (9VAC25-870), and with the general performance criteria set forth in 9VAC25-830-130 of the Chesapeake Bay Preservation Area Designation and Management Regulations,

In the long term, stormwater runoff generated on the proposed parking lot would be conveyed to the stormwater management basin (which would be created by modifying the existing temporary sediment basin along the north side of the project site). The stormwater management basin would be of sufficient size to contain the additional volume of stormwater generated as a result of the increase in impervious surface (approximately 3.7 acres) on the site. Vegetation within the stormwater management basin would filter pollutants carried in stormwater flows from vehicles parked on the proposed lot. The use of LID measures in the parking lot, such as permeable pavement and vegetated swales between the parking rows, would provide additional filtration of pollutants and sediments in stormwater generated on the parking lot. Capturing stormwater in the stormwater management basin would ensure that the volume, velocity and temperature of stormwater ultimately discharged to receiving downstream water bodies would not increase.

NGA is considering the use of permeable pavement on approximately 50 percent of the proposed parking lot as an option to paving the lot entirely with asphalt. Under this option, permeable pavement would be used for parking spaces. It is anticipated that this option, if selected by NGA, would reduce the volume of stormwater generated on the site by approximately 50 percent because permeable pavement would enable a larger volume of precipitation to percolate into soils underlying the site of the proposed parking lot.

In accordance with Section 438 of the EISA, NGA would use LID techniques to the maximum extent technically feasible to maintain the pre-development hydrology of the project site.

Biological Resources: Fort Belvoir will use the Army's Programmatic Informal Consultation for the federally-threatened northern long-eared bat when screening upcoming construction projects – including the proposed action – and will conduct local Section 7 Consultation for any project that does not meet the criteria for "not likely to adversely affect" the species. In addition, Fort Belvoir will conduct a survey to determine if the northern long-eared bat is present on the installation.

In accordance with vegetation restoration requirements for NGA specified in the 20 March 2008 USACE memorandum, NGA will plant 9 acres on the North Subcontractor Parking Lot following the completion of construction activities associated with the proposed action to restore areas of vegetation cleared outside the NCE limits of disturbance, including the site of the IPO facility, IPO Lot and North Subcontractor Parking Lot. In addition, NGA will develop a landscaping plan for the proposed parking lot that will specify the number and types of trees to be planted on the site. Vegetation to be planted will include native and/or drought-tolerant species. These planting requirements have been agreed to by Fort Belvoir DPW and NGA and are summarized as follows (Russell, pers. comm., 2014):

- Landscape size cedar trees: Originally planted at 20 trees per acre. Replanted on a 1 for 1 basis. Replacement trees do not have to be eastern red cedar.
- Pine seedlings: Originally planted at 480 seedlings per acre. Replanted on a 2 seedling per tree equivalent basis.

In accordance with Fort Belvoir's Tree Replacement Policy, NGA will also plant 2 new trees for every "volunteer tree" (i.e., those growing on the site that were not planted as mitigation) that would be lost through the implementation of the proposed action.

The cutting and removal of vegetation on the project site will not occur between April 1 and July 15 to minimize impacts on PIF species that may use those areas as nesting habitat. Alternatively, if disturbance of vegetation cannot be avoided in that time frame, Fort Belvoir DPW will conduct surveys for active bird nests and/or construction activities will avoid or minimize the disturbance of areas where such nests are located.

Solid Waste: The general contractor will recycle at least 50 percent of construction-related waste in accordance with Fort Belvoir and Army policies to meet waste diversion requirements. The contractor will submit monthly reports to Fort Belvoir DPW detailing recycled waste by description and weight.

UXO: Fort Belvoir DPW will review the project and, if determined necessary, will require the use of on-site UXO or EOD teams to monitor for the potential presence of unexploded munitions and implement clearing and removal methods.

4.3 Permits and Other Requirements

The general contractor will obtain the following permits and meet the following requirements prior to beginning construction on the proposed NCE parking lot:

- Apply for and obtain a Construction General Permit from VADEQ. Acquiring this permit requires the preparation of a construction SWPPP, which will be submitted to Fort Belvoir DPW for approval.
- Prepare an erosion and sediment control plan in accordance with the Virginia Erosion and Sediment Control Law (9VAC25-840) and submit to Fort Belvoir DPW for review and to VADEQ NRO for approval.

- Obtain an excavation permit from Fort Belvoir DPW. In addition to construction-related earth disturbance, an excavation permit is also required for any on-site geotechnical investigations conducted on the site prior to beginning construction.
- Prepare and adhere to a SPCC plan to establish practices that minimize the potential for accidental spills of petroleum products or other hazardous substances and procedures for containing and cleaning up any spills that may occur.
- NGA will prepare a landscape plan specifying the number and types of trees to be replanted to replace trees that would be lost through the implementation of the proposed action. The number and types of trees to be replanted would be based on the ratios agreed to by Fort Belvoir DPW and NGA, which are summarized as follows (Russell, pers. comm., 2014):

    - Landscape size cedar trees: Originally planted at 20 trees per acre. Replant on a 1 for 1 basis. Replacement trees do not have to be eastern red cedar.
    - Pine seedlings: Originally planted at 480 seedlings per acre. Replant on a 2 seedling per tree equivalent basis.

    In accordance with Fort Belvoir's Tree Replacement Policy, NGA would also plant two new trees for every "volunteer tree" (i.e., those growing on the site that were not planted as mitigation) that would be lost through the implementation of the proposed action.

    Following the completion of the proposed parking lot, NGA will plant approximately 9 acres on the North Subcontractor Parking Lot. This restoration would be in compliance with the terms of the 20 March 2008 memorandum in which USACE committed to Fort Belvoir's tree replacement requirement by agreeing to restore areas of vegetation cleared outside the NCE limits of disturbance, including the site of the IPO facility, IPO Lot and North Subcontractor Parking Lot, to their original condition or better to replace trees and vegetation lost as a result of that disturbance. Vegetation to be planted will include native and/or drought-tolerant species.

- Obtain permits for road closures, after-hours work and/or weekend work from Fort Belvoir DPW if any such work is anticipated.

4.4 Conclusion

The proposed action would have no significant adverse impacts on the human and natural environment, and the preparation of an environmental impact statement (EIS) is not required. Therefore, a Finding of No Significant Impact (FNSI) will be prepared in accordance with 32 CFR 651.34(g) and 33 CFR 230.11.

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6 Preparers and Reviewers

Craig Carver, AICP, Environmental Planner/Urban Planner: 5 years of experience in environmental planning and impact assessment. Virginia Commonwealth University, BA, Music; Virginia Commonwealth University, Master of Urban and Regional Planning.

Krista Kehrer PMP, Project Manager: 20 years of experience in programming, space planning, strategic planning, interior design, relocation planning and project management. Primary focus has been in the federal sector. Radford University, BS, Interior Design.

John Maier, Project Scientist: 20 years of experience in environmental planning and impact assessment. Northland College, BA, Biology

Brooke D. Perrigo, GIS Specialist/Environmental Planner: 3 years of experience in environmental planning and mapping using GIS. State University of New York, Albany, BS, Environmental Science and Geography; Certificate, Geographic Information Systems and Spatial Analysis; Johns Hopkins University, MS, Environmental Planning and Management.

Bob Priest, PE, DBIA, Project Director: 30 years of experience in client management and development as well as the management of architecture and engineering projects. Virginia Polytechnic Institute and State University, BS, Civil Engineering.

Steve Schad, PE, Civil Engineer: 8 years of experience in civil engineering and stormwater management. Virginia Tech, BS, Civil Engineering.

Conley Taylor PE, Senior Civil /Site Engineer: 44 years of experience including all aspects of site design, storm water management, erosion control, plan review, and field inspection. Wytheville Community College, AAS, Drafting and Design Technology.

Fang Yang, Senior Air and Noise Engineer: Over 20 years of experience preparing air quality and noise assessments for NEPA documents. Fudan University, BS, Physics; New York University, MS, Atmospheric Science.

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APPENDIX A – AGENCY COORDINATION

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FINAL ENVIRONMENTAL ASSESSMENT
CONSTRUCTION AND OPERATION OF PARKING LOT
at
NATIONAL GEOSPATIAL-INTELLIGENCE CAMPUS EAST
FORT BELVOIR NORTH AREA
FAIRFAX COUNTY, VIRGINIA

DISTRIBUTION OF THE FINAL EA

United States Government Agencies	
Ms. Genevieve LaRouche Supervisor Chesapeake Bay Field Office U.S. Fish and Wildlife Service 117 Admiral Cochrane Drive Annapolis, MD 21401-7307	Mr. John A. Bricker State Conservationist Natural Resources Conservation Service U.S. Department of Agriculture 1606 Santa Rosa Road, Suite 209 Richmond, VA 23229-5014
Ms. Karen Delgrosso U. S. Environmental Protection Agency NEPA-Federal Facilities Director, Region III Attn: 3EC00 – NEPA 1650 Arch Street Philadelphia, Pennsylvania 19103	Ms. Cindy Schulz Supervisor, Virginia Field Office U.S. Fish and Wildlife Service 6669 Short Lane Gloucester, VA 23061
Mr. Marcel C. Acosta Executive Director National Capital Planning Commission 401 9th Street, NW North Lobby, Suite 500 Washington, DC 20004	Ms. Barbara Smith U. S. Environmental Protection Agency, Region III Attn: 3LC20 1650 Arch Street Philadelphia, Pennsylvania 19103
State Agencies	
Ms. Ellie Irons Program Manager Office of Environmental Impact Review Virginia Department of Environmental Quality 629 East Main Street P.O. Box 1105 Richmond, VA 23219	Mr. Charles Cunningham Virginia Department of Game and Inland Fisheries 1320 Belman Road Fredericksburg, Virginia 22401
Ms. Beth Reed Virginia Department of Conservation and Recreation 600 E. Main St., 24th Floor Richmond, Virginia 23219	Ms. Reta Busher Virginia Department of Transportation Chief, Planning Section 14685 Avion Parkway Chantilly, Virginia 20151
Ms. Laura McKay Program Manager Virginia Coastal Zone Management Program Virginia Department of Environmental Quality 629 East Main Street P.O. Box 1105 Richmond, VA 23219	(blank)
Regional Agencies	
Ms. Aimee Vosper Director, Environmental and Planning Services Northern Virginia Regional Commission 3060 Williams Drive, Suite 510 Fairfax, VA 22031	(blank)

Local Government	
Fairfax County	
Ms. Kathy Ichter Fairfax County Department of Transportation 4050 Legato Road Suite 470.16 Fairfax, Virginia 22033	Mr. Fred R. Selden Director Fairfax County Department of Planning and Zoning 12055 Government Center Parkway Fairfax, VA 22035-5505
Mr. David Bowden Director Planning and Development Division Fairfax County Park Authority 12055 Government Center Parkway, Suite 406 Fairfax, VA 22035	Mr. Brett Kenney Chief Aide, Mount Vernon District Fairfax County Board of Supervisors 2511 Parkers Lane Alexandria, Virginia 22306
Non-Governmental Organizations	
Ms. Patricia Soriano Mount Vernon Group, Sierra Club 5405 Barrister Place Alexandria, VA 22304	Ms. Jane Hilder Chair, Lee District Association of Civic Organizations Franconia Governmental Center 6121 Franconia Road Alexandria, VA 22310
Mr. Ron Fitzsimmons Co-Chair, Mount Vernon Council of Citizens' Associations P.O. Box 203 Mount Vernon, VA 22121-0203	Mr. Nick Firth President South County Federation P.O. Box 442 Mason Neck, VA 22199-0442
Ms. Stella Koch Northern Virginia Environment Network 1056 Manning Street Great Falls, VA 22066	Mr. Nathan Lott The Virginia Conservation Network 422 East Franklin Street, Suite 303 Richmond, Virginia 23219
Ms. Judy Harbeck Mount Vernon Council of Citizens' Associations P.O. Box 203 Mount Vernon, VA 22121-0203	Mr. Philip Latasa Friends of Accotink Creek 127 Poplar Road Fredericksburg, VA 22406-5022
Mr. Perry McDonald The Audubon Society of Northern Virginia 11100 Wildlife Center Dr. Suite 100 Reston, Virginia 20190	(blank)
Historical and Cultural Agencies and Properties	
Faye McKinney Virginia Department of Conservation and Recreation Natural Heritage 600 E. Main St., 24th Floor Richmond, Virginia 23219	Mr. Marc E. Holma Architectural Historian Office of Review and Compliance Virginia Department of Historic Resources 2801 Kensington Avenue Richmond, VA 23221
Ms. Deanna Beacham Virginia Council on Indians P.O. Box 1475 Richmond, Virginia 23218	(blank)
Elected Officials	
Commonwealth of Virginia and Local Elected Officials	
Honorable Jeffrey C. McKay Lee District Supervisor Fairfax County Board of Supervisors Franconia Governmental Center 6121 Franconia Road Franconia, VA 22310-2508	Honorable Gerald Hyland Mount Vernon District Supervisor Fairfax County Board of Supervisors Mount Vernon Government Center 2511 Parkers Lane Alexandria, VA 22306
Honorable Pat Herrity Springfield District Supervisor Fairfax County Board of Supervisors West Springfield Governmental Center 6140 Rolling Road Springfield, VA 22152-1580	(blank)

Public Libraries	
Fairfax County Public Library Lorton Branch 9520 Richmond Highway Lorton, VA 22079-2124	Fairfax County Public Library Kingstowne Branch 6500 Landsdowne Centre Alexandria, VA 22315-5011
Fairfax County Public Library Sherwood Regional Branch 2501 Sherwood Hall Lane Alexandria, VA 22306-2799	(blank)
Interested Parties	
Ms. Patricia Tyson 8641 Mount Vernon Highway Alexandria, VA 22309	Mr. Michael Devlin 5920 Mount Vernon Boulevard Mason Neck, Virginia 22079
Ms. Vicki McLeod 7928 Central Park Circle Alexandria, Virginia 22309	(blank)

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NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
7500 GEOINT Drive
Springfield, Virginia 22150

U-2013-0305-SI

MAY 1 6 2013

MEMORANDUM FOR COMMANDER, UNITED STATES ARMY GARRISON,
FORT BELVOIR, VIRGINIA

SUBJECT: Request to Improve the Fort Belvoir North Area (FBNA) Overflow Parking Lot

1. The National Geospatial-Intelligence Agency (NGA) requests permission to improve the existing FBNA temporary overflow parking lot by installing paved surfaces, lighting, and storm water management features. While paving the lot is not intended to be a permanent solution, the current sequestered budget environment may prevent NGA from constructing a permanent structured parking garage solution within the foreseeable future. However, NGA will continue to seek Military Construction authorization and funding for an addition to the existing structured parking garage within the NGA fence line to support the authorized assigned population at NGA New Campus East.

2. Justification. Converting the gravel to paved surface at the overflow lot will address several existing concerns:

a. The installation of lighting and striped pedestrian pathways will improve pedestrian safety.

b. A paved service will improve air quality by reducing the persistent airborne dust pollution resulting from vehicular traffic on the unpaved lot.

c. Storm water management features will control runoff velocity and reduce erosion to improve water quality.

d. The consolidation of the two parking areas into a single, more efficient layout will reduce land area used for overflow parking, a reduction of more than 40 percent (from 9.50 to 5.25 acres).

e. We will restore the north subcontractor lot and adjacent areas to natural landscape sooner than currently planned, which will improve the appearance of the FBNA.

3. Responsibilities. Upon approval of this request, NGA will:

a. Provide full funding for all costs associated with the improvement project.

b. Coordinate with Baltimore District, U.S. Army Corps of Engineers, to design and construct the improvements in accordance with the FBNA Installation Design Guide. As part of the design of the lot improvements, the Architect/Engineer will be directed to

U-2013-0305-SI

SUBJECT: Request to Improve the Fort Belvoir North Area (FBNA) Overflow Parking Lot

include specifications for the removal of the improvements and restoration of the area (to be executed upon completion of a permanent structured parking solution within the NGA fence line).

c. Schedule the improvements to coincide with the removal of the Integrated Program Office compound in early 2014.

d. Landscape the area in accordance with the FBNA Installation Design Guide.

e. Share the parking space with the Fort Belvoir community (NGA acknowledges that this lot is not for our exclusive use).

f. Remove the paved surfaces and associated hardscape improvements, and restore the area to a natural state (grade and seed) not later than 18 months from receipt of written notification from the Fort Belvoir Garrison Commander.

4. NGA has prepared a DD Form 1391 for the improvement of the existing temporary surface parking lot and included a wedge in the FY15 budget request for this FBNA Overflow Parking Lot improvement project.

5. Favorable consideration of this request will provide NGA employees with a safer temporary parking area; a more environmental friendly solution; and result in a FBNA that is truly beautiful to see consistent with the other parcels of this Army Garrison.

6. My point of contact for this action is David J. Farace, Director, Facility Program Office (SIF), 571-557-4404) or David.J.Farace@nga.mil.

J. Composto
Brigadier General, USMC (Ret.)
Director, Security and Installations Directorate

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

IMBV-PW

29 July 2013

MEMORANDUM FOR Director, National Geospatial-Intelligence Agency (U-2013-0305-SI/David J. Farace), 7500 GEOINT Drive, Springfield, VA 22150

SUBJECT: Request to Improve the Fort Belvoir North Area (FBNA) Overflow Parking Lot

1. Reference: Memorandum, NGA, U-2013—0305-SI, 16 May 13, SAB (enclosure 1).

2. Your request for National Geospatial-Intelligence Agency (NGA) to improve the temporary overflow parking of approximately 900 spaces/7 acres of temporary, surface overflow parking at the location indicated in enclosure 2 is approved. Improvements are to include paving, 50 percent of which is to be permeable, storm water management features, LED lighting, tree islands, and pedestrian sidewalks. The Directorate of Public Works will work with NGA to document the current staffing level and comply with the National Environmental Policy Act. NGA will provide information in support of National Capital Planning Commission review and concurrence. Immediately upon completion of the consolidated temporary parking facility, the approximately 4.25 vacated acres of existing temporary parking will be restored. Although the temporary surface parking will not be for the sole use of NGA, NGA will be responsible for its operation and maintenance including the cost of utilities.

3. It is understood the improved surface parking is temporary and NGA will seek authorization and appropriation of Military Construction funds for an addition to its parking garage. NGA will plan, design, program, and budget for the removal of these improvements and the restoration of the area immediately upon completion of the parking garage addition. NGA will, not later than 24 months from written notification from the Fort Belvoir Garrison Commander, remove the paved surfaces and associated hardscape improvements and restore the area to a natural state (seed and straw).

4. Point of contract is Bill Sanders, Director, Public Works, at 703-806-3017, email: William.l.sanders34.civ@mail.mil.

Encls

GREGORY D. GADSON
Colonel, FA
Commanding

"LEADERS IN EXCELLENCE"

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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

Directorate of Public Works

SUBJECT: Section 106 Consultation; National Geospatial-Intelligence Agency New Campus East Parking Lot, Fort Belvoir, Virginia

Mr. Marc Holma
Architectural Historian
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

The National Geospatial-Intelligence Agency proposes to construct and operate a 900-space, seven-acre parking lot adjacent to the New Campus East (NCE) on the Fort Belvoir North Area. The undertaking involves the construction of the parking lot and the demolition of Building 5060, a temporary modular trailer. The proposed parking lot would enable NCE to provide sufficient parking for employees, consolidate existing overflow parking areas, and improve safety and environmental conditions. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the proposed parking lot (map enclosed).

Fort Belvoir previously conducted both archaeological and architectural surveys of NCE and determined no historic properties are present, and State Historic Preservation Office concurred with Fort Belvoir's determination (VDHR files No. 90-0901-F and No. 2007-0250). The proposed parking lot would be built on a seven-acre, previously-disturbed site at the intersection of Barta Road and Geoint Drive. Building 5060 was erected in 2007 during the construction of the NCE buildings, which were completed in 2010. Building 5060 is under 50 years of age and lacks the exceptional significance required for National Register listing.

Fort Belvoir has determined that no historic properties are present within the APE of the proposed NCE parking lot [36 CFR § 800.4]. Please provide comment on our determination that no historic properties are present in accordance with 36 CFR § 800.4(d). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned.

Point of contact is Ms. Kelly Lease, Acting Environmental Compliance Branch Chief, at 703-806-0020.

Sincerely,

for Bill Sanders
Director

Enclosures

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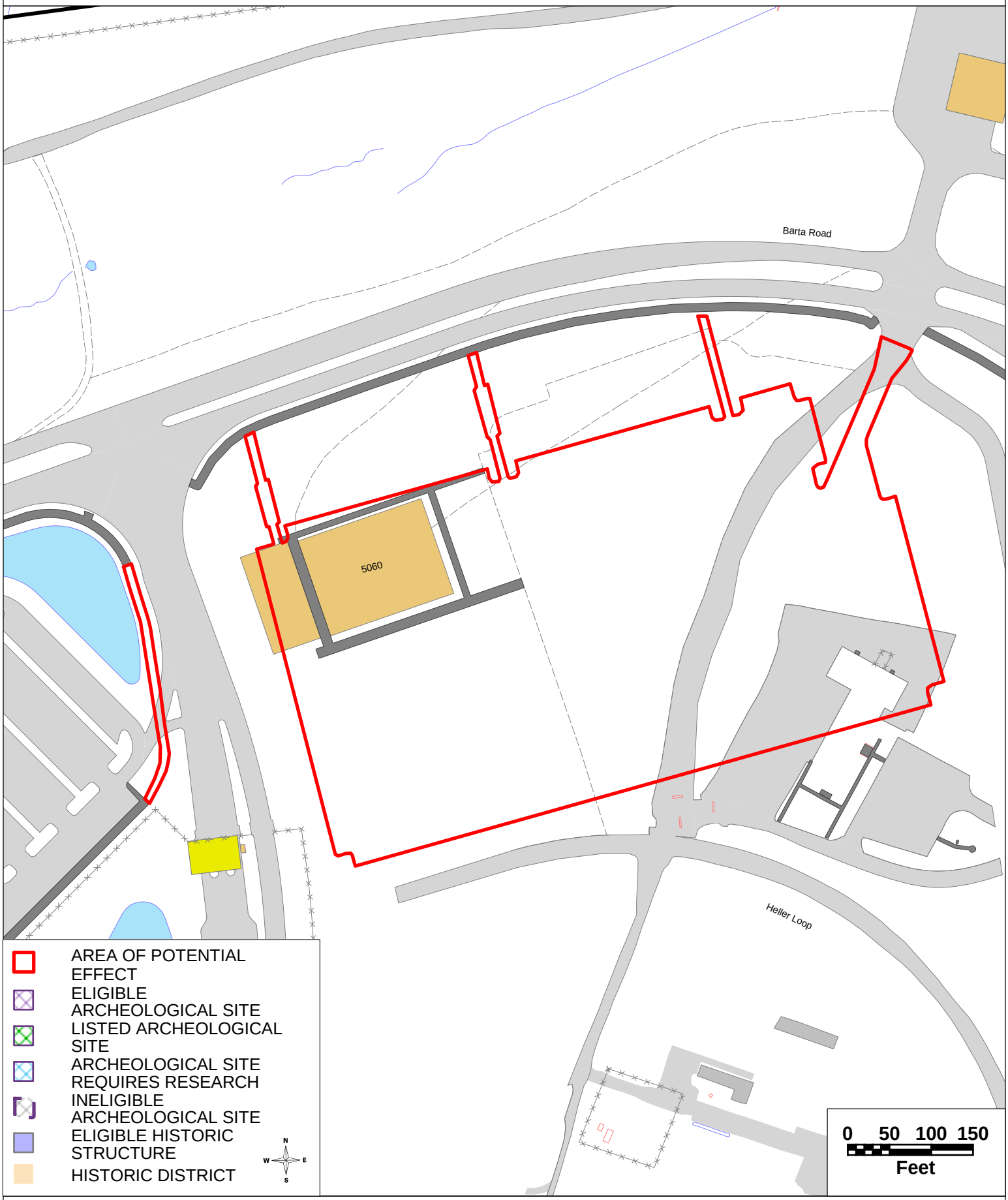
FORT BELVOIR - AREA OF POTENTIAL EFFECT - NCE PARKING LOT



FORT BELVOIR GIS CENTER T: 703.806.0073 MAPID: 7883

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US Army Garrison Fort Belvoir

Section 106 Consultation; National Geospatial-Intelligence Agency New Campus East Parking Lot, Fort Belvoir, Virginia

VDHR File #: 2015-0152

VDHR has reviewed the above referenced project and concurs with the Army's determination of No Historic Properties Affected.

Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

4 MARCH 15
Date

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, Virginia 23061

Date: 10/8/2014

Online Project Review Certification Letter

Project Name: NCE Parking Lot

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in “no effect” and/or “not likely to adversely affect” determinations for listed species and critical habitat and/or “no Eagle Act permit required” determinations for eagles regarding potential effects of your proposed project. We certify that the use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” and “not likely to adversely affect” determinations for listed species and critical habitat and “no Eagle Act permit required” determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of listed species, critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for one year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Kimberly Smith of this office at (804) 693-6694, extension 124.

Sincerely,

/s/ Cynthia A. Schulz

Cindy Schulz
Supervisor
Virginia Field Office

Enclosures - project review package

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Tracking Number: 05E2VA00-2015-SLI-0059 October 08, 2014
Project Name: NCE Parking Lot

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: NCE Parking Lot

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Tracking Number: 05E2VA00-2015-SLI-0059
Project Type: Development
Project Description: A 7-ac paved parking lot is proposed for construction on Fort Belvoir North Area (FBNA), Fairfax County, VA. The parking lot would include grading and excavation for utilities; pavement markings; overhead lighting; fencing to control access and pedestrian circulation; and stormwater management features including vegetated swales, permeable pavement, and detention/retention pond(s). The site currently consists of a vacant permeable area and approximately 28K-SF temporary/modular building.

United States Department of Interior
Fish and Wildlife Service

Project name: NCE Parking Lot

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-77.1937398 38.7574687, -77.1919373 38.7579205, -77.1910361 38.7579962, -77.1904246 38.7579126, -77.1893624 38.7542815, -77.1931819 38.754256, -77.1937398 38.7574687)))

Project Counties: Fairfax, VA

United States Department of Interior
Fish and Wildlife Service

Project name: NCE Parking Lot

Endangered Species Act Species List

There are a total of 0 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.

United States Department of Interior
Fish and Wildlife Service

Project name: NCE Parking Lot

Critical habitats that lie within your project area

There are no critical habitats within your project area.

U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Project Name:

NCE Parking Lot

U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:

Project Counties:

Fairfax, VA

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-77.1937398 38.7574687, -77.1919373 38.7579205, -77.1910361 38.7579962, -77.1904246 38.7579126, -77.1893624 38.7542815, -77.1931819 38.754256, -77.1937398 38.7574687)))

Project Type:

Development

U.S. Fish and Wildlife Service

Trust Resources List

Endangered Species Act Species List (USFWS Endangered Species Program).

There are no listed species found within the vicinity of your project.

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges (USFWS National Wildlife Refuges Program).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds (USFWS Migratory Bird Program).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:
http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: http://www.fws.gov/migratorybirds/CCMB2.htm.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:
http://www.fws.gov/migratorybirds/CCMB2.htm.

U.S. Fish and Wildlife Service

Trust Resources List

Migratory birds of concern that may be affected by your project:
There are **19** birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to the ECOS Help Desk.

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American Oystercatcher (*Haematopus palliatus*)	Yes	species info	Year-round
American bittern (*Botaurus lentiginosus*)	Yes	species info	Wintering
Bald eagle (*Haliaeetus leucocephalus*)	Yes	species info	Year-round
Black-billed Cuckoo (*Coccyzus erythropthalmus*)	Yes	species info	Breeding
Blue-winged Warbler (*Vermivora pinus*)	Yes	species info	Breeding
Fox Sparrow (*Passerella liaca*)	Yes	species info	Wintering
Kentucky Warbler (*Oporornis formosus*)	Yes	species info	Breeding
Least Bittern (*Ixobrychus exilis*)	Yes	species info	Breeding
Pied-billed Grebe (*Podilymbus podiceps*)	Yes	species info	Breeding
Prairie Warbler (*Dendroica discolor*)	Yes	species info	Breeding
Prothonotary Warbler (*Protonotaria citrea*)	Yes	species info	Breeding
Purple Sandpiper (*Calidris maritima*)	Yes	species info	Wintering
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	Yes	species info	Year-round
Rusty Blackbird (*Euphagus carolinus*)	Yes	species info	Wintering

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Trust Resources List

Short-billed Dowitcher (*Limnodromus griseus*)	Yes	species info	Wintering
Short-eared Owl (*Asio flammeus*)	Yes	species info	Wintering
Snowy Egret (*Egretta thula*)	Yes	species info	Breeding
Wood Thrush (*Hylocichla mustelina*)	Yes	species info	Breeding
Worm eating Warbler (*Helmitheros vermivorum*)	Yes	species info	Breeding

NWI Wetlands (USFWS National Wetlands Inventory).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

Data Limitations, Exclusions and Precautions
The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

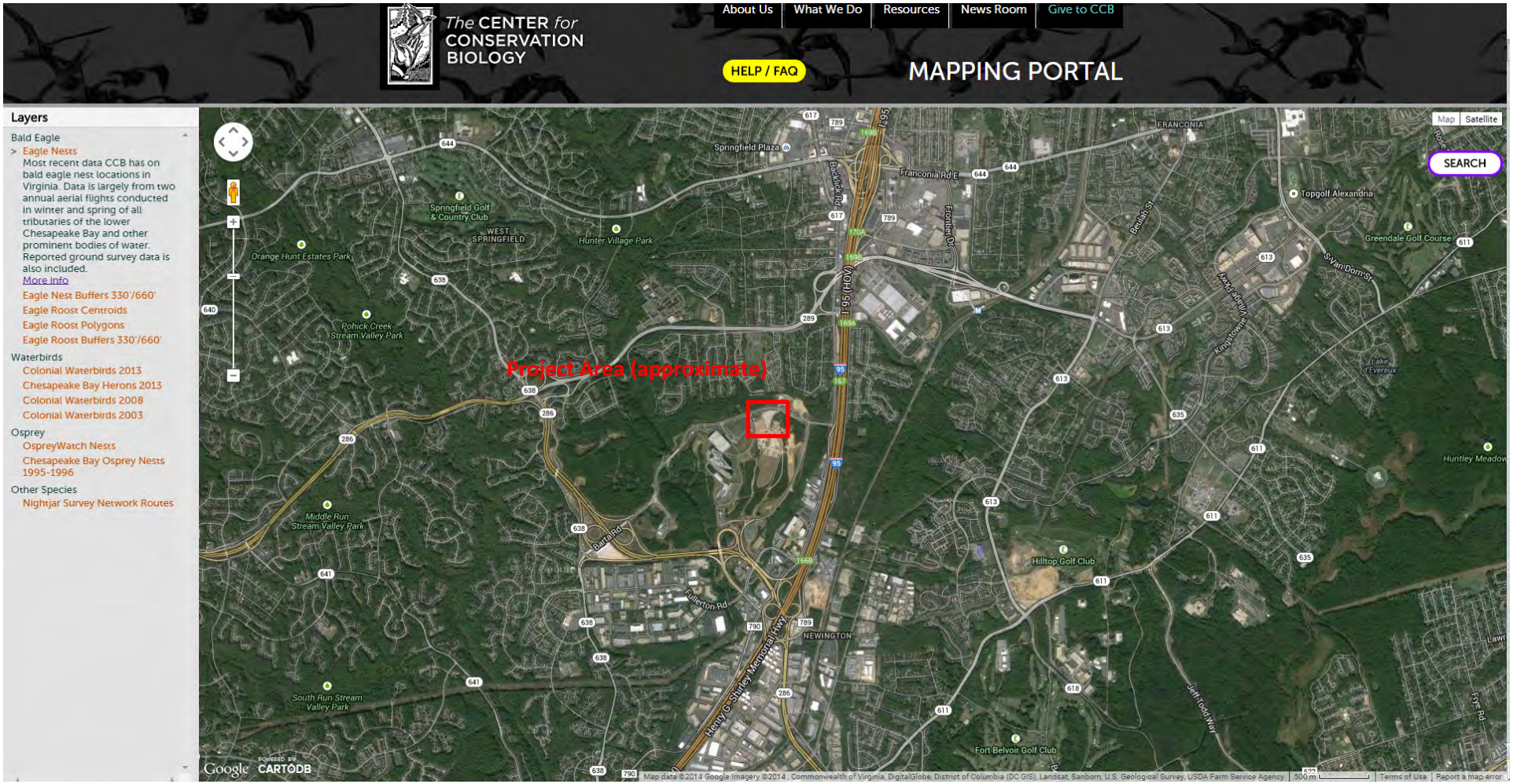
U.S. Fish and Wildlife Service

Trust Resources List

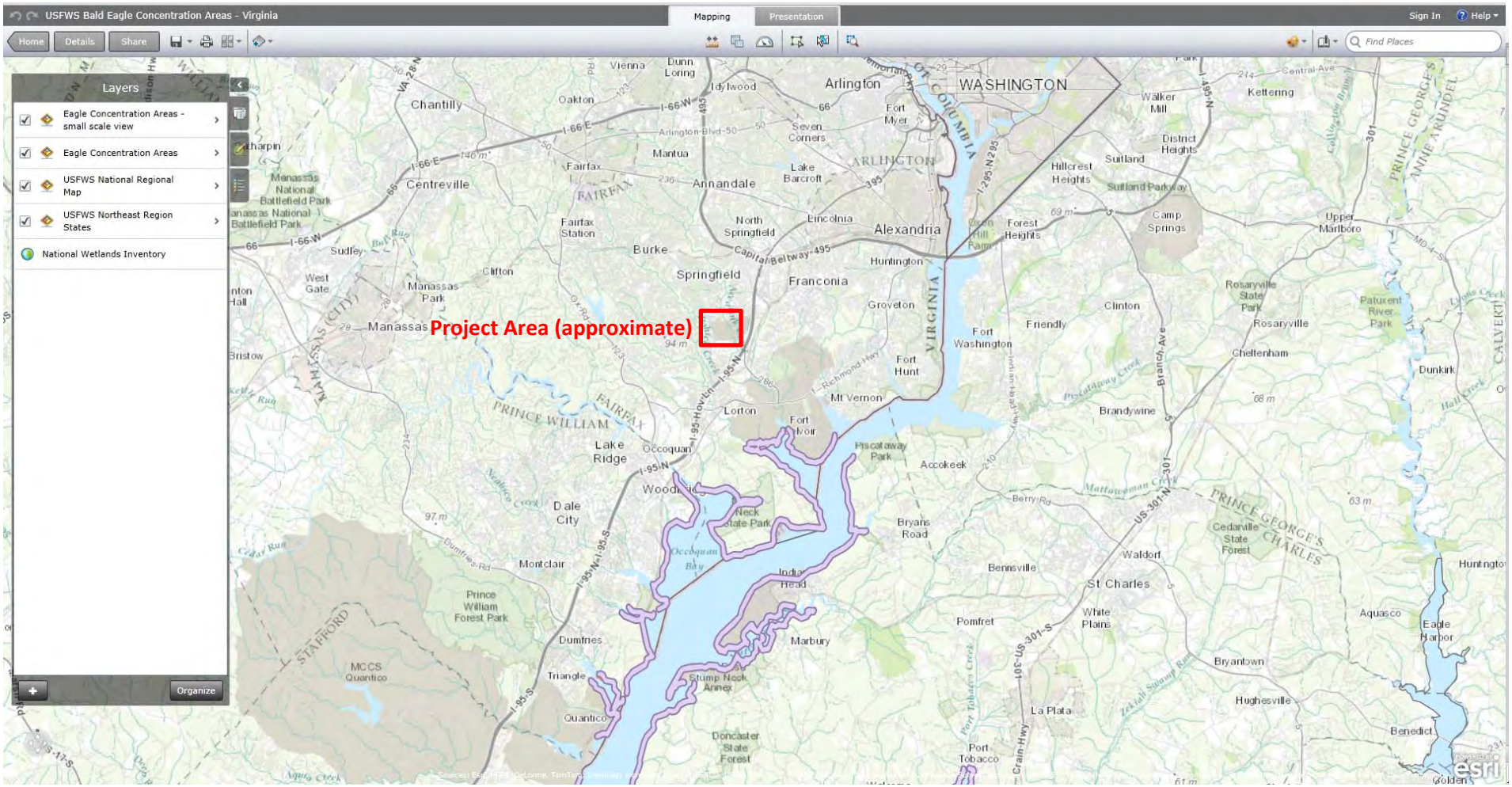
Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC is unable to display wetland information at this time.



Source: http://www.ccbbirds.org/maps/#eagles



Source: http://www.arcgis.com/explorer/?open=8fa548ea54f543a2b2dbe9c9853a81d1

Species Conclusions Table

Project Name: NEC Parking Lot, Fort Belvoir North Area (FBNA), Fairfax County, Virginia

Date: 8 October 2014

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
ESA Listed Species	Species not present	No effect	
Critical habitat	No critical habitat present	No effect	
Bald eagle	Unlikely to disturb nesting bald eagles	No Eagle Act permit required	
Bald eagle	Does not intersect with a bald eagle concentration area	No Eagle Act permit required	

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
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May 18, 2015

U.S. Army Garrison Fort Belvoir
ATTN: Felix Mariani
Directorate of Public Works
Building 1442
9430 Jackson Loop
Fort Belvoir, Virginia 22060-5116

RE: Comments on the Final Environmental Assessment and Federal Consistency Determination for the New Campus East Parking Lot at Fort Belvoir North Area, located in Fairfax County (DEQ 15-051F).

Dear Mr. Mariani:

The Commonwealth of Virginia has completed its review of the above-referenced document. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. This is in response to the March 23, 2015 Final Environmental Assessment (FEA) (received March 23, 2015) for the above referenced project. In addition, the FEA includes a Federal Consistency Determination (FCD) for the proposed action. The following agencies and locality participated in the review of this proposal:

Department of Environmental Quality
Department of Historic Resources (DHR)
Department of Conservation and Recreation (DCR)
Department of Transportation (VDOT)
Department of Health (VDH)
Department of Game and Inland Fisheries (DGIF)
Fairfax County

In addition, the Department of Agriculture and Consumer Services, Department of Forestry, and the Northern Virginia Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The U.S. Army Corps of Engineers has submitted a Final Environmental Assessment and draft Finding of No Significant Impact (FONSI) that examines the environmental impacts related to the construction and operation of a parking lot at the National Geospatial Intelligence Agency –New Campus East (NCE) on the Fort Belvoir North Area (FBNA), in Fairfax County, Virginia. The proposed action is to construct a 900-space parking lot on the FBNA. FBNA is an 800-acre non-contiguous property under the jurisdiction of Fort Belvoir, located 1.5 miles northwest of the installation's Main Post. The parking lot would cover approximately 7-acres of previously disturbed land, including 2.2-acres of gravel-covered area currently used for overflow parking, 3.7 non-contiguous acres of vegetation, and an area currently occupied by two modular buildings with a combined footprint of 28,000 square feet. Low impact design measures will be incorporated including permeable pavement and vegetated swales between parking rows. A 0.7-acre temporary sediment basin immediately north of the site would be modified to create an adequately sized stormwater management basin for the proposed parking lot. The basin would be bisected by two footbridges to allow pedestrian movement between the parking lot and a nearby multi-use path.

In addition, a Federal Consistency Determination is included with the FEA.

CONCLUSION

Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, this proposal is unlikely to have significant effects on ambient air quality, water quality, and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Surface Waters and Wetlands. According to the FEA (page 44), the project site is located in the Accotink watershed. The proposed action would have no short-term impacts on the watershed. In the long-term, the project will result in a 3.7-acre increase of impervious surfaces; however, this impact will be offset by re-vegetation of approximately 7 acres on the North Subcontractor Parking Lot following completion of the proposed construction.

Permeable pavement and vegetated swales between the parking rows will be utilized to mitigate stormwater impacts. A temporary sediment basin is located along the north side of the project site. No other surface water bodies are present at the site.

The FEA concludes that short-term and long-term adverse impacts on surface water quality due to this project would be negligible. The FCD (Appendix C, page 3) states that the proposed action will not involve the filling, draining, or alteration of wetlands.

1(a) Agency Jurisdiction. The State Water Control Board promulgates Virginia's water regulations, covering a variety of permits to include Virginia Pollutant Discharge Elimination System Permit (VPDES), Virginia Pollution Abatement Permit, Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit. The VWP Permit is a state permit which governs wetlands, surface water and surface water withdrawals and impoundments. It also serves as § 401 certification of the federal Clean Water Act § 404 permits for dredge and fill activities in waters of the United States. The VWP Permit Program is under the Office of Wetlands and Stream Protection within the DEQ Water Division. In addition to central office staff who review and issue VWP Permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities.

1(b) Agency Findings. The VWP program at the DEQ Northern Regional Office (NRO) states that a VWP permit from DEQ may be required should impacts to surface waters be necessary.

1(c) Requirements. A Joint Permit Application (JPA) must be submitted to VMRC for any potential impacts under the agency's jurisdiction. In addition, the initiation of the VWP permit review process is accomplished through the submission of a JPA (form MRC 30-300) to VMRC. Upon receipt of a JPA for any proposed surface waters impacts, VWP staff at DEQ-NRO will review the proposed project in accordance with the VWP program regulations and guidance.

1(c) Conclusion. This project will be consistent with the wetlands management enforceable policy of the VCP, provided that there are no impacts to wetlands as a result of the project.

If the project scope changes or it is determined that surface water impacts are required,

provided that appropriate VWP authorization is obtained and complied with, the project will be consistent with the VWP program.

2. Erosion and Sediment Control and Stormwater Management. Stormwater runoff on FBNA is collected by a man-made network of inlets, culverts, ditches and pipes and is transported to multiple discharge points on the property (page 52). The parking lot construction will disturb approximately 7 acres of soils on FBNA. The contractor will use appropriate erosion and sediment control measures as specified in the General Permit for Stormwater Associated with Construction Activities, for which the contractor will register for coverage (page ES-5).

2(a) Agency Jurisdiction. Effective July 1, 2013, the Department of Environmental Quality administers the non-point source pollution control enforceable policy of the VCP through *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*). In addition, DEQ is responsible for the issuance, denial, revocation, termination, and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land-disturbing activities under the Virginia Stormwater Management Program. Note that these programs were previously administered by the Department of Conservation and Recreation.

2(b) Requirements. The DEQ Office of Stormwater Management did not comment on the proposed project. The comments below are reiterated from a previous project that involved a master plan update that included many short-term and long-term projects on Fort Belvoir's Main Post as well as the FBNA (reviewed under DEQ 14-157F).

(i) Erosion and Sediment Control and Stormwater Management Plans

The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R*, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal non-point source pollution mandates (e.g. Section 313 of the Clean Water Act and federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 2,500 square feet in Chesapeake Bay Preservation Area would be regulated by *VESCL&R*. Accordingly, the Army must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan should be submitted to the DEQ Northern Regional Office that serves the area where the project is located for review for compliance. The Army is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent

with agency policy.

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities (VAR10)

DEQ is responsible for the issuance, denial, revocation, termination, and enforcement of the General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (previously known as the General Permit for Discharges of Stormwater from Construction Activities or the Virginia Stormwater Management Program (VSMP) permit) for the control of stormwater discharges regulated under the *Virginia Stormwater Management Act (VSMA)* and the *Virginia Stormwater Management Program (VSMP) Regulations*.

Accordingly, the operator or owner of a construction activity involving land disturbance of equal to or greater than 1 acre is required to register for coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities and develop a project specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the General Permit, and it must address water quality and quantity in accordance with the *Virginia Stormwater Management Program (VSMP) Regulations*. General information and registration forms for the General Permit are available on DEQ's website at www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx.

3. Point Source Pollution Control. Fort Belvoir operates a Municipal Separate Storm Sewer System (MS4) and discharges stormwater under VPDES permit number VAR040093. NCE and the project site are included in this permit. Additionally, Fort Belvoir has submitted a registration statement for coverage under the VPDES General Permit for Stormwater Associated with Industrial Activity.

No new point source discharges of stormwater will be created as a result of the proposed action (page C-5).

3(a) Agency Jurisdiction. The point source program is administered by the State Water Control Board pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program. The Water Quality Certification requirements of §401 of the Clean Water Act of 1972 are administered under the Virginia Water Protection Permit program.

3(b) Agency Findings. The Northern Regional Office had no specific comments regarding the need for water permits (VPDES/VPA/MS4). The project manager is reminded to follow all applicable regulations.

4. Chesapeake Bay Preservation Areas. According to the document (page C-6), the proposed action will not occur within a designated 100-foot Resource Protection Area (RPA), nor will it involve the filling or disturbance of tidal and non-tidal wetlands.

The contractor will register for coverage under the VPDES General Permit for Stormwater Associated with Construction Activities, and a site-specific SWPPP will be prepared. Erosion and sedimentation will be minimized using through the implementation of an erosion and sediment control plan.

4(a) Agency Jurisdiction. Effective July 1, 2013, the DEQ Office of Stormwater Management (OSWM) administers the Chesapeake Bay Preservation Act (Bay Act) (Virginia Code §62.1-44.15 *et seq.*) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (*Regulations*) (9 VAC 25-830-10 *et seq.*). Note that this enforceable policy was previously administered by the Department of Conservation and Recreation.

4(b) Agency Comments. In Fairfax County, the areas protected by the Chesapeake Bay Preservation Act, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

RMAs, which require less stringent performance criteria, include those areas of the county not included in the RPAs.

4(c) Agency Findings. DEQ-OSWM finds that the proposed project will not result in land disturbance on lands analogous to RPA lands, but will impact lands analogous to RMA lands.

4(d) Requirements.

Development in areas analogous to RMA is subject to general performance criteria found in 9 VAC 25-830-130 of the *Regulations*, including requirements to:

- minimize land disturbance (including access and staging areas);
- retain indigenous vegetation; and
- minimize post-development impervious surfaces.

For land disturbance over 2,500 square feet, the project must comply with:

- the requirements of the *Virginia Erosion & Sediment Control Handbook, Third*

Edition, 1992; and

- stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations* (9 VAC 25-870-10).

4(e) Conclusion. DEQ-OSWM determined that the proposed activities will be consistent with the regulations and the *Chesapeake Bay Preservation Act* and the Coastal Lands Management enforceable policy of the Virginia Coastal Zone Management Program (VCP), provided the above requirements are adhered to.

5. Air Pollution Control. According to the FEA (page 39), Fairfax County is currently listed as having moderate attainment for ozone, non-attainment for particulate matter with a diameter of less than 2.5 micrometers, and attainment for all other National Ambient Air Quality Standards criteria pollutants (carbon monoxide, nitrogen dioxide, particulate matter with a diameter of less than or equal to 10 micrometers, lead, and sulfur dioxide).

Short-term impacts to air quality that will result from this project are limited to increased emissions from construction equipment. Once completed, the operation of the parking lot will not create a new source of emissions. The FCD concludes that short-term impacts will be minor and there will be no long-term impacts to air quality as a result of the project (page C-5).

5(a) Agency Jurisdiction. DEQ's Air Division, on behalf of the State Air Pollution Control Board, is responsible for the development of regulations that implement *Virginia's Air Pollution Control Law*. DEQ is charged to carry out mandates of the state law and related regulations as well as Virginia's federal obligations under the *Clean Air Act* as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The Division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as to monitor emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

5(b) Agency Findings. According to the DEQ Air Division, the project site is located in a designated ozone non-attainment area and an emission control area for the control of oxides of nitrogen (NO_x) and volatile organic compounds (VOCs).

5(c) Recommendation. The Army should take all reasonable precautions to limit emissions of NO_x and VOCs, principally by controlling or limiting the burning of fossil

fuels.

5(d) Requirements.

(i) Asphalt Paving

In accordance with 9 VAC 5-45-780, there are limitations on the use of "cut-back" (liquefied asphalt cement, blended with petroleum solvents) that may apply to paving activities associated with the project. Moreover, there are time-of-year restrictions on its use during the months of April through October in VOC emission control areas.

(ii) Fugitive Dust

During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(iii) Open Burning

If project activities include the open burning of construction material or the use of special incineration devices, this activity must meet the requirements under 9 VAC 5-130 *et seq.* of the *Regulations* for open burning, and may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact Fairfax County officials to determine what local requirements, if any, exist.

(iv) Fuel-Burning Equipment

The installation of fuel-burning equipment (e.g. boilers and generators), may require permitting from DEQ prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). The applicant should contact DEQ-NRO for guidance on whether this provision applies.

6. Solid and Hazardous Wastes and Hazardous Materials. Much of the eastern and southern portions of the project site is underlain by a plume of benzene contamination, known as Restoration Site CC-MPS2009. The contamination originated from petroleum storage tanks that were formerly stored to the south of the project site. Monitoring wells

are in place to monitor the attenuation of the contaminants, and land use controls are in effect that prohibit the withdrawal of groundwater for potable uses and the development of inhabited facilities. There are currently no above-ground or underground petroleum storage tanks located on the project site (page 77).

Construction of the parking lot will not impede the remediation of the contaminated groundwater. The locations of the monitoring wells will be incorporated into the design of the project, or relocated if necessary. The contamination does not pose a threat to NCE employees that will use the new parking lot.

During construction, small quantities of hazardous materials would be handled, applied, and discarded in accordance with Fort Belvoir policies. No hazardous substances will be stored on the project site in the long-term. Fertilizers, pesticides, and rodenticides are applied sparingly and as needed.

6(a) Agency Jurisdiction. Solid and hazardous wastes in Virginia are regulated by the Virginia Department of Environmental Quality, the Virginia Waste Management Board (VWMB), and the U.S. Environmental Protection Agency. They administer programs created by the federal *Resource Conservation and Recovery Act*, the *Comprehensive Environmental Response Compensation and Liability Act* (commonly called Superfund), and the *Virginia Waste Management Act*. DEQ administers regulations established by the VWMB and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

6(b) Agency Findings. DEQ's Division of Land Protection and Revitalization (DLPR) (formerly the Waste Division) determined that both solid and hazardous waste issues and sites were generally addressed in the report. DLPR staff conducted a cursory database search for zip code 22060 (Fort Belvoir) and found one Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site and two Formerly Used Defense Sites (FUDS) in close proximity to the project site. A detailed list of these sites is included in DLPR comments attached to this response.

6(c) Recommendations.

(i) Petroleum Release Sites

DEQ's petroleum contamination (PC) case files may identify petroleum releases that should be evaluated by the project engineer or manager to establish the exact location of the release, the nature and extent of the petroleum release, and the potential to impact the proposed project. The facility representative should contact the Tanks

Program at DEQ-NRO for further information and to access the administrative records of the PC cases which are determined to be in close proximity to the proposed project.

(ii) Federal Facilities Restoration Program

The DEQ's Federal Facilities Restoration Program recommends contacting Ms. Kelly Lease, Environmental Compliance Branch Chief, Directorate of Public Works, Environmental & Natural Resource Division, Fort Belvoir, Virginia at (703) 806-0020 for information concerning Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) obligations at Fort Belvoir's Main Post. Ms. Lease, or her designee, should be advised prior to initiating any land, sediment, or groundwater disturbing activities at or near Military Munitions Response Program range areas and Main Post Solid Waste Management Units (SWMUs).

6(d) Requirements.

(i) Generated Waste

Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.

(ii) Asbestos-containing Material and Lead-based Paint

Any structures being demolished, renovated or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to construction. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9 VAC 20-80-640 for ACM and 9 VAC 20-60-261 for LBP must be followed.

7. Pesticides and Herbicides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

8. Natural Heritage Resources. The construction of the new parking lot would clear approximately 3.7 non-contiguous acres of vegetation from the eastern and southwestern portions of the project site. This area would be replaced with an impermeable asphalt surface. This long-term impact will be offset by the planting of 7 acres of vegetation on the North Subcontractor Parking lot following the completion of the proposed parking lot construction. Additionally, the area surrounding the parking lot would be re-vegetated in accordance with Fort Belvoir policies.

The FEA concludes that the long- and short-term adverse impacts on natural heritage resources due to the parking lot construction will be negligible.

8(a) Agency Jurisdiction.

(i) Department of Conservation and Recreation

The mission of the Virginia Department of Conservation and Recreation is to conserve Virginia's natural and recreational resources. DCR supports a variety of environmental programs organized within seven divisions including the Division of Natural Heritage. The Natural Heritage Program's (DCR-DNH) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. The *Virginia Natural Area Preserves Act*, Virginia Code §10.1-209 through 10.1-217, was passed in 1989 and codified DCR's powers and duties related to creating a statewide biological inventory, maintaining a statewide database for conservation planning and project review, land protection for the conservation of biodiversity, and the protection and ecological management of natural heritage resources (the habitats of rare, threatened, and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) Department of Agriculture and Consumer Services

The *Endangered Plant and Insect Species Act* of 1979, Virginia Code Chapter 39 §3.1-102 through 3.1-1030, as amended, authorizes the Virginia Department of Agriculture and Consumer Services (VDACS) to conserve, protect, and manage endangered and threatened species of plants and insects. The VDACS Virginia Endangered Plant and Insect Species Program personnel cooperates with the USFWS, DCR-DNH and other agencies and organizations on the recovery, protection, or conservation of listed threatened or endangered species and designated plant and insect species that are rare throughout their worldwide ranges. In those instances where recovery plans, developed by USFWS, are available, adherence to the order and tasks outlined in the plans are followed to the extent possible.

8(b) Agency Findings. DCR's Division of Natural Heritage (DNH) searched its Biotics Data System for occurrences of natural heritage resources in the project vicinity. Biotics documents natural heritage resources within two miles of the project area, however due to the scope of the activity and the distance to the resources, adverse impacts on the resources are not expected.

(i) State-listed Plant and Insect Species

Under a Memorandum of Agreement established between VDACS and DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. DCR found that the propose project will not affect any documented state-listed plants or insects.

(ii) State Natural Area Preserves

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

8(c) Recommendations. Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized. New and updated information is continually added to the Biotics Data System.

9. Wildlife Resources, Fisheries, and Protected Species. According to the FEA (page 58), favorable wildlife habitat within the project site is limited. There are 3.7 non-contiguous acres of vegetation at the site, while the remainder of the site is a previously-disturbed area covered with gravel and structures. It is likely that wildlife on the site is limited to common species (gray squirrel or fox) that have adapted to disturbed habitats in urbanized areas. The construction of the parking lot may displace individuals but would not have a species-level impact. Displaced individuals are expected to relocate to other suitable areas of habitat on the FBNA. Long-term adverse impacts on wildlife resulting from this action are expected to be negligible.

The FCD states that the project will have no potential to affect finish or shellfish resources, or commercial or recreational fisheries (page C-2).

9(a) Agency Jurisdiction. The Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects (Virginia Code Title 29.1). The DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

9(b) Agency Findings. DGIF reviewed the FEA and found that based on the scope and location of the proposed work, adverse impacts upon species or resources under its jurisdiction are not expected.

9(c) Recommendations.

(i) General Protection of Wildlife Resources

To minimize overall impacts to wildlife and natural resources, DGIF offers the following recommendations:

- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
- Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams.
- Maintaining wooded lots to the fullest extent possible.
- Adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year for all tree removal and ground clearing.
- Adhere to erosion and sediment controls during ground disturbance.
- Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

DGIF does not generally support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor does it support the creation of in-stream stormwater management ponds.

(ii) Additional Information

DGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams and anadromous fish waters. The database may be accessed at *http://vafwis.org/fwis/* or by contacting DGIF (Gladys Cason at 804-367-0909 or *Gladys.Cason@dgif.virginia.gov*).

Coordinate with DGIF (Amy Ewing at *Amy.Ewing@dgif.virginia.gov*) regarding their comments.

9(d) Conclusion. DGIF finds the project to be consistent with the Fisheries Management enforceable policy of the VCP, assuming adherence to erosion and sediment controls.

10. Water Supply. According to the FEA, existing infrastructure for potable water systems on or underlying the project site will be abandoned in place as part of the proposed action. Distribution networks for those systems serving facilities in the vicinity of the project site will be rerouted to avoid any interruptions in service. The parking lot will not require connection to the utility infrastructure. The FEA concludes that the proposed action will have no impact to potable water supply on FBNA (page 14).

10(a) Agency Jurisdiction. The Virginia Department of Health (VDH), Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells and surface water intakes).

10(b) Agency Findings. VDH-ODW made the following comments:

- There are no public groundwater wells within a 1 mile radius of the project site.
- There are no surface water intakes located within a 5 mile radius of the project site.
- The project is within Zone 1 (up to 5 miles into the watershed) of the Occoquan Reservoir Intake, a public surface water source of the Fairfax County Water Authority.
- The project is not within Zone 2 (greater than 5 miles into the watershed) of any public surface water intakes.

10(c) Recommendation. Best Management Practices should be employed on the project site. These practices should include Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures.

10(d) Requirement. Potential impacts to public water distribution systems must be verified by the local utility.

10(d) Conclusion. VDH concludes that there are no apparent impacts on public drinking water sources as a result of this proposed project.

11. Sewage System. Existing sewage collection infrastructure underlying the project site will be abandoned in place as part of the proposed action. Distribution networks for those systems serving facilities in the vicinity of the project site will be rerouted to avoid any interruptions in service. The parking lot will not require connection to the utility infrastructure. The FEA concludes that the proposed action will have no impact on FBNA's sanitary collection system (page 14).

11(a) Discharging Sewer System Regulations. DEQ has approval authority for most discharging sewage collection systems and treatment works, except drainfields and other on-site systems approved by the local health department. This authority is contained in the Sewage Collection and Treatment (SCAT) Regulations (9 VAC 25-790 *et seq.*). Additional information is available on the DEQ website at *www.deq.virginia .gov/Programs/Water/WastewaterAssistanceTraining/WastewaterEngineering/Regulatio ns.aspx.* Construction of sanitary wastewater collection systems must comply with the state's sewerage regulations.

11(b) Agency Recommendation. Contact DEQ NRO to ensure compliance with the SCAT Regulations if necessary.

11(c) Requirement. Potential impacts to sanitary sewage collection systems must be verified by the local utility, according to VDH ODW.

12. Transportation Impacts. Short-term transportation impacts related to the project include additional vehicular traffic from workers commuting to the project site and construction-related equipment and trucks (page 26). Construction-related traffic may contribute to addition congestion during peak travel times; however it is anticipated that the increased traffic will remain within the existing capacity of FBNA's roadway network, therefore short-term impacts are negligible. The parking lot will not result in an increased number of employees at the NCE, therefore, no long-term impacts on transportation are expected.

12(a) Agency Jurisdiction. The Virginia Department of Transportation (VDOT) provides comments pertaining to potential impacts to existing and future transportation systems.

12(b) Agency Findings. The VDOT Northern Virginia District Office reviewed the FEA and found that the proposed construction will be completely within the boundaries of FBNA, and there will not be any impact to VDOT facilities. The new parking lot will not have any long-term impacts on the transportation network surrounding FBNA.

13. Historic and Archeological Resources. No historic properties are present within the Area of Potential Effect of the proposed NCE parking lot. Section 106 coordination was initiated with the State Historic Preservation Office. In a letter dated March 4, 2015, that Office concurred that no historic properties will be affected (page 76).

13(a) Agency Jurisdiction. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State Historic Preservation Office, ensures that federal actions comply with Section 106 of the National Historic Preservation Act of 1962 (NHPA), as amended, and its implementing regulation at 36 CFR Part 800. The NHPA requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding. DHR also provides comments to DEQ through the state environmental impact report review process.

13(b) Agency Findings. Pursuant to Section 106 of the National Historic Preservation Act, DHR has been in direct consultation with the Department of the Army and its agents regarding this project and the parties have reached consensus that no historic properties will be affected by the New Campus East Parking Lot. DHR has no further comment at this time.

14. Local Comments.

14(a) Agency Jurisdiction. In accordance with 15 CFR Part 930, Subpart A, § 930.6(b) of the *Federal Consistency Regulations*, DEQ, on behalf of the state, is

responsible for securing necessary review and comment from other state agencies, the public, regional government agencies, and local government agencies, in determining the Commonwealth's concurrence or objection to a federal consistency certification.

14(b) Agency Comments. Multiple Fairfax County departments reviewed the FEA. Comments are presented by department below:

(i) Department of Planning and Zoning

- The project is not anticipated to have significant long-term or short-term environmental impacts.
- Staff supports the landscaping plan to replant vegetation to replace vegetation that will be removed during construction.
- Staff strongly encourages a structured parking alternative in the future to reduce impervious surfaces and promote water quality through natural infiltration of stormwater.

(ii) Fairfax County Park Authority. The Cultural Resources Management and Protection Branch (CRMPB) conducted an archival review of the FEA and determined that it is unlikely that significant cultural resources exist in the proposed area of impact. The CRMPB has no cultural resource concerns regarding the project and no archaeological work is warranted.

14(c) Requirement. For any archaeological work done, archaeological reports should be sent to the CRMPB of the Fairfax County Park Authority for review and concurrence.

15. Pollution Prevention. DEQ advocates that principles of pollution prevention be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

15(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction of this project and in the operation of the facility:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the Army is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.

- Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. For more information, contact DEQ's Office of Pollution Prevention, Morgan Goodman at (804) 698-4122.

16. Water Conservation. The following recommendations will result in reduced water use associated with the operation of the facility.

- Grounds should be landscaped with hardy native plant species to conserve water as well as lessen the need to use fertilizers and pesticides.
- Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.
- Improve irrigation practices by:
    - upgrading sprinkler clock; water at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week, and do not need to be watered daily; overwatering causes 85% of turf problems);
    - installing a rain shutoff device; and
    - collecting rainwater with a rain bucket or cistern system with drip lines.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*), federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent, to the maximum extent practicable, with the Virginia Coastal Zone Management Program (VCP). The VCP is comprised of a network of programs administered by several agencies. In order to be consistent with the VCP, the federal agency must obtain all the applicable permits and approvals listed under the enforceable policies of the VCP prior to commencing the project.

Federal Consistency Public Participation

In accordance with 15 CFR § 930.2, public notice of the proposed action was published on DEQ's web site from March 27, 2015 to May 1, 2015. No public comments were received in response to the notice.

Federal Consistency Documentation

Appendix C of the FEA includes a Federal Consistency Determination for the proposed NCE parking lot. The document provided an analysis of the project's impact on each of the nine enforceable policies. According to Appendix C, the project will be consistent to the maximum extent practicable with each of the enforceable policies and will have no significant impact on Virginia's coastal zone.

The FCD states that proposed activity will have no effect on the following enforceable policies of the Coastal Zone Management Program: fisheries management, subaqueous lands, wetlands, dunes management, point source pollution control, shoreline sanitation, and coastal lands management.

The project will have a minor effect on air pollution control due to dust and emissions generated during construction and non-point source control due to ground disturbance that may result in an increase in stormwater runoff and erosion.

Federal Consistency Concurrence

Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the VCP, DEQ finds that the proposal is consistent with the VCP provided all applicable permits and approvals are obtained as described below in the Regulatory and Coordination Needs section. However, other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, the Army must ensure that this project is operated in accordance with all applicable federal, state and local laws and regulations.

REGULATORY AND COORDINATION NEEDS

1. Surface Waters and Wetlands. Should it be determined that surface water and/or wetland impacts associated with projects included in this proposal would occur, a Virginia Water Protection Permit issued by the DEQ Northern Regional Office may be required pursuant to Virginia Code §62.1-44.15:20. If necessary, a Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, the Army Corps of Engineers, and local wetlands boards. For additional information and coordination, contact DEQ-NRO, Trisha Beasley at (703) 583-3940.

2. Erosion and Sediment Control and Stormwater Management.

2(a) Erosion and Sediment Control and Stormwater Management. This project must comply with Virginia's *Erosion and Sediment Control Law* (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq.*) and *Stormwater Management Law* (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq.*) as administered by DEQ. Activities that disturb 2,500 square feet or more in CBPAs would be regulated by *VESCL&R* and *VSWML&R*. Erosion and sediment control, and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073.

2(b) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities (VAR10). For projects involving land-disturbing activities of equal to or greater than one acre the applicant is required to register for coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-870-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Daniel Carawan at (804) 698-4088.

3. Air Quality Regulations. This project is subject to air regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code (VAC) are applicable:

- asphalt paving operations (9 VAC 5-45-780 *et seq.*)
- fugitive dust and emissions control (9 VAC 5-50-60 *et seq.*); and
- open burning restrictions (9 VAC 5-130 *et seq.*).

The installation of fuel burning equipment (e.g. boilers and generators), may require a permit (9 VAC 5-50-10 *et seq.* and 9 VAC 5-80-10 *et seq.*) prior to construction. Also, contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, James LaFratta at (703) 583-3928.

4. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local

environmental regulations. Some of the applicable state laws and regulations are:

- *Virginia Waste Management Act* (Virginia Section 10.1-1400 *et seq.*);
- *Virginia Hazardous Waste Management Regulations* (VHWMR) (9 VAC 20-60);
- *Virginia Solid Waste Management Regulations* (VSWMR) (9 VAC 20-81); and
- *Virginia Regulations for the Transportation of Hazardous Materials* (9 VAC 20-110).

Some of the applicable federal laws and regulations are:

- *Resource Conservation and Recovery Act* (*RCRA*) (42 U.S.C. section 6901 *et seq.*);
- Title 40 of the Code of Federal Regulations; and
- U.S. Department of Transportation Rules for Transportation of Hazardous materials (49 CFR Part 107).

For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813.

4(a) Asbestos-Containing Material. It is the responsibility of the owner or operator to thoroughly inspect any existing structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*). Contact the DEQ-NRO, Kathryn Perszyk at (703) 583-3856 and the Department of Labor and Industry, Ronald L. Graham at (804) 371-0444, for additional information.

4(b) Lead-Based Paint. If applicable, this project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation, David Dick at (804) 367-8588.

5. Natural Heritage Resources. Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before the project is implemented, since new and updated information is continually added to the Biotics Data System.

6. Wildlife Resources and Protected Species.

- DGIF maintains a database (*http://vafwis.org/fwis/)* of wildlife locations, including threatened and endangered species, trout streams and anadromous fish waters.
- Coordinate with DGIF (Amy Ewing at *Amy.Ewing@dgif.virginia.gov*) as necessary on its recommendations.

7. Coastal Lands Management. The project must be conducted in a manner that is consistent with the coastal lands management enforceable policy of the VCP as administered by DEQ pursuant to the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15 *et seq.*) and the Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 25-830 *et. seq.*). The proposed project is subject to 9 VAC 25-830-140 for construction in lands analogous to RPA and the general performance criteria of 9 VAC 25-830-130 for construction in lands analogous to RMA. For additional information and coordination, contact DEQ-OSWM, Daniel Moore at (804) 698-4520.

8. Local Coordination. For any archaeological work done, archaeological reports should be sent to the CRMPB of the Fairfax County Park Authority for review and concurrence at the following address:

2855 Annandale Road
Falls Church, VA 22042

Submit one hard copy in addition to one digital copy on a disc. Refer to the attached letter from Fairfax County dated May 7, 2015 for further details.

Contact Fred Selden, Director of the Fairfax County Department of Planning and Zoning with questions (703-324-1325).

Coordinate with the local utility to verify potential impacts to the public water distribution system and the sanitary sewer collection system (Fairfax County Public Works and Utilities, 703-324-5033).

CONCLUSION

Thank you for the opportunity to review and respond to the Final Environmental Assessment and Federal Consistency Determination for the New Campus East Parking Lot project at FBNA. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4204 or Janine Howard at (804) 698-4299 for clarification of these comments.

Sincerely,

Bettina Sullivan, Program Manager
Environmental Impact Review

Ec: Daniel Burstein, DEQ-NRO
Steve Coe, DEQ-DLPR
Kotur Narasimhan, DEQ-Air
Daniel Carawan, DEQ-OSWM
Daniel Moore, DEQ-OSWM
Amy Ewing, DGIF
Robbie Rhur, DCR
Greg Evans, DOF
Roy Soto, VDH
Roger Kirchen, DHR
Chip Ray, VDOT
Scott Denny, DoAv
David Spears, DMME
Fred Selden, Fairfax County
G. Mark Gibb, Northern Virginia Regional Commission

Howard, Janine (DEQ)

From: Ewing, Amy (DGIF)
Sent: Tuesday, May 12, 2015 4:10 PM
To: Howard, Janine (DEQ)
Subject: ESSLog# 35612_15-051F_Nat'l Geospatial Intelligence Agency new parking lot

Based on the scope and location of the proposed work, we do not anticipate it to result in adverse impacts upon species or resources under our jurisdiction.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend that all tree removal and ground clearing adhere to a time of year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance.

Assuming adherence to erosion and sediment controls, we find this project consistent with the Fisheries Management Section of the CZMA.

Thanks, Amy

Amy Ewing ☯ **Environmental Services Biologist/FWIS Manager** ☯ **VA Dept. of Game and Inland Fisheries** ☯ **7870 Villa Park Dr., Henrico, VA 23228** ☯ **804-367-2211** ☯ **www.dgif.virginia.gov**

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

Joe Elton
Deputy Director of Operations

Rochelle Altholz
Deputy Director of Administration
and Finance

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor
Richmond, Virginia 23219
(804)786-6124

MEMORANDUM

DATE: April 21, 2015

TO: Janine Howard, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 15-051F, National Geospatial Intelligence Agency New Campus East Parking Lot

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Howard, Janine (DEQ)

From: Samuels, Harry (VDH)
Sent: Wednesday, April 08, 2015 11:20 AM
To: Howard, Janine (DEQ)
Cc: Soto, Roy (VDH)
Subject: National Geospatial Intelligence Agency New Parking Lot East Review

Project Name: National Geospatial Intelligence Agency New Parking Lot East Review
Project #: **15-051F**
UPC #: N/A
Location: Fairfax Co.

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

There are no public groundwater wells are within a 1 mile radius of the project site.

There are no surface water intakes located within a 5 mile radius of the project site.

The project is within Zone 1 (up to 5 miles into the watershed) of the following public surface water sources:

PWSID	SYSNAME	FACNAME
6059501	FAIRFAX COUNTY WATER AUTHORITY	OCCOQUAN RESERVIOR INTAKE

The project is not within Zone 2 (greater than 5 miles into the watershed) of any public surface water intakes.

Best Management Practices should be employed on the project site including Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures.

There are no apparent impacts to public drinking water sources due to this project.

Harry Samuels
Program Support /GIS Technician
Virginia Department of Health - Office of Drinking Water
804.864.7201 (M)

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

TO: Janine Howard, Environmental Program Planner

FROM: Steve Coe, Division of Land Protection & Revitalization Review Coordinator

DATE: April 21, 2015

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Statement: Project #15-051F Ft Belvoir National Geospatial Intelligence Agency New Campus East Parking Lot

The Division of Land Protection & Revitalization (DLPR) has completed its review of the Environmental Review Request for the Ft Belvoir National Geospatial Intelligence Agency New Campus East Parking Lot , Fort Belvoir, VA 22060. The Department has these comments concerning potential waste issues associated with this project review request.

Solid and hazardous waste issues were addressed in the submittal, and the submittal indicated a search of solid and hazardous waste databases. The DEQ DLPR staff has reviewed the submittal, conducted a cursory database search for zip code 22060 (Fort Belvoir), and has the following comments concerning possible waste issues associated with the project:

RCRA sites: seven in zip code 22060, none appearing to be in close proximity to the project site.

CERLCLA sites: one

ID# VA5210020082 - Fort Belvoir, Belvoir Research & Development Center, Fort Belvoir, VA 22060. NPL Status: Not on the NPL.

Solid Waste sites: none

VRP sites: none

FUDS: two

1) Fort Belvoir. FUDS# C03VA0518. Fed ID# VA9799F1717.
2) Fort Belvoir Engineer Training. FUDS# C03VA0099. Fed ID# VA9799F1579.

Petroleum Release sites: none identified in cursory search of the area of the project.

Please note that the DEQ's petroleum contamination (PC) case files may identify petroleum releases that should be evaluated by the project engineer or manager to establish the exact location of the release and the nature and extent of the petroleum release and the potential to impact the proposed project. The facility representative should contact the DEQ's Northern Virginia Regional Office at 703-527-5020 (Tank Program) for further information and the administrative records of the PC cases which are determined to be in close proximity to the proposed project.

DEQ's Federal Facilities Restoration Program comments:

The DEQ's Federal Facilities Restoration Program recommends contacting Ms. Kelly Lease, Environmental Compliance Branch Chief, Directorate of Public Works, Environmental & Natural Resource Division, Fort Belvoir, Virginia at (703) 806-0020 for information concerning Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) obligations at Fort Belvoir's Main Post. Ms. Lease, or her designee, should be advised prior to initiating any land, sediment, or groundwater disturbing activities at or near MMRP range areas and Main Post Solid Waste Management Units (SWMUs).

Please contact Wade Smith at (804) 698-4125 or wade.smith@deq.virginia.gov with any additional questions.

GENERAL COMMENTS

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. For questions contact DEQ's Northern Virginia Regional Office, Kathryn Persyzk, at 703-583-3856.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe at (804) 698-4029.

Environmental Impact Review – General Guidance for database searches

When the environmental impact report is written or compiled for specific sites, it should include an environmental investigation on and near the properties selected in order to identify any solid or hazardous waste sites or issues related to the (project area). The report author should analyze the data in the web-based Waste Division databases to determine if the project would affect or be affected by any sites identified in the databases. The databases include the Permitted Solid Waste Management Facilities, Virginia Environmental Geographic Information Systems (Solid Waste, Voluntary Remediation Program, and Petroleum Release sites), CERCLA Facilities, and Hazardous Waste Facilities databases.

The Permitted Solid Waste Management Facilities Database
A list of active solid waste facilities in Virginia.

CERCLA Facilities Database
A list of active and archived CERCLA (EPA Superfund Program) sites.

Hazardous Waste Facilities Database
A list of hazardous waste generators, hazardous waste transporters, and hazardous waste storage and disposal facilities. Data for the CERCLA Facilities and Hazardous Waste Facilities databases are periodically downloaded by the Waste Division from U.S. EPA's website.

Virginia Environmental Geographic Information Systems (VEGIS)
The "What's in My Backyard" application displays cross-media geographical features in proximity to a selected site/address for different facility search parameters.

Accessing the DEQ Databases:

The report author should access this information on the DEQ website at

http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/ReportsPublications/OriginalReports.aspx.

Scroll down to the databases which are listed under **Real Estate Search Information** heading.

Initially, the ***solid waste information*** can be accessed by clicking on the Permitted Solid Waste Management Facilities link and opening the file. You can search by city/county or region (zip code) for active permitted waste facilities. (Note: A targeted solid waste facility search can be accomplished through the **VEGIS** link - see information below re: VRP search).

The ***Superfund information*** will be listed by clicking on the Search EPA's CERCLIS database tab and clicking on the **Search Superfund Site Information** button (blue box). On this form, enter either 1) the zip code for the project site, or, 2) the name of the city or county and select Virginia in the State drop down box. Click "Search" at the bottom of the form. A facilities list will be appear.

The ***hazardous waste*** information can be accessed by clicking on the Hazardous Waste Facilities link. Go to the Geography Search section and fill in the 1) zip code of the project, or 2) the name of the

city or county and VA in the state block, and click on "Search". The hazardous waste facilities in the locality will be listed.

The ***Voluntary Remediation Program*** (VRP), **Solid Waste Facilities**, and **Petroleum Release Sites** GPS databases can be accessed from the www.deq.virginia.gov website by clicking on **VEGIS** link under the **Resources & Tools** category. Then click on the "What's in my backyard" in the **Mapping Applications** block to the left. On the web map page, click on the "Pick a Quick Search Here" drop down arrow, and select "Address Search". In the adjacent block enter the zip code or address for the project site. Click on "Search". On the map you will see a green "balloon" indicating the site.

On the map area click on the "Tools" drop down arrow, and the select "Identify". A normal search looks like this: In the "Radius" block, type in [.5], and in the adjacent block select [miles] from the drop down options. Click on the "Layer" drop down arrow, select "VRP Sites", and then click on the green balloon. All VRP sites within the indicated range will appear in the Map/Results block to the left. Clicking on the block by the identified site will result in a second green balloon on the map. With multiple sites identified by the search, you can select/unselect each site to visualize its location, or change the radius of the search as needed.

At this time you can also search for "Solid Waste" sites and "Petroleum Releases" information for the project area by selecting these topics from the "Layer" options and then clicking on the green balloon on the map after each selection.

These database searches will include most waste-related site information for each locality based upon the radius of the address selected (such as .5 miles, .25 miles, or .1 mile). In many cases, especially when the project is located in an urban area, the database output for that locality will be extensive. This information is important to identify possible environmental concerns that may impact a new project.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Janine L. Howard **DEQ - OEIA PROJECT NUMBER: 15 – 051F**

PROJECT TYPE: ☐ STATE EA / EIR **X FEDERAL EA / EIS** ☐ SCC

X CONSISTENCY DETERMINATION

PROJECT TITLE: NATIONAL GEOSPATIAL INTELLIGENCE AGENCY NEW CAMPUS EAST PARKING LOT

PROJECT SPONSOR: U.S. DOD / DEPT. OF THE ARMY / ARMY CORPS OF ENGINEERS

PROJECT LOCATION: **X OZONE NONATTAINMENT AND EMISSION CONTROL AREA FOR NOX & VOC**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION**
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F – STAGE II Vapor Recovery
3. **X 9 VAC 5-45-780 et seq. – Asphalt Paving operations**
4. **X 9 VAC 5-130 et seq. – Open Burning**
5. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
6. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
7. ☐ 9 VAC 5-50-160 et seq. – Standards of Performance for Toxic Pollutants
8. ☐ 9 VAC 5-50-400 Subpart_____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
9. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
10. ☐ 9 VAC 5-80-1700 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
11. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
12. ☐ 9 VAC 5-80-800 et seq. Of the regulations – Operating Permits and exemptions. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_X).

K. S. Narasimhan

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: April 2, 2015**

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

MEMORANDUM

TO: Janine Howard, DEQ Office of Environmental Impact Review

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: March 27, 2015

SUBJECT: DEQ #15-051F: National Geospatial Intelligence Agency, New Campus East Parking, Ft. Belvoir

We have reviewed the Consistency Determination application for the proposed parking lot project at Fort Belvoir in Fairfax County and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Fairfax County, the areas protected by the Chesapeake Bay Preservation Act, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include tidal wetlands, certain non-tidal wetlands and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. RMAs, which require less stringent performance criteria, include those areas of the County not included in the RPAs.

Under the Federal Consistency Regulations of the *Coastal Zone Management Act of 1972*, federal actions in Virginia must be conducted in a manner "consistent to the maximum extent practicable" with the enforceable policies of the Virginia Coastal Zone Management Program. Those enforceable policies are administered through the Chesapeake Bay Preservation Act and Regulations.

Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated RPAs and RMAs, as provided in §9VAC25-830-130 and 140 of the Regulations, including the requirement to minimize land disturbance (including access and staging areas), retain existing vegetation and minimize impervious cover as well as including compliance with the

requirements of the *Virginia Erosion and Sediment Control Handbook,* and stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*." For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion and Sediment Control Handbook.*

The proposed project will not result in land disturbance on lands analogous to RPA lands, but will impact lands analogous to RMA lands. Provided adherence to the above requirements, the proposed activity would be consistent with the Regulations and the *Chesapeake Bay Preservation Act.*

Howard, Janine (DEQ)

From: Burstein, Daniel (DEQ)
Sent: Friday, April 10, 2015 11:01 AM
To: Howard, Janine (DEQ)
Subject: Re: ACOE: National Geospatial Intelligence Agency New Campus East Parking Lot, Fairfax County, DEQ #15-051F - Review

NRO comments regarding the Environmental Assessment and Consistency Determination for the ACOE: National Geospatial Intelligence Agency New Campus East Parking Lot, located in Fairfax County are as follows:

Land Protection Division - The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the facility would follow applicable federal, state, and county regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should the project install fuel burning equipment (Boilers, Generators, Compressors, etc…), or any other air pollution emitting equipment, the project may be subject to 9 VAC 5-80, Article 6, Permits for New and Modified sources and as such the project manager should contact the Air Permit Manager DEQ-NRO prior to installation or construction, and operation, of fuel burning or other air pollution emitting equipment for a permitting determination. Lastly, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program - The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance.

Water Permitting/VPDES Program/Stormwater: The project manager is reminded to follow all applicable regulations.

Daniel Burstein
Regional Enforcement Specialist, Senior II
Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193
Phone: (703) 583-3904
Fax: (703) 583-3821
daniel.burstein@deq.virginia.gov

Howard, Janine (DEQ)

From: LaBudde, Gregory (DHR)
Sent: Friday, May 01, 2015 9:21 AM
To: Howard, Janine (DEQ)
Subject: RE: NEW PROJECT ACOE 15-051F (DHR File No. 2015-0152)

Dear Ms. Howard,

The Department of Historic Resources (DHR) has received the referenced EIR review request. Pursuant to Section 106 of the National Historic Preservation Act, DHR has been in direct consultation with the Department of the Army and its agents regarding this project and the parties have reached consensus that no historic properties will be affected by the National Geospatial Intelligence Agency New Campus East Parking Lot. DHR has no further comment at this time.

Sincerely,

Greg LaBudde, Archaeologist
Review and Compliance Division
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221
phone: 804-482-6103
fax: 804-367-2391
gregory.labudde@dhr.virginia.gov

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
4975 Alliance Drive
Fairfax, VA 22030

CHARLES A. KILPATRICK, P.E.
COMMISSIONER

May 1,2015

MEMORANDUM

To: Janine Howard; Department of Environmental Quality

From: Rahul Trivedi, P.E.; VDOT NoVA, Transportation Planning Section

Subj: ACOE: National Geospatial Intelligence Agency New Campus East Parking Lot

The Virginia Department of Transportation, Northern Virginia District Office staff (Land Development section, Fairfax Permits, Transportation Planning, Right of Way and Environmental section) has reviewed the Final Environmental Assessment for the subject project. Comments provided by VDOT staff are consolidated in this letter for convenience:

NGA proposes to construct and operate a 900-space, 7-acre parking lot adjacent to the New Campus East (NCE) on the Fort Belvoir North Area (FBNA) in Fairfax County, Virginia. The proposed parking lot would enable NCE to provide sufficient parking for employees by meeting parking authorizations prescribed by Fort Belvoir and the National Capital Planning Commission (NCPC); consolidate existing overflow parking areas; and improve safety and environmental conditions. The proposed parking lot is not intended to accommodate future employee growth.

Because the proposed construction will be completely within the boundaries of Fort Belvoir North Area (FBNA), there should not be any impact on VDOT facilities. Similarly, as indicated in the report the proposed action will not have any long term adverse impacts on the transportation network surrounding the FBNA campus.

Thank you for providing the opportunity to review and comment on the Environmental Assessment. If you have any questions, please feel free to email me or call me.

cc: Mr. Paul Kraucunas, VDOT
Mr. Imad Salous, VDOT

Mr. John Muse, VDOT
Mr. Brian Costello, VDOT
Ms. Elizabeth Jordan, VDOT Central Office
Mr. Jim Cromwell, VDOT Central Office
Mr. Chip Ray, VDOT Central Office

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

May 7, 2015

Janine Howard
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, Virginia, 23219

Dear Ms. Howard:

The Fairfax County Department of Planning and Zoning (DPZ) and the Fairfax County Park Authority have reviewed the Final Environmental Assessment and Draft Finding of No Significant Impact for the New Campus East (NCE) Parking Lot in Fort Belvoir. This project consists of constructing a 900- space 7-acre parking lot in the Fort Belvoir North Area. The area designated for this construction has been previously disturbed, a portion of which serves as a temporary/overflow parking lot. The other portion of the proposed project is vacant land covered with recently planted shrub vegetation, and two modular buildings which are scheduled to be removed in 2015.

Comments are broken out by department below.

Department of Planning and Zoning

The Department of Planning and Zoning has reviewed the provided document and notes the expected temporary construction-related environmental impacts. The project is not anticipated to have any significant short- or long-term environmental impacts. Staff supports the landscaping plan to replant vegetation to replace what will be removed during the project's construction. Staff notes that an alternative of structured parking was examined but determined to be an option for a future redevelopment. Staff strongly encourages pursuing such an option in the future to reduce impervious surface and promote water quality through natural infiltration of stormwater runoff.

Fairfax County Park Authority

The Cultural Resource Management and Protection Branch (CRMPB) has conducted archival review for this Final Environmental Assessment. The parcels are disturbed by previous construction and development. Cultural resources staff from Fort Belvoir has initiated consultation with Virginia Department of Historic Resources (VDHR). It is unlikely that significant cultural resources exist in the proposed area of impact. The CRMPB has no cultural resources issues with the environmental assessment, and no archaeological work is warranted.

For any archaeological work done, archaeological reports should be sent to the CRMPB of the Fairfax County Park Authority at 2855 Annandale Road Falls Church, VA 22042 for review and concurrence.

Department of Planning and Zoning
Director's Office
12055 Government Center Parkway, Suite 700
Fairfax, Virginia 22035
Phone 703-324-1325 FAX 703-324-3337
www.fairfaxcounty.gov/dpz/

Excellence * Innovation * Stewardship
Integrity * Teamwork* Public Service

It is requested that one hard copy report is submitted as well as a digital copy on disc. For artifact catalogues, data base is requested in Access ™ format, as well as digital photography, architectural assessments, including line drawings. VDHR files should be updated for any sites that are found.

Thank you for the opportunity to comment on this Final Environmental Assessment and Draft Finding of No Significant Impact for the NCE Parking Lot in Fort Belvoir. If you have any questions about our comments, please do not hesitate to contact Maya Dhavale of my staff at 703-324-1380.

Sincerely,

Fred R. Selden, Director
Department of Planning and Zoning

FRS: MPD

cc: Board of Supervisors
Edward L. Long Jr., County Executive
Robert A. Stalzer, Deputy County Executive
Maya Dhavale, Department of Planning and Zoning
Sandra P. Stallman, Park Authority

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Record of Environmental Consideration

PROJECT TITLE: Integrated Program Office (IPO) Trailer Demolition at Fort Belvoir North Area

PROJECT NUMBER/ IJO Number: TBD

PROPONENT OF THE ACTION: U.S. Army Garrison Fort Belvoir, VA

DESCRIPTION OF THE ACTION: Demolition of the Integrated Program Office (IPO) Trailers and associated appurtenances at the Fort Belvoir North Area. The facility is a large modular office trailer complex with underground utilities and a gravel parking lot. The foundation for the IPO building consists of concrete block peers on concrete footers. The crawlspace is completely lined with gravel. All structures, associated foundations, pavement, utilities, trees, and other features will be removed in their entirety as required to demolish the IPO Trailers and prepare the site for future construction. Mature and thriving trees located on the site shall be protected. New construction will consist of final grading to maintain existing stormwater flow over the area and a 10 foot wide concrete walking path extending from the gravel overflow parking lot to the eastern edge of the NGA parking lot to the west of the demolition.

ANTICIPATED DATE AND/OR DURATION OF THE PROPOSED ACTION: 2015

IT HAS BEEN DETERMINED THAT THE ACTION (CHOOSE ONE):

☐ 1. Is covered by an existing [ ] EA; [ ] EIS;

☒ 2. Is categorically excluded under the provisions of CX (C)(2), AR 200-2, 32 CFR part 651, Appendix B, Section II, *"Demolition of non-historic buildings, structures , or other improvements and disposal of debris therefrom, or removal of a part thereof for disposal, in accordance with applicable regulations, including those regulations applying to removal of asbestos, polychlorinated biphenyls (PCBs), lead-based paint, and other special hazard items"*

- *General Conformity under the Clean Air Act, Section 176 must be evaluated under the requirements of 40 CFR 93, Subpart B and a Record of Non-Applicability is required.(POC: Jerry Sheehan, (703) 806 – 0021)*
- *Past training or operational activities at Fort Belvoir North Area have caused releases of various contaminations to the environment which may impact project activities. An Environmental Restoration site (Inside Heller Loop, or CC-MPS2009), was identified adjacent to the IPO. As a result, for work conducted within the land use control area, the Contractor should conduct a Hazard Evaluation in accordance with EM 385-1-1, Section 06.A.02 using existing data from the adjacent Environmental Restoration Site to determine whether additional control measures (PPE, monitoring, etc.) are required. (POC: Denee Cremeans, (703) 806 – 0627)*
- *If soil odor or discoloration is encountered, contact DPW-ENRD immediately. (POC: Denee Cremeans, (703) 806 – 0627)*
- *Per Army policy, 50% of the construction debris must be recycled and/or diverted from landfill disposal.(POC: Fred David, (703) 806 – 3766)*
- *A DPW Excavation Permit is required prior to construction. (POC: Brice Bartley, (703) 806-4142)*
- *A Virginia Stormwater Management Permit (VSMP) from Virginia DEQ is required for this project in addition to a DPW Excavation Permit. Erosion and Sediment Control measures as stated in the VSMP permit must be followed. A site plan showing the location of E&S measures must be provided to DPW prior to excavation permit approval. (POC: Pam Couch, (703) 806-3406)*

(and no extraordinary circumstances exist as defined in 32 CFR part 651.29(b).)

Record of Environmental Consideration

SIGNATURE OF PREPARER: Marc Russell M-RU

PHONE NUMBER: 703-806-0022 **DATE:** 10/22/14

For Environmental Office Use Only

THE ENVIRONMENTAL OFFICER [✓] CONCURS [ ] DOES NOT CONCUR WITH THE ABOVE DETERMINATION. EXPLANATION (CONTINUE ON BACK IF NECESSARY):

NAME OF ENVIRONMENTAL OFFICER (PRINT/TYPE): Felix M. Mariani

SIGNATURE:

PHONE NUMBER: 703-806-3193 **DATE:** 28 Oct 2014

GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY

Project/Action Name:	**Fort Belvoir – NGA IPO Trailer Demolition**
Project/Action Point of Contact:	**Derek Bowen, U.S. Army Corps of Engineers, Baltimore District (410) 854-0791** **Ashley Pilakowski (703) 806-0022**
Demolition Begin Date: 2015 (Estimated)	**Demolition End Date: (Estimated) 3 months after start date**

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because the highest annual emissions from this project/action, resulting from the construction phase, have been estimated to be:

Demolition Phase

Volatile Organic Compounds (VOC)	0.03 tons per year (tpy)
Nitrogen Oxides (NO_x)	0.26 tpy
Sulfur Oxides (SO_x)	0.02 tpy
Carbon Monoxide (CO)	0.12 tpy
Particulate Matter Less than 2.5 μm ($PM_{2.5}$)	0.09 tpy

These emission rates, including any combination of $PM_{2.5}$ and its potential precursors (i.e., NO_x, SO_x, and VOC), are below the conformity threshold values established at 40 CFR 93.153(b):

Conformity Threshold Rate

VOC	50 tpy
NO_x	100 tpy
SO_x	100 tpy
CO	100 tpy
$PM_{2.5}$	100 tpy

Supporting documentation and emissions estimates are attached.

SIGNED

Felix M. Mariani
Chief, Environment and Natural Resources Division
Directorate of Public Works

SUPPORTING DOCUMENTATION

Description of Project/Action:

The U.S. Army at Fort Belvoir, Virginia plans to demolish the National Geospatial-Intelligence Agency (NGA) Integrated Program Office (IPO) trailer and restore the area to accommodate government requirements. The building is a large modular office trailer located near the intersection of Geoint Drive and Barta Road. It is situated on a foundation consisting of concrete block piers and concrete footers above a gravel floor, all of which will be removed under this project. Wood walkways, signs, asphalt, gravel, and concrete walks and associated base and sub-base materials will also be removed. The surrounding area consists of an undeveloped dirt lot and a gravel parking lot. Aboveground and underground utilities are also present on the site, which will also be either removed (water, electrical, communication lines) or abandoned in place (sanitary sewer). New construction will consist of final grading to maintain existing stormwater flow over the area and a 10-foot wide concrete walking path extending from the gravel overflow parking lot to the eastern edge of the NGA parking lot to the west of the demolition site.

Analysis Methodology:

Analysis was performed using an Excel spreadsheet developed using the methodology and information provided in the *Nonroad Engine and Vehicle Emission Study--Report, US EPA Doc 21A-2001, 1991* and the *Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2013* for demolition operations. The spreadsheet quantifies construction phase emissions from land disturbance, heavy equipment, demolition, grading, concrete paving, and vehicles used to transport workers and construction materials to the site. The emissions were then compared to the applicable regulatory thresholds.

Input Parameters and Assumptions:

Below are the specific parameters entered for the proposed project, which includes the following related activities:

Heavy Construction Equipment

- This includes emissions from heavy construction equipment involved in the project.
- Emissions include demolition, grading, paving, debris hauling, and contractor and material transportation.

Fugitive Dust from Land Disturbance Activities

- Fugitive dust emissions were calculated using the greatest number of eight-hour days that vehicles were estimated to operate in the area.
- Land disturbance will take place during all aspects of construction. A limit on land disturbance was estimated to be approximately 200,000 square feet (sf) based upon project drawings; the area of disturbance was assumed to be about 170,000 sf including demolition activities, and vehicle and equipment movement around the NGA IPO trailer.

Attachment 1 – Supporting Documentation: NGA IPO Trailer Demolition

Employee Travel

- It was estimated that an average of 10 contractors would be required on-site for a total of three months (60 days) to complete the project.
- No new employees will commute to the site as a result of this project.

Other Assumptions

- Demolition phase emissions include land disturbance, demolition, grading, construction of a concrete walkway, equipment/material transportation and removal, and contractor vehicles.
- There will be no operational phase emissions.
- Project duration is estimated to be three months (60 days).
- $PM_{2.5}$ is some fraction of PM_{10} and to be conservative, it was assumed that PM_{10} is equal to $PM_{2.5}$ where a $PM_{2.5}$ emission factor was not available. Therefore, if the predicted PM_{10} emissions do not exceed regulatory thresholds, then neither will $PM_{2.5}$. Fugitive dust emissions are presented as PM_{10} in the emission calculations.

Results

Estimated Calculations

The below emission estimates are from the Excel spreadsheet developed using the methodology and information provided in the *Nonroad Engine and Vehicle Emission Study--Report, US EPA Doc 21A-2001, 1991* and the *Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2013*:

Emissions Summary, (tons/year)	**VOC**	**NO_x**	**CO**	**SO_2**	**$PM_{2.5}$**
Demolition phase	0.03	0.26	0.12	0.02	0.09
TOTAL	**0.03**	**0.26**	**0.12**	**0.02**	**0.09**

SOURCE: ***Nonroad Engine and Vehicle Emission Study--Report*, U.S. EPA, November 1991 (Document: 21A-2001)**

LATEST REVISION: **9/29/2014**

INSTRUCTIONS:

1. In general, the emissions factors should not be changed. Only diesel EFs are included. If gasoline-equipment EFs are needed, consult the *Study*.

2. Enter equipment usage (in hours) for the desired period into the EMISSIONS sheet. Typically, this would be annual usage. Multiplication factors (and a table) are provided for any seasonal calculations.

Construction Equipment Air Quality Emission Factors

Diesel Equipment	Average Rated HP[1]	Loading Factors[2]	Emission Factors (lb/ 1000 HP-hr)[2]					Emission Factors (lbs/hr)[3]				
			CO	NO_x	VOC	PM[4]	SO_x	CO	NO_x	VOC	PM	SO_x
Asphalt Pavers	91	59%	4.76	10.72	0.900	0.88	0.84	0.26	0.58	0.05	0.05	0.05
Plate Compactors	8	43%	9.92	14.99	2.430	1.72	0.90	0.03	0.05	0.01	0.01	0.00
Concrete Pavers	130	59%	4.76	10.72	0.900	0.88	0.84	0.37	0.82	0.07	0.07	0.06
Rollers	99	59%	5.78	11.09	1.010	0.99	0.86	0.34	0.65	0.06	0.06	0.05
Scrapers	311	59%	4.70	10.98	0.660	0.68	0.82	0.86	2.01	0.12	0.12	0.15
Paving Equipment	99	59%	6.26	11.69	1.150	1.06	0.86	0.37	0.68	0.07	0.06	0.05
Signal Boards	6	43%	7.32	13.08	2.030	1.35	0.90	0.02	0.03	0.01	0.00	0.00
Trenchers	60	59%	8.05	11.95	1.320	1.32	0.88	0.28	0.42	0.05	0.05	0.03
Bore/Drill Rigs	209	43%	5.49	15.37	1.320	1.06	0.84	0.49	1.38	0.12	0.10	0.08
Excavators	183	59%	3.75	10.03	0.750	0.71	0.84	0.40	1.08	0.08	0.08	0.09
Concrete/Indust. Saw	56	59%	8.78	11.69	1.410	1.46	0.90	0.29	0.39	0.05	0.05	0.03
Cement Mixers	11	43%	7.17	15.79	1.810	1.35	0.86	0.03	0.07	0.01	0.01	0.00
Cranes	194	43%	3.02	12.06	0.840	0.64	0.82	0.25	1.01	0.07	0.05	0.07
Graders	172	59%	3.33	10.05	0.750	0.68	0.82	0.34	1.02	0.08	0.07	0.08
Off-Highway Trucks	489	59%	3.66	11.27	0.640	0.57	0.82	1.06	3.25	0.18	0.16	0.24
Crushing/Proc Equip.	127	43%	4.21	12.72	0.990	0.79	0.84	0.23	0.69	0.05	0.04	0.05
Rough Terrain Lifts	93	59%	7.30	11.71	1.230	1.21	0.88	0.40	0.64	0.07	0.07	0.05
Rubber Tired Loaders	158	59%	4.87	11.75	0.860	0.82	0.84	0.45	1.10	0.08	0.08	0.08
Tractor/Loader/Backhoe	77	21%	14.64	15.61	3.420	2.36	1.01	0.24	0.25	0.06	0.04	0.02
Crawler Tractors/Dozer	157	59%	4.50	11.09	0.770	0.73	0.84	0.42	1.03	0.07	0.07	0.08
Skid Steer Loader	42	21%	19.58	16.01	4.850	3.11	1.06	0.17	0.14	0.04	0.03	0.01
Off-Highway Tractor	214	59%	6.11	12.97	0.930	0.84	0.82	0.77	1.64	0.12	0.11	0.10
Dumpers/Tenders	23	21%	18.74	16.43	5.010	3.11	1.04	0.09	0.08	0.02	0.02	0.01
Forklifts	83	59%	6.50	9.97	0.900	0.90	0.88	0.32	0.49	0.04	0.04	0.04
Other Const. Equip.	161	59%	6.46	13.01	0.990	0.95	0.82	0.61	1.24	0.09	0.09	0.08

1. Table 2-04 for Inventory A (Inventory A generally gives higher results and is, therefore, more conservative than Inventory B) provided in the Nonroad Engine and Vehicle Emission Study--Report, US EPA Doc 21A-2001, 1991.
2. Table 4-1 provided in the Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2013.
3. **Emission Factors** (lbs/hr) = **Average Rated HP** X **Loading Factors** X **Emission Factors** (grams/HP-hr) / **1,000**
4. Assume $PM_{10} = PM_{2.5}$

DISTRIBUTION RESTRICTION: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

Fugitive Dust from Land Disturbance

Description:	
Total square feet of land disturbed:	170,000
Total acres of land disturbed:	3.90
Assumed number of 8-hr days:	60
Assumed equivalent acres/day:	0.065

Equation for Fugitive Dust Emissions (PM_{10})

E_{TSP} (lb/yr) = 80 * No. of 8-hr days * Acres/day

E_{PM10} (lb/yr) = E_{TSP} * 0.45

Calculation

E_{TSP} (lb/yr) = 80 * 60 days * 0.065 acres/day

E_{TSP} = 312.2 lb/yr

0.16 tpy

E_{PM10} (lb/yr) = E_{TSP} * 0.45

E_{PM10} = 140.5 lb/yr

0.070 tpy

Assumptions

1. The NGA IPO Trailer demolition at Fort Belvoir will consist of the demolition of the NGA IPO Trailer, debris and select utility removal, and site grading. A disturbance limit area of about 200,000 square feet or 4.6 acres was estimated based on project demolition drawings provided by Fort Belvoir. It was assumed that land disturbance would occur on approximately 170,000 square feet of that area, including contractor, equipment, and material movement.
2. It was assumed that land disturbance will occur to some degree over 3 months (60 days), the entire estimated duration of the project.

Source of Equation

Air Emissions Factor Guide to Air Force Stationary Sources, December 2009, Section 16.

Personal Vehicle Emissions

Personal Vehicles	Model Year	Calendar Year	Emission Factors (grams/mile)				
			CO	NO_x	VOC	$PM_{2.5}$	SO_x
Heavy Duty Diesel Trucks - Class 2b	2007	2014	0.10	1.16	0.12	0.01	0.01
Light Duty Diesel Trucks - Class 3/4	2007	2014	0.39	0.12	0.17	0.01	0.01

Personal Vehicles	Number of Days	Miles/Day	Emissions (lbs/year)				
			CO	NO_x	VOC	$PM_{2.5}$	SO_x
Heavy Duty Diesel Trucks	36	60	0.95	11.05	1.14	0.10	0.10
Light Duty Diesel Trucks	60	60	30.95	9.52	13.49	0.79	0.79

Assumptions:

- The project duration is 3 months (60 days).
- Ten (10) contractors on-site on any one day driving light duty diesel trucks. Assume two heavy duty truck for material and equipment hauling three days a week for 1.5 months.
- Average round trip is 60 miles/day, and it was assumed that all vehicles would be 2007 model.
- Assumed heavy duty diesel truck low altitude type 2b and light duty diesel truck low altitude type 3/4.

Source: Emission factors and methodology from Air Emissions Factor Guide to Air Force Mobile Sources, December 2009, Section 4.

Total Project Air Emissions

Project Description	Construction Equipment	Usage (hrs)	Emissions (lbs)				
			CO	NO_x	VOC	PM	SO_x
NGA IPO Trailer Demolition	Asphalt Pavers		-	-	-	-	-
	Plate Compactors	15	0.51	0.77	0.13	0.09	0.05
	Concrete Pavers		-	-	-	-	-
	Rollers		-	-	-	-	-
	Scrapers		-	-	-	-	-
	Paving Equipment		-	-	-	-	-
	Signal Boards		-	-	-	-	-
	Trenchers	40	11.40	16.92	1.87	1.87	1.25
	Bore/Drill Rigs		-	-	-	-	-
	Excavators	60	24.29	64.98	4.86	4.60	5.44
	Concrete/Indust. Saw		-	-	-	-	-
	Cement Mixers	56	1.90	4.18	0.48	0.36	0.23
	Cranes		-	-	-	-	-
	Graders	16	5.41	16.32	1.22	1.10	1.33
	Off-Highway Trucks	80	84.48	260.1	14.77	13.16	18.93
	Crushing/Proc. Equipment		-	-	-	-	-
	Rough Terrain Lifts		-	-	-	-	-
	Rubber Tired Loaders	80	36.32	87.6	6.41	6.12	6.26
	Tractor/Loader/Backhoe	60	14.20	15.14	3.32	2.29	0.98
	Crawler Tractors		-	-	-	-	-
	Skid Steer Loader	80	13.82	11.30	3.42	2.19	0.75
	Off-Highway Tractor		-	-	-	-	-
	Dumpers/Tenders		-	-	-	-	-
	Forklifts	32	10.19	15.62	1.41	1.41	1.38
	Other Construction Equipment		-	-	-	-	-
	Site Preparation (PM_{10})	-	-	-	-	140.5	-
	POVs ($PM_{2.5}$) - Contractors	-	31.91	20.57	14.64	0.89	0.89
	Total - Demolition Phase (tons)		**0.12**	**0.26**	**0.03**	**0.09**	**0.02**
	TOTAL **(lbs):**		**234.4**	**513.6**	**52.52**	**174.6**	**37.48**
	(tons):		**0.12**	**0.26**	**0.03**	**0.09**	**0.02**

Assumptions:

- Assumptions were made for use of equipment including dozers and backhoes for demolition, compactors and graders for site grading, trenchers and excavators for utility removal, cement mixers for constructing new concrete walkways, and loaders and forklifts for movement of debris and materials. It was assumed that off-highway trucks would be used to haul debris and materials.
- Heavy equipment, land disturbance, and vehicles used to transport contractors and materials to the site are captured as part of the demolition phase.

Source: The above estimates were calculated using the methodology and information provided in the *Nonroad Engine and Vehicle Emission Study--Report, US EPA Doc 21A-2001, 1991* and the *Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2013.*

Note: Assume $PM_{10} = PM_{2.5}$

APPENDIX B – AIR QUALITY ANALYSIS & RECORD OF NON-APPLICABILITY (RONA)

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B.1 Introduction

This appendix provides the following analyses of potential air quality impacts:

- Criteria pollutants emissions and Clean Air Act general conformity rule applicability.
- Greenhouse gases.

B.2 Clean Air Conformity

The 1990 amendments to the Clean Air Act (CAA) require federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP) in a nonattainment area. The SIP provides for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS); it includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of the standards. The federal agency responsible for a proposed action is required to determine if its proposed action conforms to the applicable SIP.

The US Environmental Protection Agency (USEPA) has developed two sets of conformity regulations; federal actions are differentiated into transportation projects and non-transportation-related projects:

- Transportation projects, which are governed by the "transportation conformity" regulations (40 CFR Parts 51 and 93), effective on December 27, 1993 and revised on August 15, 1997.
- Non-transportation projects which are governed by the "general conformity" regulations (40 CFR Parts 6, 51 and 93) described in the final rule for Determining Conformity of General Federal Actions to State or Federal Implementation Plans published in the Federal Register on November 30, 1993. The general conformity rule became effective January 31, 1994 and was revised on March 24, 2010.

Since the proposed action is not a transportation project, the general conformity regulation applies.

B.3 General Conformity

B.3.1 Attainment and Nonattainment Areas

The general conformity rule applies to federal actions occurring in air basins designated as nonattainment for the NAAQS or in attainment areas subject to maintenance plans (maintenance areas). Federal actions occurring in air basins that are in attainment with the NAAQS are not subject to the conformity rule.

A criteria pollutant is a pollutant for which an air quality standard has been established under the CAA. Under the requirements of the 1970 Clean Air Act (CAA), as amended in 1977 and 1990, the USEPA established NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), inhalable particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The NAAAQS are shown in Table B-1.

Table B-1: National Ambient Air Quality Standards

Pollutant	Primary/ Secondary	Averaging Time	Level1	Form
Carbon Monoxide (CO)	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Nitrogen Dioxide (NO_2)	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb	Annual Mean
Ozone (O_3)	Primary and secondary	8-hour	0.080 ppm[2]	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particular Matter ($PM_{2.5}$)	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
Particular Matter (PM_{10})	Primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Lead (Pb)	Primary and secondary	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded
Sulfur Dioxide (SO_2)	Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

1. ppm = parts per million; ppb = parts per billion; µg/m3 = micrograms per cubic meter
2. The Commonwealth of Virginia adheres to the 1997 O_3 standard.

Source: USEPA, http://www.epa.gov/air/criteria.html

Areas that meet the NAAQS for a criteria pollutant are designated as being in attainment; an area where a pollutant level exceeds the corresponding NAAQS is designated as being in nonattainment. O_3 nonattainment areas are further subcategorized based on the severity of their pollution problem (marginal, moderate, serious, severe, or extreme). PM_{10} and CO nonattainment areas are classified as moderate or serious. A maintenance area is one for which a maintenance plan is in place. A maintenance plan establishes measures to control emissions to ensure the air quality standard is maintained in areas that have been re-designated as attainment areas from a previous nonattainment status for one or more criteria pollutants.

The proposed action would take place at the Fort Belvoir North Area (FBNA) in Fairfax County, Virginia, an area that is currently designated as a moderate nonattainment area for the 1997 8-hour O_3 NAAQS, a moderate nonattainment area for the 1997 $PM_{2.5}$ NAAQS, and an attainment area for the other criteria pollutants.

B.3.2 *De Minimis* Emissions Levels

To focus general conformity requirements on those federal actions with the potential to have significant air quality impacts, threshold (*de minimis*) rates of emissions were established in the final rule. A formal conformity determination is required when the annual net total of direct and indirect emissions from a federal action occurring in a nonattainment or maintenance area for a given criteria pollutant would equal or exceed the annual *de minimis* level for that pollutant. Table B-2 lists the *de minimis* levels for each pollutant. O_3 is principally formed from nitrogen oxides (NO_x) and volatile organic compounds (VOC) through chemical reactions in the atmosphere. Therefore, the O_3 *de minimis* apply to these two precursors on the presumption that NO_x and VOC reductions will contribute to reductions in O_3 formation.

Table B-2: De Minimis Emission Levels for Criteria Air Pollutants

Pollutant	Nonattainment Designation	Tons/Year
Ozone (O_3)*	Serious	50
	Severe	25
	Extreme	10
	Other nonattainment or maintenance areas outside ozone transport region	100
	Marginal and moderate nonattainment areas inside ozone transport region	50/100**
Carbon Monoxide (CO)	All	100
Sulfur Dioxide (SO_2)	All	100
Lead (Pb)	All	25
Nitrogen Dioxide (NO_2)	All	100
Particulate Matter ≤ 10 microns (PM_{10})	Moderate	100
	Serious	70
Particulate Matter ≤ 2.5 microns ($PM_{2.5}$)***	All	100
Notes: * Applies to ozone precursors – volatile organic compounds (VOC) and nitrogen oxides (NOX); ** VOC/NOX; *** Applies to $PM_{2.5}$ and its precursors.		

Since the project site is located in an O_3 moderate nonattainment area in an O_3 transport region and a moderate $PM_{2.5}$ nonattainment area, the following *de minimis* levels apply:

- 100 tons per year (tpy) of NO_x and 50 tpy of VOC for ozone
- 100 tpy of $PM_{2.5}$ and SO_2 (as a precursor for $PM_{2.5}$) for $PM_{2.5}$.

B.3.3 Analysis

This CAA General Conformity Rule (GCR) analysis was conducted according to the guidance provided by 40 CFR Parts 6, 51, and 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans (USEPA, November 30, 1993 and March 24, 2010).

The GCR analysis was performed to determine whether a formal conformity analysis is required. Pursuant to the GCR, all reasonably foreseeable emissions (both direct and indirect) associated

with the implementation of the proposed action were quantified and compared to the applicable annual *de minimis* levels to determine potential air quality impacts.

The conformity analysis for a federal action examines the impacts of the direct and indirect net emissions from mobile and stationary sources. Direct emissions are emissions of a criteria pollutant or its precursors that are caused or initiated by the federal action and occur at the same time and place as the action. Indirect emissions occur later in time or are further removed in distance from the action itself, but they must also be included in the determination if both of the following apply:

- The federal agency can practicably control the emissions and has continuing program responsibility to maintain control.
- The emissions caused by the federal action are reasonably foreseeable.

Direct and indirect nonattainment pollutant emissions would potentially result from the following operational activities associated with the proposed action:

- Use of diesel-powered construction and demolition equipment.
- Movement of worker's commuting vehicles during the construction and operation of the proposed projects.
- Construction fugitive dust and VOC as a result of earth movement, material handling, and parking lot paving.

B.4 Construction Emissions Determination

The GCR requires that potential emissions generated by any project-related activity and/or increased operational activities be determined on an annual basis and compared to the annual *de minimis* levels for those pollutants (or their precursors) for which the area is classified as nonattainment or maintenance. Therefore, emissions attributable to activities related to the proposed action were analyzed for NO_x, VOC, $PM_{2.5}$ and SO_2.

B.4.1 Construction Activities Resource Data Estimates

Reasonable assumptions were made to identify the equipment, material, and manpower requirements for the construction of a parking lot at the National Geospatial-Intelligence Agency Campus at Fort Belvoir based on the planning-level descriptions presented in Chapter 2 of the EA, the DD1391 Validation Report prepared by the U.S. Army Corps of Engineers (dated November 3, 2014) which provides details as to quantities to be constructed, and the data presented in:

- *2003 RS Means Facilities Construction Cost Data*, R.S. Means Co., Inc., 2002
- *2011 RS Means Facilities Construction Cost Data*, R.S. Means Co., Inc., 2010

Pavement for vehicular use (parking, roadways, etc.) is estimated a typical cross-section over one acre:

- Grading
    - Item 02310-410-0200, Grade subgrade for base course, roadways (rough grading), 29,722 square yards (SY)
    - Item 02310-440-3300, Finishing grade slopes, gentle (fine grading), 29,722 SY.
    - For compaction, use item 02315-300-5020, Riding vibrating roller, 3 passes; assume quantity is 3 ft over entire footprint, so 29,722 cubic yard (CY).
- Footprint site prep
    - Gravel placed over entire lot footprint, 10” thick lift x 267,500 SF = 8,256 CY, use Gravel, bank run, compacted, 12" deep (line 02720-200-1523)
- Parking surface
    - Asphalt pavement, use items 02720-200-0302, Base course, 6" deep and 02740-300-0340, Asphaltic concrete, 1.5" thick wearing course; 29,722 SY each.
- Curbs and gutters
    - Use item 02770-225-0550, Curb and gutter, straight, precast, 6" x 18"; DD1391 has separate quantities for curb alone, and curb & gutter, but for conservatism it as assumed that curb & gutter is installed everywhere. Total quantity is 11,000 linear feet (LF).

A bridge will be constructed to pass over site drainage features:

- Based on DD1391, total steel weight is 90 tons. For estimate purposes, assume item 05120-640-4500, W21x62 steel beam is used; at 62 lb/LF, total length of steel is 2,903 LF.
- For bearings, approach slabs, parapets and other miscellaneous bridge concreting, assume concrete footings are used as an equivalent stand-in. Use item 03310-240-3850, Footings over 5 CY; assume 50 CY of footing is required as foundation for bridge and 50 CY as equivalent measure for approach slab construction, so total is 100 CY.
- For wood decking, use item 06150-600-0702, Doug fir, 3" thick, 2700 SF.

Miscellaneous site work includes demolition of some existing pavement, and installation drainage, lighting and sidewalks:

- Pavement demolition, use item 02220-875-1710, Pavement removal, bituminous 3" thick, 2,000 SY.
- Site drainage
    - Total length of piping is 4,300 LF; for estimate purposes, assume item 02530-790-7020, Vitrified clay pipes, plain joints, 12" dia x 5' (sanitary service) as an equivalent measure for various sizes of PVC and RC pipes to be installed.
    - For drains, use item 02630-200-1110, Catch basin/manhole, 4 ft ID, 4 ft deep, precast, 13 units.

- For site lighting:
    - Use items 16520-300-3000, Light pole, aluminum, 20' high and 16520-300-2200, Floodlights, metal halide, 1000 watt as equivalent measures for LED pole lighting to be installed; 22 poles and 32 lights.
    - For concrete bases, use 03310-240-4950, Slab on grade, 15" thick (Productivity reduced due to multiple small pours); assume 20 SF per poles and 22 poles, so 440 SF total.
- For sidewalk, use item 02775-275-0310, Sidewalks, 3,000 psi concrete, 4" thick, 3,600 SF.

B.4.2 Construction Equipment Operations and Emissions

To quantify emissions, the quantity and type of equipment necessary were estimated based on the activities typically involved in implementing projects such as those included in the proposed action. All equipment was assumed to be diesel-powered unless otherwise noted. Pieces of equipment to be used include, but are not limited to:

- Backhoes.
- Compressors.
- Cranes.
- Bulldozer.
- Excavators.
- Front end loaders.
- Gas engine vibrators.
- Grader.
- Concrete pumps.
- Construction trucks.

Estimates of equipment emissions were based on estimated hours of usage and emission factors for each motorized source. Activity data were developed based on the worst-case total operating hours for each applicable piece of equipment for all projects combined. Emission factors for criteria pollutants related to heavy-duty diesel equipment were obtained from the NONROAD emission factor model (USEPA, 2009).

The USEPA recommends the following formula to calculate hourly emissions for the ith pollutant from non-road engine sources:

$M_i = N \times HP \times LF \times EFi$

where:

M_i = mass of emissions of ith pollutants during inventory period;

N = source population (units);

HP = average rated horsepower;

LF = typical load factor; and

EF_i = average emissions of ith pollutant per unit of use (e.g., grams per horsepower-hour).

Estimated total project emissions from the operation of demolition and construction equipment are presented in Table B-3.

B.4.3 Construction Period On-road Vehicular Emissions

Truck and commuting vehicle operations during the construction period would result in indirect emissions. It was assumed that each truck or commuting vehicle would take a 20-mile round trip to and from the base. USEPA's Motor Vehicle Emission Simulator (MOVES) program was used to predict truck and commuter vehicle running emission factors for all criteria pollutants and CO_2. The national default input parameters applicable for Fairfax County area where Fort Belvoir is located were used in emissions factor modeling. Estimated emissions from the operation of trucks and commuting vehicles are presented in Table B-4.

B.4.4 Fugitive Dust Emissions

In addition to construction vehicle and equipment exhaust emissions as discussed above, the earth disturbance and paved road surface fugitive dust emissions would also be generated from material handling and maneuvering of vehicles and equipment. The USEPA AP-42, Compilation of Air Pollution Emission Factors (USEPA 1995), was used to predict fugitive dust emissions from 1) vehicles traveling on paved roads and 2) on-site material handling process including movement of equipment. Total paved road emissions and on-site material handling emissions are summarized in Tables B-5 and B-6, respectively.

B.4.5 Fugitive VOC Emissions

The fugitive VOC emissions resulting from parking lot pavement construction (asphalt paving) were calculated based on AP-42 and several references and assumptions that are summarized in Table B-7.

B.4.6 Total Construction Period Emissions

Construction equipment, truck and commuting vehicle operation, earth surface disturbance and material handling, and pavement total emissions during the construction period are summarized in Table B-8.

Table B-3: Construction Equipment Emissions

Equipment Type	Number of Units	Hours	Horsepower (hp)	Load Factor (%)	Emission Factor (grams/hp-hour)							Emission (tons)						
					VOC	NO_x	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2	VOC	NO_x	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2
Asphalt paver, 130 HP	1	30	130	59	0.38	4.59	2.07	0.35	0.36	0.12	550.19	0.001	0.012	0.005	0.001	0.001	0.0003	1.394
Backhoe loader, 48hp	1	30	48	21	1.47	6.80	6.42	0.98	1.01	0.14	662.28	0.000	0.002	0.002	0.000	0.000	0.0000	0.221
Compressor, 250 cfm	1	30	90	43	0.32	4.01	2.63	0.37	0.38	0.13	589.94	0.000	0.005	0.003	0.000	0.000	0.0002	0.754
Crane, 90-ton	1	30	231	43	0.35	5.14	1.30	0.24	0.25	0.11	532.78	0.001	0.017	0.004	0.001	0.001	0.0004	1.748
Crane, SP, 5 ton	1	150	231	43	0.35	5.14	1.30	0.24	0.25	0.11	532.78	0.006	0.084	0.021	0.004	0.004	0.0018	8.738
Dozer, 300 HP	1	90	300	59	0.33	4.72	1.93	0.29	0.30	0.12	539.34	0.006	0.083	0.034	0.005	0.005	0.0020	9.462
Front end loader, 1.5 cy	1	90	243	59	0.37	5.05	2.09	0.32	0.33	0.12	539.44	0.005	0.072	0.030	0.005	0.005	0.0016	7.652
Front end loader, 2.5cy	1	30	243	59	0.37	5.05	2.09	0.32	0.33	0.12	539.44	0.002	0.024	0.010	0.002	0.002	0.0005	2.551
Gas engine vibrator	1	30	2	55	57.01	1.42	291.97	7.03	7.64	0.22	1053.35	0.002	0.000	0.009	0.000	0.000	0.0000	0.032
Gas welding machine	1	30	66	68	2.02	7.26	38.49	0.06	0.06	0.01	615.82	0.003	0.011	0.057	0.000	0.000	0.0000	0.913
Gradall, 3 ton, 1/2 cy	1	120	204	59	0.32	4.26	1.45	0.27	0.28	0.12	537.25	0.005	0.068	0.023	0.004	0.004	0.0018	8.563
Grader, 30,000 lb	1	180	204	59	0.32	4.26	1.45	0.27	0.28	0.12	537.25	0.008	0.102	0.035	0.006	0.007	0.0028	12.845
Hydraulic hammer, 1200 lb	1	30	62	43	0.56	5.41	2.43	0.44	0.45	0.12	576.01	0.000	0.005	0.002	0.000	0.000	0.0001	0.507
Excavator with Pavement removal bucket	1	30	171.2	59	0.32	4.25	1.64	0.28	0.29	0.12	541.49	0.001	0.014	0.005	0.001	0.001	0.0004	1.807
Pneumatic wheel roller	1	30	92.3	59	0.42	4.77	2.49	0.40	0.41	0.12	558.97	0.001	0.009	0.004	0.001	0.001	0.0002	1.005
Roller, vibratory	1	90	92.3	59	0.42	4.77	2.49	0.40	0.41	0.12	558.97	0.002	0.026	0.013	0.002	0.002	0.0006	3.016
Rollers, steel wheel	1	60	92.3	59	0.42	4.77	2.49	0.40	0.41	0.12	558.97	0.002	0.017	0.009	0.001	0.001	0.0004	2.011
Vibratory drum roller	1	90	92.3	59	0.42	4.77	2.49	0.40	0.41	0.12	558.97	0.002	0.026	0.013	0.002	0.002	0.0006	3.016
Total Equipment Emissions												0.05	0.58	0.28	0.04	0.04	0.01	66.23

Table B-4: Construction Vehicle Emissions

			Emission Factor (lb/mi)							Emission (tons)						
Vehicle Type	Number of Trips	Total Miles	VOC	NO_X	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2	VOC	NO_X	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2
Trucks	150	20	9.35E-04	1.64E-02	5.23E-03	1.21E-03	1.52E-03	3.88E-05	5.375	0.001	0.025	0.008	0.002	0.002	0.000	8.088
Cars	630	20	7.70E-05	3.94E-04	5.81E-03	6.02E-05	1.16E-04	1.32E-05	0.851	0.000	0.003	0.037	0.000	0.001	0.000	5.439
Total motor vehicle emissions										0.00	0.03	0.04	0.00	0.00	0.00	13.53

Table B-5: Construction Vehicle Paved Roads Fugitive Dust Resuspension Emisions

Vehicle Type	Number of Trips	Total Miles	PM_{10} Emission Factor	$PM_{2.5}$ Emission Factor	PM_{10} Emissions	$PM_{2.5}$ Emissions	Annual PM_{10} FD Emissions	Annual $PM_{2.5}$ FD Emissions
			lb/VMT	lb/VMT5	lb/trip	lb/trip	ton/yr	ton/yr
Trucks	150	20	0.04	0.01	0.89	0.22	0.07	0.02
Cars	150	20	0.003	0.001	0.06	0.01	0.018	0.004
Total							0.08	0.02

Table B-6: Construction Material Handling Fugitive Dust Resuspension Emissions

Activity	Pollutant	Particle Size Multiplier (K)	Wind Speed (mph)	Moisture Content (%)	Total Project Material Volume (CY)	Total Project Weight (tons)[5]	Emission Factor (lb/ton)[6]	Annual Emissions (ton/yr)
Parking Lot Grading	PM10	0.35	12	11	29722	42131	0.00032	0.0068
	PM2.5	0.053					0.00005	0.0010

Table B-7: Paving VOC Emissions

Project	Pavement square yards	Hot Mix Emission Factor (lbs/ton)	Emulsified Emission Factor (lbs/ton)	Hot Mix Application Rate (gal/SY)	Primary Coat Application Rate (gal/SY)	Tack Coat Application Rate (gal/SY)	Hot Mix, Primary & Tack Coat asphalt (tons VOC/SY)	Annual Emissions VOC (tons)
Parking Lot Asphalt Paving	29722	0.040	17.900	0.060	0.25	0.30	2.05318E-05	0.61

Notes:
1. Hot Mix Emulsified emission factors were obtained from the SMAQMD 1991 survey (SMAQMD, 1991).
2. Emulsified Emission factors are used for Primary and Tack Coats.
3. Hot Mix application rate was obtained from the *Hot-Mix Asphalt Paving Handbook* (USACE, 2000).
4. Primary and Tack Coat Application rates were obtained from*: Road and Bridge Specifications* (FHWA, 2002).
5. The density of asphalt (8.34 lb/gal) used in the calculations was obtained from: US EPA, *Emission Inventory Improvement Program* Technical Report Series (US EPA, 2001).

Table B-8: Total Construction Annual Emissions

	Pollutant Emissions (tons)						
	VOC	NO_x	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2
Construction Equipment	0.05	0.58	0.28	0.04	0.04	0.01	66.23
Construction Vehicle	0.00	0.03	0.04	0.00	0.00	0.00	13.53
Construction Vehicle Fugitive Dust	-	-	-	0.02	0.08	-	-
Material Handling Fugitive Dust	-	-	-	0.00	0.01	-	-
Paving	0.61	-	-	-	-	-	-
Total	0.66	0.61	0.32	0.06	0.13	0.01	79.76

B.5 Compliance Analysis

Based on the above, estimates of NO_x, VOC, $PM_{2.5}$, and SO_2 emissions calculated on an annual basis show that the proposed action would not require a formal conformity determination. The estimated total net emissions are presented in Table B-9 and show no exceedance of the applicable *de minimis* criteria for each applicable pollutant and relevant precursor. These estimates should further be considered conservative, as they assume that all construction activities would occur within one year. Therefore, the proposed action would have minimal air quality impacts and would not require a formal conformity determination.

Table B-9: Total Net Increase in Construction and Operational Emissions (tons) - All Pollutants

Activity	VOC	NO_x	CO	$PM_{2.5}$	PM_{10}	SO_2	CO_2 (metric tons)
Construction (total combined)	0.66	0.61	0.32	0.06	0.13	0.01	79.76
De minimis level	50	100	n/a	100	n/a	100	n/a

B.6 Attainment Criteria Pollutants and Greenhouse Gas Emissions

The construction-related emissions of attainment pollutants (i.e., CO and PM_{10}) and greenhouse gas emissions in terms of CO_2 levels were estimated in the same way as used for predicting the nonattainment criteria pollutant emissions. The results are presented in Table B-9.

References

Council on Environmental Quality (CEQ). 2010. Memorandum for Heads of Federal Departments and Agencies from: Nancy H. Sutley, Chair, Council on Environmental Quality Subject: *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas*. February 18, 2010.

R.S. Means Co., 2002. *2003 RSMeans Facilities Construction Cost Data*.

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US Environmental Protection Agency. 1993. 4*0 CFR Parts 6, 51, and 93. Determining Conformity of Federal Actions to State or Federal Implementation Plans, Federal Register*. November 30, 1993.

US Environmental Protection Agency. 2010. *40 CFR Parts 51 and 93. Revision to the General Conformity Rule*. March 24, 2010.

US Environmental Protection Agency. 2012. Motor Vehicle Emission Simulator (MOVES) User Guide for MOVES2010b. June 2012.

US Environmental Protection Agency. 2009. NONROAD2008a. July 6, 2009.

US Environmental Protection Agency (USEPA). 2009a. Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. December 7, 2009

USEPA. 2009b. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171. December 15, 2009

USEPA. 2009c. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. EPA 430-R-09-004. April 15, 2009.

GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY

Project/Action Name: **Construction and Operation of Parking Lot at National Geospatial-Intelligence Agency (NGA) Campus East (NCE)**

Project/Action Point of Contact: **Derek Bowen, U.S. Army Corps of Engineers, Baltimore District (410) 854-0791**

Ashley Pilakowski (703) 806-0022

Project Begin Date: November 2015 **Project End Date: November 2016**

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because the highest annual emissions from this project/action, resulting from the construction phase, have been estimated to be:

Construction Phase

Volatile Organic Compounds (VOC)	0.66 tons
Nitrogen Oxides (NO_x)	0.61
Sulfur Dioxides (SO_2)	0.01
Particulate Matter Less than 2.5 μm ($PM_{2.5}$)	0.06

These emissions rates, including any combination of $PM_{2.5}$ and its potential precursors (i.e., NO_x, SO_x, and VOC), are below the conformity threshold values established at 40 CFR 93.153(b):

Conformity Threshold Rate

VOC	50 tpy
NO_x	100 tpy
SO_x	100 tpy
$PM_{2.5}$	100 tpy

Supporting documentation and emissions estimates are attached.

SIGNED

MICHELLE D. MITCHELL
Colonel, AG
Commanding

SUPPORTING DOCUMENTATION

Description of Project/Action:

The U.S. Army intends to construct a 900-space paved parking lot on a 7-acre previously-disturbed site on the Fort Belvoir North Area (FBNA) to provide overflow parking for NCE employees. The site includes approximately 2.2 acres of the gravel-covered Integrated Program Office (IPO) Parking Lot, currently used as parking for NCE employees and visitors; and approximately 3.7 acres of vegetation predominantly consisting of herbaceous and woody scrub/shrub species and a small stand of mixed pine-hardwood trees. A 0.7-acre temporary sediment basin located immediately to the north is bisected by portions of the site and would be modified as necessary to provide appropriate stormwater management for the paved parking lot. The remainder of the site consists of vacant modular buildings formerly used to support the construction of NCE and associated maintained landscape vegetation. The modular buildings are to be removed as part of an unrelated action for which a RONA has been prepared. The proposed parking lot would include asphalt paving; all required pavement markings, striping and signage; a pedestrian barrier to control pedestrian movements and circulation; footbridges to convey pedestrians over the stormwater management basin; LED lighting mounted on 35-foot tall poles; and sidewalk segments to connect the parking lot to existing sidewalks on NCE. Existing vegetation within the project footprint would be removed and minor grading would be conducted on the entire site to prepare it for paving.

Analysis Methodology:

Detail analysis methodologies used in the general conformity applicability determination can be found in Appendix B.

The construction equipment, material, and manpower activity data were derived based on the based on the planning-level descriptions presented in EA, the DD1391 Validation Report prepared by the US Army Corps of Engineers (dated November 3, 2014) which provides details as to quantities to be constructed, and the data presented in:

- 2003 and 2011 *RS Means Facilities Construction Cost Data*, R.S. Means Co., Inc.

The emission factors for various source categories were predicted using:

- US EPA NONROAD model for equipment exhaust emissions
- US EPA MOVES model for on-road vehicle operations including trucks and worker's commuter vehicles
- US EPA AP-42 handbook for fugitive dust to be generated from earth disturbance and material handling and fugitive VOC during parking lot and roadway paving.

Input Parameters and Assumptions:

Below are the specific parameters entered for the proposed project, which includes the following related activities:

- No increase in operational emissions would occur as a result of the proposed action.
- All construction activities would be completed within one calendar year
- All on-road delivery and dump trucks and workers' commuting vehicles would travel a total of 20 miles per round trip.

Other detail inputs and assumptions can be found in each calculation worksheet included in Appendix B.

Results

Estimated Calculations

The emissions estimates for the proposed action resulting from the air quality analysis described above are presented below.

	Pollutant Emissions (tons)			
	VOC	**NO_x**	**$PM_{2.5}$**	**SO_2**
Total	0.66	0.61	0.06	0.01

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APPENDIX C – FEDERAL CONSISTENCY DETERMINATION

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FEDERAL CONSISTENCY DETERMINATION
CONSTRUCTION AND OPERATION OF PARKING LOT
at
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY CAMPUS EAST
FORT BELVOIR NORTH AREA
FAIRFAX COUNTY, VIRGINIA

Pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended, and 15 Code of Federal Regulations (CFR) Subpart C, a Federal Consistency Determination has been prepared for the United States Army Corps of Engineers (USACE) Real Property Services Field Office (RSFO) Proposed Action to construct a 900-space parking lot to provide overflow parking for employees at the National Geospatial Intelligence Agency (NGA) New Campus East (NCE). NGA is required to determine the consistency of the Proposed Action and potential effects on Virginia's coastal resources or coastal uses with the Virginia Coastal Zone Management Program (VCP).

This consistency determination represents an analysis of the Proposed Action in light of established VCP Enforceable Policies and Programs. Submission of this consistency determination reflects the commitment of NGA to comply to the maximum extent practicable with those Enforceable Policies and Programs. The Proposed Action would be operated and implemented in a manner consistent with the VCP. NGA has determined that the effects of the Proposed Action would be less than significant on land and water uses and natural resources of the Commonwealth of Virginia's coastal zone and is consistent to the maximum extent practicable with the enforceable policies of the VCP.

PROPOSED ACTION

The Proposed Action is to construct a 900-space parking lot on FBNA. FBNA is an approximately 800-acre noncontiguous property under the jurisdiction of Fort Belvoir and is located about 1.5 miles northwest of the installation's Main Post in eastern Fairfax County, Virginia (Figure 1). The project site is located in a previously-disturbed area of FBNA just east of NCE (Figure 2). The parking lot would cover approximately 7 acres and would encompass 2.2 acres of a gravel-covered area currently used for overflow parking; 3.7 non-contiguous acres of vegetation; and an area currently occupied by two modular buildings with a combined footprint of approximately 28,000 square feet (Figure 3). A 0.7-acre temporary sediment basin immediately north of the site would be modified to create an adequately-sized stormwater management basin for the proposed parking lot. The stormwater management basin would be bisected by pedestrian footbridges to provide connectivity between the proposed parking lot and a nearby multi-use path. The proposed parking lot would include asphalt paving; all necessary pavement markings, striping and signage; 24-foot-wide drive aisles; overhead lighting; a pedestrian barrier to control pedestrian movements and circulation; and an approximately 12-foot wide by 336-foot long sidewalk segment. In accordance with Section 438 of the Energy Independence and Security Act (EISA), low impact development (LID) measures would be used to the maximum extent technically feasible to maintain the pre-development hydrology of the project site. Such measures could include permeable pavement and vegetated swales between the parking rows and would enable the percolation of stormwater through underlying soils and provide additional filtration of pollutants prior to conveyance to the stormwater management basin. The proposed parking lot would consolidate existing overflow parking areas and accommodate employees currently assigned to NCE; thus, the number of workers at NCE would not increase as a result of the Proposed Action.

ENFORCEABLE POLICIES

The Commonwealth of Virginia has developed and implemented the federally-approved VCP encompassing nine enforceable policies for the coastal area pertaining to:

- Fisheries management
- Subaqueous lands management
- Wetlands management
- Dunes management
- Non-point source pollution control
- Point source pollution control
- Shoreline sanitation
- Air pollution control
- Coastal lands management

A summary analysis of how the Proposed Action would affect each of the enforceable policies is presented below. This analysis is based on the more detailed analyses contained in the environmental assessment, which was issued for public review in March 2015.

Fisheries Management

The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (MRC) (Virginia Code §28.2-200 through §28.2-713) and the Department of Game and Inland Fisheries (DGIF) (Virginia Code §29.1-100 through §29.1-570).

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The MRC, DGIF, and Virginia Department of Agriculture and Consumer Services share enforcement responsibilities (Virginia Code §3.2-3904 and §3.2-3935 to §3.2-3937).

Consistent to the Maximum Extent Practicable? **Not Applicable (NA)**

Analysis

The Proposed Action would have no potential to affect finfish or shellfish resources or commercial and recreational fisheries. Therefore, this enforceable policy is not applicable.

Subaqueous Lands Management

The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water

quality standards established by the DEQ Water Division. The program is administered by the MRC (Virginia Code §28.2-1200 through §28.2-1213).

Consistent to the Maximum Extent Practicable? **NA**

Analysis

This enforceable policy is not applicable because the Proposed Action would not involve in-water construction and would have no potential to affect state-owned bottomlands or other subaqueous lands.

Wetlands Management

The purpose of the wetlands management program is to preserve tidal wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

(i) The tidal wetlands program is administered by the MRC (Virginia Code §28.2-1301 through §28.2-1320).

(ii) The Virginia Water Protection Permit program administered by the DEQ includes protection of wetlands --both tidal and non-tidal. This program is authorized by Virginia Code §62.1-44.15.20 and §62.1-44.15-21 and the Water Quality Certification requirements of §401 of the Clean Water Act of 1972.

Consistent to the Maximum Extent Practicable? **YES**

Analysis

The Proposed Action would not involve the filling, draining or alteration of wetlands; thus, it would have no direct impacts on tidal and non-tidal wetlands managed under this policy. Under the Proposed Action, impervious surface on the project site would increase by approximately 3.7 acres resulting in a corresponding increase in stormwater generated on the project site. Stormwater generated on the project site would be conveyed to the stormwater management basin along the north side of the site and discharged to receiving downstream water bodies, including the wetland associated with Accotink Creek along the north side of Barta Road. The management of stormwater generated on the site by the stormwater management basin and any additional LID measures incorporated to the maximum extent technically feasible in accordance with Section 438 of the EISA would ensure that the volume, temperature and velocity of downstream discharges of stormwater would not increase as a result of the proposed action and that no further degradation in stream quality would occur, in accordance with Virginia Minimum Standard 19. Any modification of the stormwater discharge point to compensate for the increase in the volume of stormwater generated on the site would be done in accordance with all applicable permits and regulations. For these reasons, the proposed action would have no indirect long-term adverse impacts on wetlands near the project site.

Stormwater flowing across the paved surface of the parking lot would inevitably carry petroleum pollutants from cars parked on the lot. However, these pollutants would be filtered by vegetation in the stormwater management basin. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as vegetated swales between the parking rows, would provide additional filtration of pollutants in stormwater generated on the site. Thus, the implementation of the Proposed Action would have a small but beneficial effect on water quality.

For these reasons, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Dunes Management

Dune protection is carried out pursuant to the Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission (Virginia Code §28.2-1400 through §28.2-1420).

Consistent to the Maximum Extent Practicable? **NA**

Analysis

The Proposed Action has no potential to affect sand dunes, as none are located on or in the vicinity of the project site. Thus, this enforceable policy is not applicable.

Non-point Source Pollution Control

Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by DEQ (Virginia Code §62.1-44.15:51 et seq.).

Consistent to the Maximum Extent Practicable? **YES**

Analysis

Because the Proposed Action is located in a Chesapeake Bay Preservation Area and would disturb more than 2,500 square feet of land, the general contractor would obtain a General Permit for the Discharge of Stormwater from Construction Activities (Construction General Permit) as required by the Virginia Stormwater Management Program. As required to obtain the permit, a site-specific stormwater pollution prevention plan (SWPPP) would be prepared. The contractor would also prepare and erosion and sediment control plan in compliance with 9 Virginia Administrative Code (VAC) 25-840 and in conformance with the *Virginia Erosion and Sediment Control Handbook, Third Edition, 1992*. The implementation of erosion and sediment control measures specified in the Construction General Permit, SWPPP and erosion and sediment control plan would minimize the erosion of exposed soils and the sedimentation of downstream water courses. Although these impacts cannot be entirely eliminated, they would remain minor. Therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Point Source Pollution Control

The point source program is administered by the State Water Control Board pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program. The Water Quality Certification requirements of §401 of the Clean Water Act of 1972 is administered under the Virginia Water Protection Permit program.

Consistent to the Maximum Extent Practicable? **NA**

Analysis

This enforceable policy is not applicable because it is anticipated that no new point source discharges of stormwater would be created as a result of the Proposed Action.

Shoreline Sanitation

The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code §32.1-164 through §32.1-165).

Consistent to the Maximum Extent Practicable? NA

Analysis

The Proposed Action would not neither involve the installation of new septic tanks nor the modification or alteration of existing septic tanks, as none are located on or in the vicinity of the project site. For these reasons, this enforceable policy is not applicable.

Air Pollution Control

The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code §10.1-1300 through 10.1-1320).

Consistent to the Maximum Extent Practicable? YES

Analysis

In the short term, the construction of the proposed parking lot would generate increased emissions from construction equipment, workers' commuting vehicles and fugitive dust. Adverse short-term impacts on air quality would be minimized through the use of standard best management practices (BMP) such as wetting pavements and/or exposed soils to minimize fugitive dust. The construction contractor would comply with all applicable VADEQ air pollution control regulations such as:

- 9VAC5-40 Article 1, Visible Emissions and Fugitive Dust/Emissions;
- 9VAC5-40 Article 2, Odor;
- 9VAC5-45 Article 4, Emission Standards for Consumer Products Manufactured On or After August 1, 2010;
- 9VAC5-45 Article 5, Emission Standards for Architectural and Industrial Maintenance Coatings;
- 9VAC5-45 Article 6, Emission Standards for Adhesives and Sealants; and
- 9VAC-45 Article 7, Emission Standards for Asphalt Paving Operations.

Construction-related emissions would remain below thresholds for General Conformity Applicability, and no formal conformity determination is required. In the long term, the implementation of the proposed action would not involve the installation of new generators or boilers, nor would it result in an increase of vehicle trips to FBNA. The operation of the parking lot would not create a new source of emissions and thus, would not exceed applicable *de minimis* limits for criteria pollutants regulated under the Clean Air

Act. Short-term adverse impacts on air quality would be minor, and there would be no long-term impacts. Therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Coastal Lands Management

Coastal Lands Management is a state-local cooperative program administered by DEQ's Water Division and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act (Virginia Code §§ 62.1-44.15:67 through 62.1-44.15:79) and Chesapeake Bay Preservation Area Designation and Management Regulations (Virginia Administrative Code 9 VAC 25-830-10 et seq.).

Consistent to the Maximum Extent Practicable? **YES**

Analysis

The Proposed Action would not occur within designated 100-foot Resource Protection Areas (RPAs), nor would it involve the filling or disturbance of tidal and non-tidal wetlands.

The general contractor would obtain a General Permit for Discharges of Stormwater from Construction Activities and would prepare a site-specific SWPPP and an erosion and sediment control plan as a condition of receiving the permit. Erosion and sediment control measures specified in the SWPPP and erosion and sediment control plan would be implemented to minimize erosion and sediment impacts on downstream watercourses resulting from exposed, disturbed, and/or stockpiled soils and the temporary loss of impervious and/or vegetative cover.

The Proposed Action would not add a new point source of nutrient or sediment discharges on FBNA. The use of LID measures to the maximum extent technically feasible in accordance with Section 438 of the EISA, such as permeable pavement and vegetated swales between the parking rows, would be incorporated into the design of the parking lot and would enable the percolation of stormwater into underlying soils and provide additional filtration of pollutants to improve the quality of stormwater runoff discharged to receiving water bodies, including Accotink Creek and, farther downstream, the Potomac River. The implementation of the proposed action would not cause exceedances of total maximum daily loads (TMDLs) for Accotink Creek.

SUMMARY OF FINDINGS

NGA has determined that the Proposed Action, which would be implemented in accordance with associated mitigation measures, would be consistent to the maximum extent practicable with the federally-approved enforceable policies of the VCP, pursuant to the Coastal Zone Management Act of 1972, as amended, and in accordance with 15 CFR Part 930, Subpart C.

Pursuant to 15 CFR Section 930.41, the Virginia Coastal Resources Management Program has 60 days from the receipt of this document in which to concur with or object to the Consistency Determination, or to request an extension under Section 930.41(b). Commonwealth concurrence will be presumed if its response is not received by the Army on the 60th day from receipt of this determination. The Commonwealth's response should be sent to Fort Belvoir Directorate of Public Works, ATTN: Felix Mariani, Directorate of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116.

SIGNED

MICHELLE D. MITCHELL
Colonel, AG
Commanding

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Location of FBNA

★ Location of Fort Belvoir

Installation Boundary

Scale (Main Map): 1:250,000

Main Map: 0 2.5 5 10 Miles

Inset: 0 40 80 160 Miles

N

Figure 1

Source: ESRI; Fort Belvoir GIS, 2013

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Location of Project Site

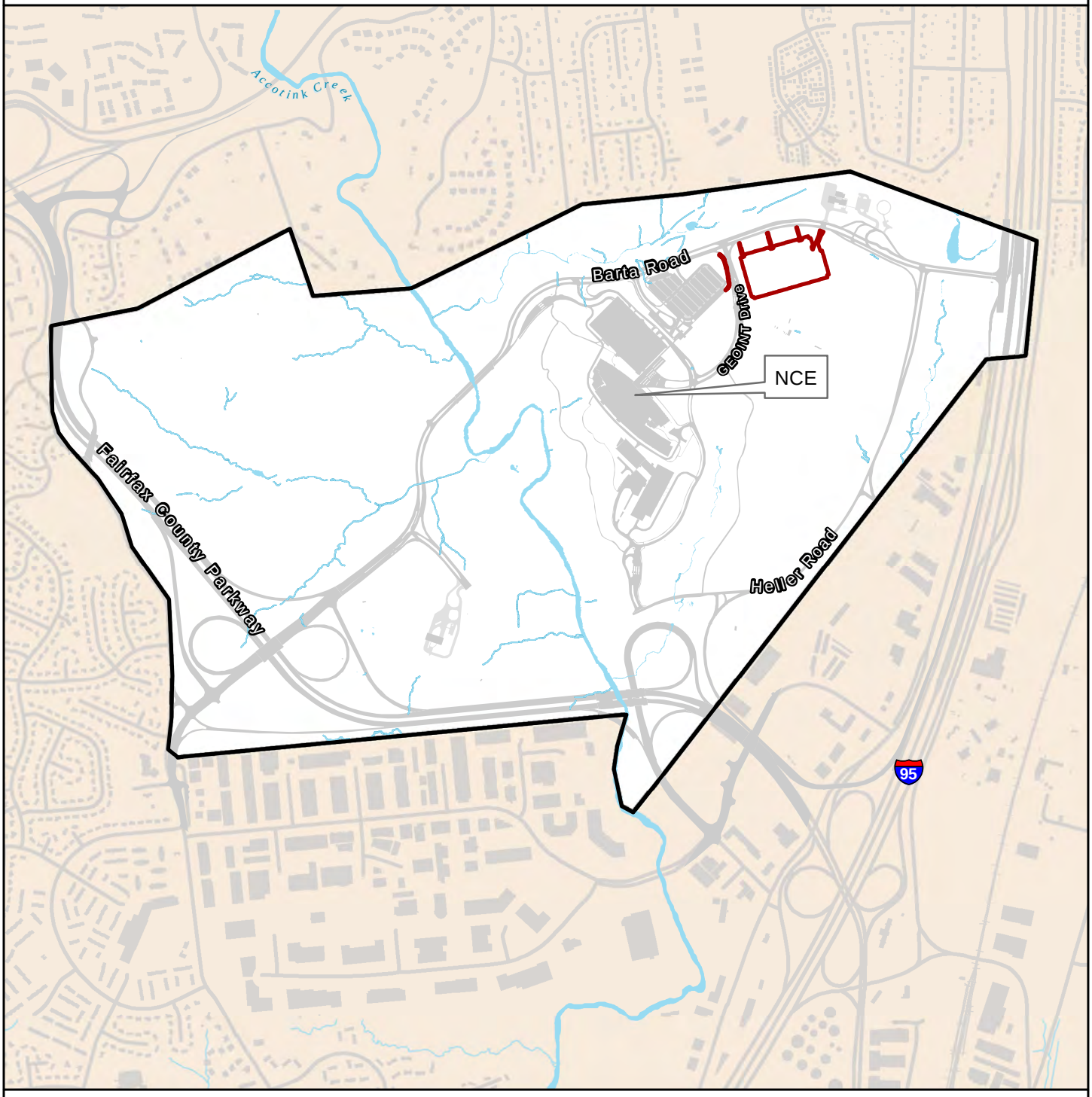

Figure 2

Source: ESRI; Fort Belvoir GIS, 2013

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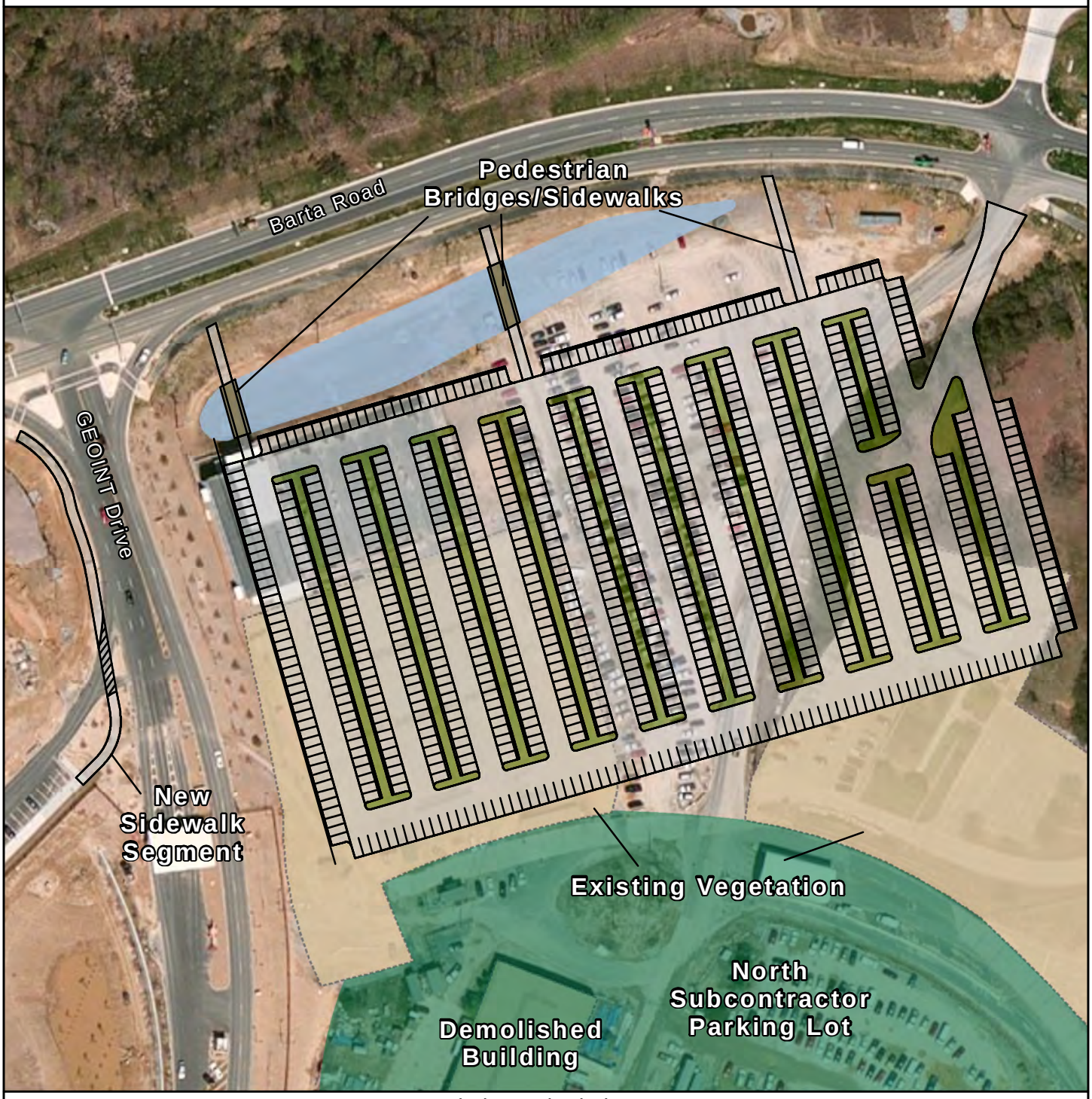
Parking Lot Design Concept



Proposed Parking Lot

- Asphalt Paving & Markings
- Vegetated Swales
- Pedestrian Bridge
- Area to be Revegetated (Approximate)

- Labels on shaded areas indicate existing conditions (Aerial imagery is outdated)
- Temporary Sediment Basin

0 50 100 200 Feet

N

Figure 3

Source: ESRI; Fort Belvoir GIS, 2013

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APPENDIX D – NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY TRANSPORTATION MANAGEMENT PLAN

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National Geospatial-Intelligence Agency Transportation Management Plan

January 2008

Table of Contents

Introduction

This Transportation Management Plan (TMP) has been developed to identify, encourage, and provide for the use of public transit and other alternative transportation modes to and from the National Geospatial-Intelligence Agency (NGA) for all employees, students, contractors and visitors to the New Campus East (NCE). The plan is required by the *Record of Decision for the Final Environmental Impact Statement for Implementation of 2005 Base Realignment and Closure Recommendations and Related Army Actions at Fort Belvoir, Virginia,* dated 8 August 2007 (herein referred to as ROD). The TMP also complements the *Comprehensive Plan for the National Capital: Federal Elements*, adopted August 5, 2004 (herein referred to as the Comprehensive Plan), and the Draft Fort Belvoir Travel Demand Management Plan (TDMP), which is included as an Appendix H to this document. The NGA plan establishes goals to improve air quality, manage volumes, reduce traffic congestion, and minimize petroleum fuels consumption through proactive programs which encourage the use of alternatives to the single occupant vehicle. These transportation alternatives include buses, carpools, vanpools, bicycle riding, walking, working from home or telework centers, compressed work weeks and flexible work schedules.

Overall, NGA is committed to the following goals:

- To target 60% of the workforce participating in at least one of the transportation alternatives described in the TMP within the first year of occupancy of the NCE (i.e., 2011-2012) and to increase participation over the subsequent 10 years.
- Comply with the Comprehensive Plan parking ratio of 1:1.5 [space:employee] or better.
- Aggressively market the alternative programs in the TMP.

Elements of the TMP

Figure 1. shows the current elements of the TMP. Each element is an Appendix to this TMP to allow for easy revisions and updates, as needed. The Appendices contain current program information and policies, future strategies, measures, and NGA commitments.

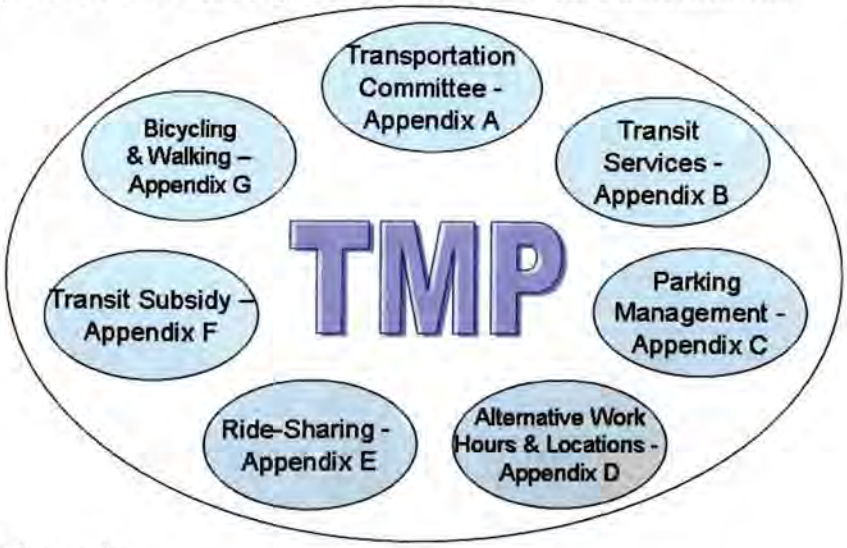

Figure 1. TMP Elements

Now (2007) and Later (2011)

NGA serves as a Department of Defense (DoD) combat support agency and a member of the Intelligence Community (IC). NGA provides timely, relevant, and accurate geospatial intelligence in support of national security. The geospatial intelligence products created serve a variety of military, civil, and international needs. NGA elements are currently housed in numerous government-owned and leased facilities in and around the NCR, as identified in Figure 2.

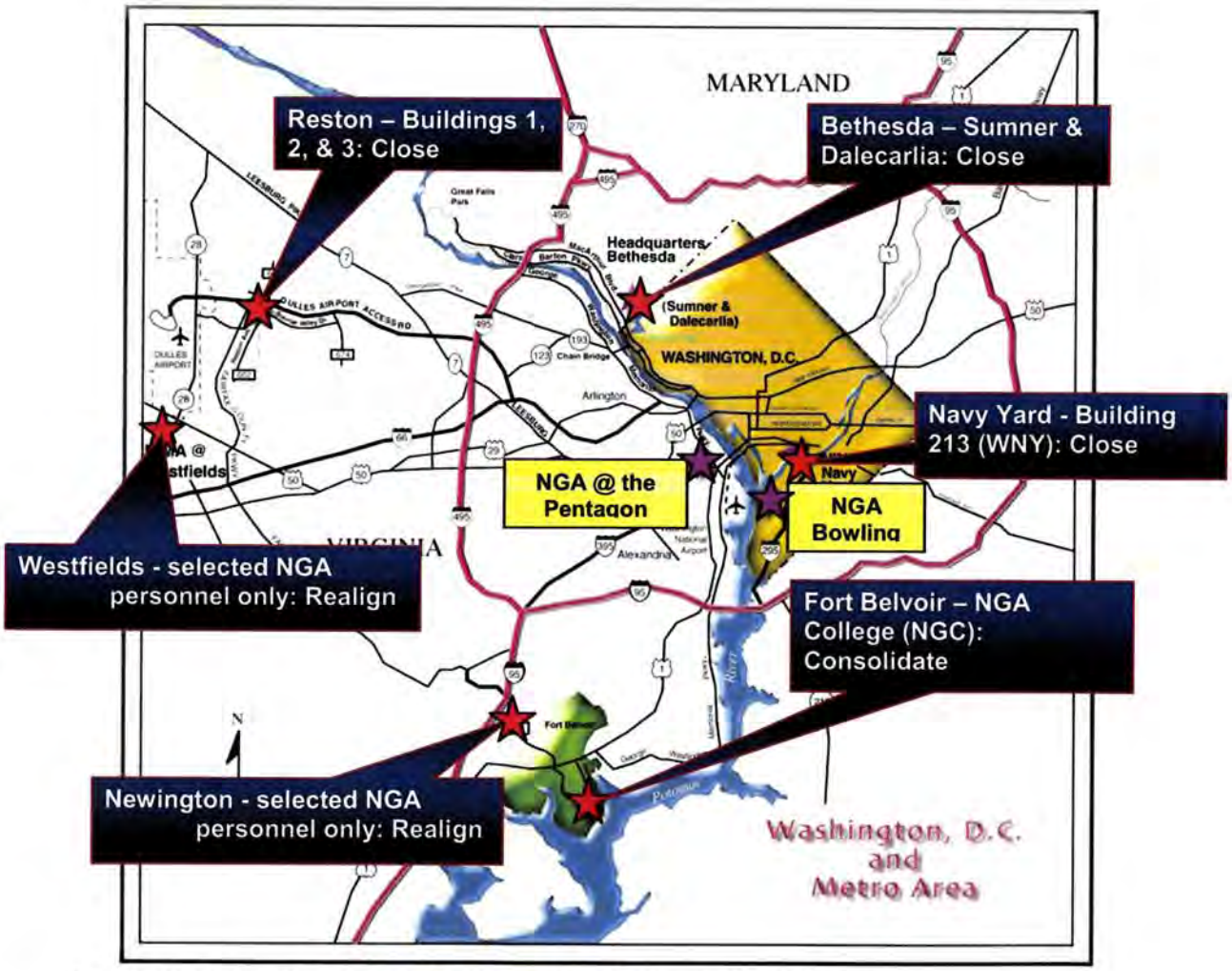

Figure 2. NGA Personnel at Sites in the National Capital Region

The availability of parking and public transportation varies from site to site. For instance, at Bethesda, parking is limited and transportation to and from the nearest Metrorail station is by bus that takes about 20 minutes to go just a few miles. There are vanpools and carpools using about 5% of the parking spaces. At the Reston site, there is very limited public transportation and parking is readily available. At the Washington Navy Yard, parking onsite is limited, with a shuttle service provided to and from a remote parking lot; public transportation is readily available. Parking and public transportation availability, along with the agency's mission (i.e., crisis work and secure work environment) and irregular employee hours to satisfy this mission

has influenced how many employees are currently taking advantage of mass transit and ride-sharing.

As provided for in the Defense Base Closure and Realignment Act (BRAC) of 1990 (Public Law 101-510), as amended 9 November 2005, NGA must close six of its sites (Figure 2.) and realign to Fort Belvoir, Virginia. Consistent with the law, the BRAC actions must be initiated by no later than September 15, 2007, and completed by no later than September 15, 2011. The ROD identified the Engineer Proving Grounds (EPG) as the site for NGA to construct a 2.4 million square-foot Sensitive Compartmented Information Facility (SCIF) for 8500 civilians, military personnel and contractors. The ROD also required that structured parking be provided. NGA used the parking ratio set forth by the "Transportation Element" of the Comprehensive Plan in sizing the parking garage. The Comprehensive Plan states that offices in suburban areas beyond 2,000 feet of Metrorail will have parking ratios of 1:1.5 to 1:2 [space:employee], with the former as the starting point and the latter as the ultimate target over time.

EPG is bounded by I-95 to the east, by Rolling Road and residential properties to the west, by residential properties to the north, and by Fullerton Road and commercial properties to the south (Figure 3). Access to EPG is currently via the Barta and Backlick Roads intersection. NGA occupation of EPG requires, at a minimum, the construction of the Fairfax County Parkway and connections to the I-95 corridor. A connector road from the Fairfax County Parkway will be constructed to provide access to the site. The road will be four lanes, with a center median. Additional entrances, ramps and flyovers are still under consideration by the Department of the Army, in coordination with Virginia Department of Transportation.

Public transportation to EPG does not currently exist, except for one public bus route that passes the Barta/Backlick Road intersection. There are metrorail and train stations nearby, but no bus service links the mass transit stations with EPG or communities with EPG.

Employee Location

During the preparation of the *Final Environmental Impact Statement for Implementation of 2005 Base Realignment and Closure Recommendations and Related Army Actions at Fort Belvoir, Virginia*, dated June 2007 (herein referred to as FEIS), several assumptions were made. It was estimated that about 50 percent of the existing employees might change their home residence (Figure 4.) because their job would be transferred to Fort Belvoir, although they are not required to move. It was further assumed that these employees would be redistributed within the region as the current Fort Belvoir employees are distributed (Figure 5). The time frame for this shift to occur cannot be predicted, though it would be expected to take up to 10 to 15 years. These projections indicate that many of the employees could relocate to the Northern Virginia I-95 corridor including Fairfax County, Prince William County, and Stafford County and the city of Fredericksburg. This information is invaluable in targeting specific transportation alternatives in each county.

The TMP targets actions related to employees' current residences. As stated above, NGA has facilities around the NCR, including at Fort Belvoir, and employees move from site-to-site frequently during their career at NGA. Employees, therefore, do not tend to move but rather make the commute to their new office until they move to another NGA site. Over the years, it is expected that with attrition and new hires, the residential distribution will eventually reflect that of the rest of the Fort Belvoir population but in the short-term, NGA is not expecting many employees to move closer to Fort Belvoir.

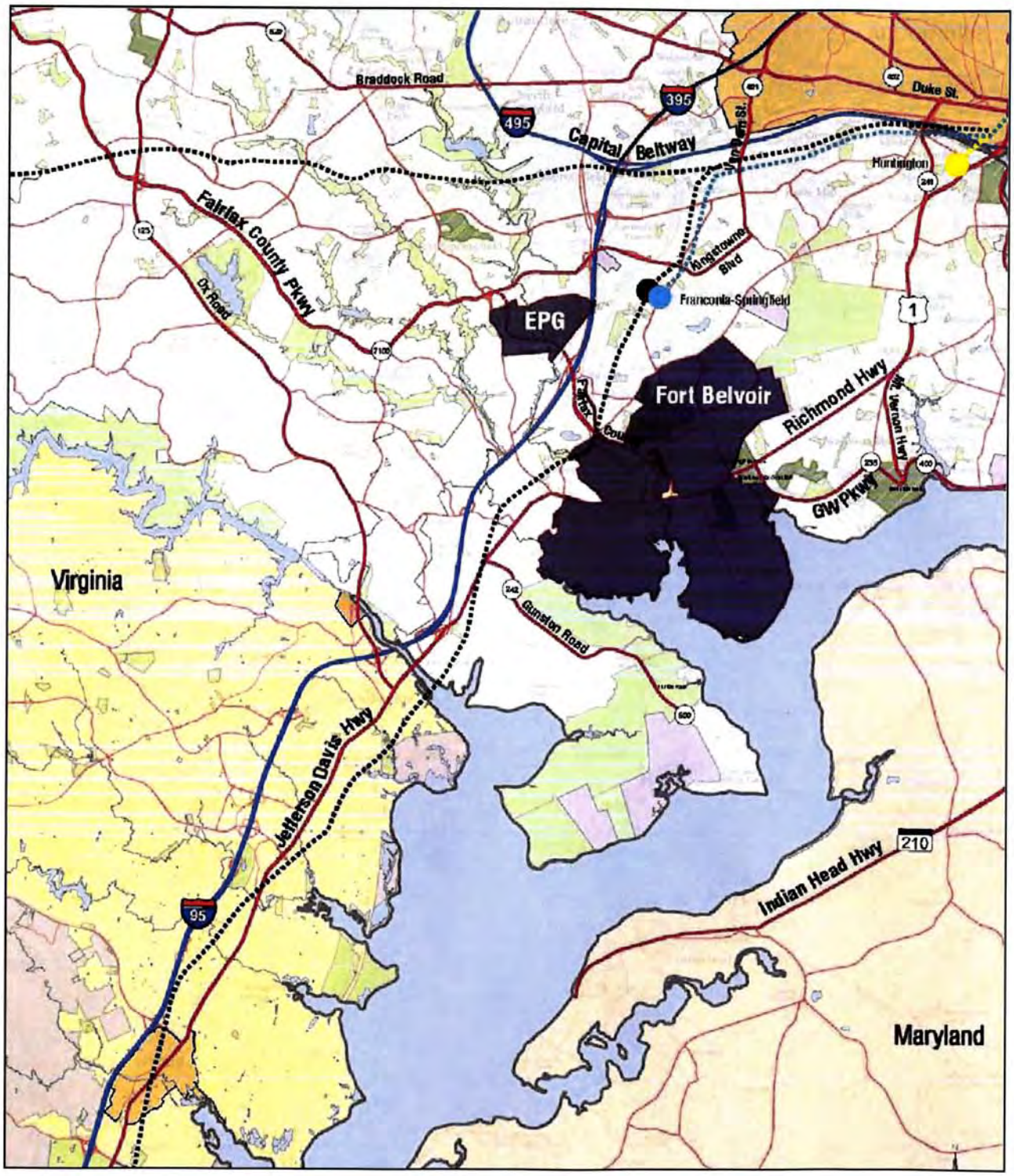

Figure 3. Existing Regional Transportation Network

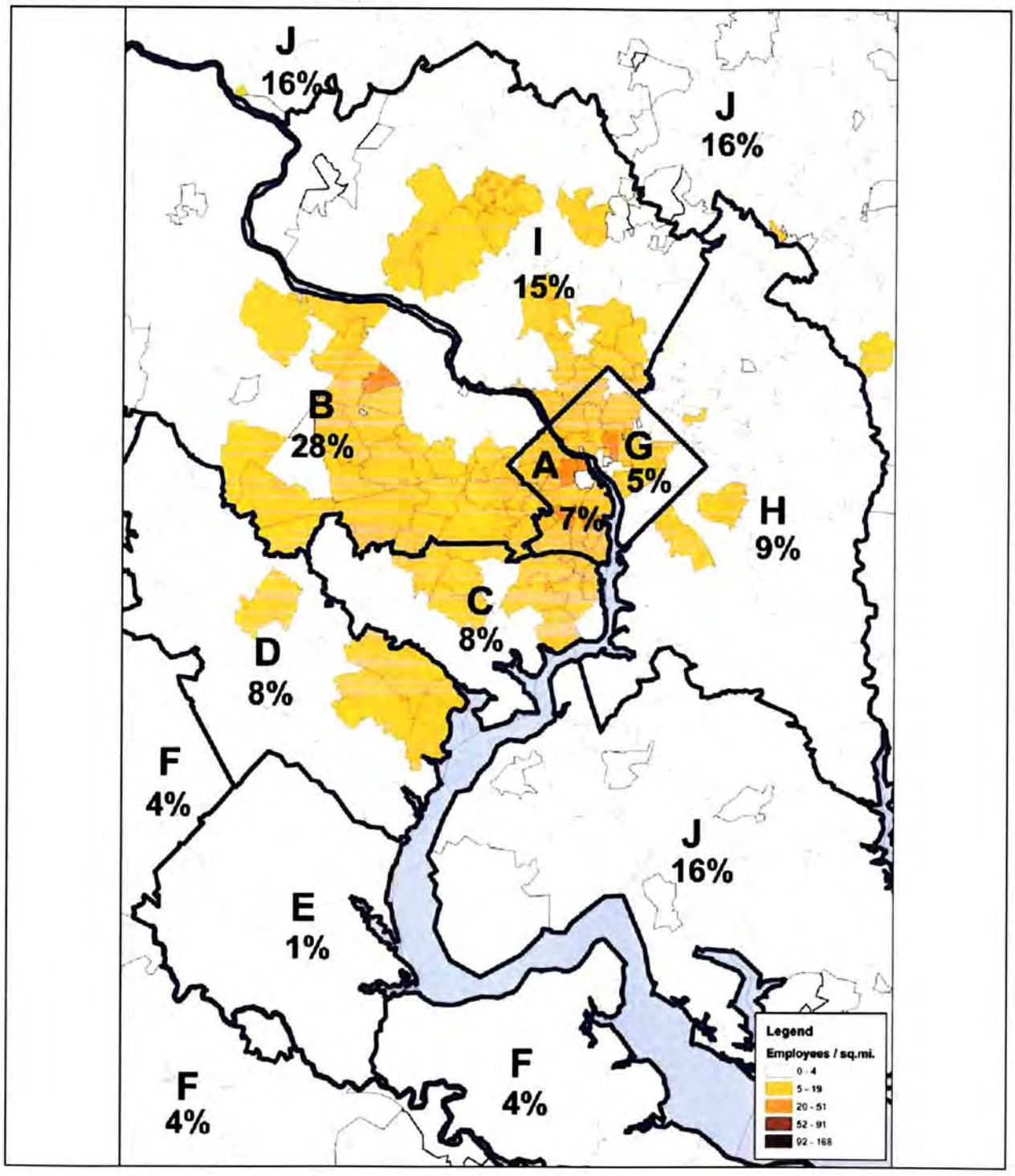

Figure 4. Current Residential Distribution of NGA Employees

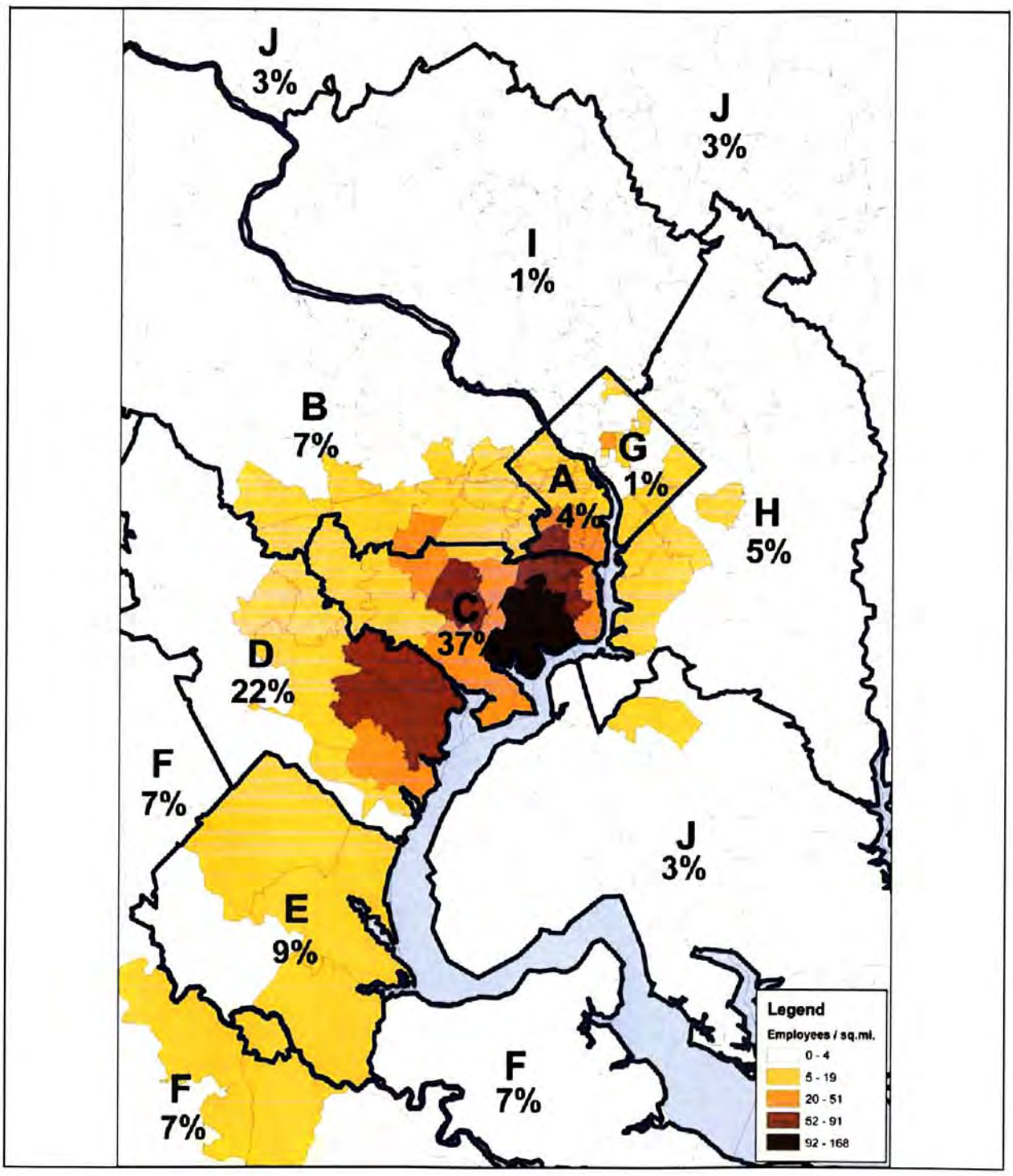

Figure 5. Current Residential Distribution of Fort Belvoir Employees

Transportation Impacts

During the preparation of the FEIS, transportation analysis was performed to provide sufficient detail for assessing the traffic impacts of implementing BRAC and to identify potential mitigating actions; the transportation section of the FEIS has been included in Appendix I. The studies used the regional travel demand model maintained by the Metropolitan Washington Council of Governments. The preferred or proposed alternative of the FEIS sited both NGA and Washington Headquarters Service (WHS) on EPG. However, the decision to locate WHS on EPG has been deferred by the Department of the Army, pending the outcome of an Environmental Assessment (EA) for siting WHS. The ROD acknowledged that implementing BRAC would be "expected to have significant adverse effects on the transportation system, regardless of the land use alternative selected," and identified several transportation projects, briefly described below, to be adopted and/or to seek funding for implementation. It was assumed that the segment of the Fairfax County Parkway, between the Franconia-Springfield Parkway and Fullerton Road, would be constructed.

- An access road beginning at the existing flyover ramp on southbound I-95 just south of its interchange with Franconia-Springfield Parkway, then proceeding along the flyover over Backlick Road to southbound Backlick Road and toward the west on a new alignment to the EPG loop road—a distance of approximately 0.3 mile.
- An access road beginning at the existing flyover ramp connecting the northbound I-95 HOV lanes to the northbound I-95 mainline just north of its interchange with Fairfax County Parkway, then proceeding west on a new alignment over southbound I-95 and Backlick Road to the EPG loop road—a distance of approximately 0.3 mile.
- An access road beginning at the existing exit ramp connecting southbound I-95 to westbound Fairfax County Parkway, then proceeding toward the northwest on a new alignment to the EPG loop road—a distance of approximately 1.0 mile.
- Modifications to the intersection of Backlick Road and Barta Road at the existing entrance to the EPG.
- Construction of a ride-share facility on EPG.

While the EA for the WHS is being written, new traffic studies are being performed by the Army to analyze the impacts of just the NGA population and to better define the needed road improvements to mitigate those impacts. Based on current modeling, the first road improvement detailed above would not be needed. NGA is working closely with the Army to ensure the needed roads are identified, funded and scheduled.

Marketing/Communication

NGA recognizes implementation of the TMP should begin immediately. Marketing of transportation alternatives has already begun (see end of this section for examples). The NCE website on the NGA network informs employees of the status of the project and plans for the future. The website contains helpful information and provides links to related transportation information and services. The Mass Transit Survey of 2005, available at the end of this section, makes it clear that NGA must proactively and aggressively change the trend and mindset from the use of single-occupancy vehicles to transportation via car/vanpools and mass transit.

Appendix A.
Transportation Committee

Transportation Committee

NGA will establish a Transportation Committee. The Committee/Committee Chairperson will, at a minimum:

- Manage the transportation and parking issues and enforce the TMP.
- Establish goals and measures, monitor progress, and take action to ensure those goals are met.
- Serve as the liaison between NGA and Fort Belvoir.
- Increase awareness of national and regional initiatives and link marketing efforts to national modal days (e.g., Walk to School Day or Bike to Work Day).
- Communicate to employees and managers about the status of the program, share information about initiatives, etc.
- Conduct employee surveys, as needed.
- Integrate with the New Employee initiatives, to include provide a briefing and information package.
- Review the TMP annually. The TMP is intended to be dynamic, with changes being made as needed. If no changes are made over a 12 month period, each element of the plan will be reviewed. TMP elements will be improved/expanded, if required.

Appendix B.
Transit Services

Transit Services

NGA understands that of all the transportation alternatives presented in this TMP, access to public transportation is one of the most critical to parking and traffic management. NGA is committed to:

- Providing shuttle service to/from Metrorail and VRE stations
- Providing shuttle service to/from other IC agencies
- Encouraging travel to/from the Pentagon and other DC sites through NGA provided connection to the Metrorail
- Investigating bus service options, including DoD-sponsored routes
- Identifying security concerns and any mitigations to allow better (but controlled) public transportation access to EPG
- Promoting transit ridership
- Measuring and monitoring ridership and making changes, when and where needed
- Publicizing and promoting the Transit Subsidy Program

The Rail System

While no rail transit service is provided directly to EPG, two rail services— Washington Metropolitan Area Transit Authority (WMATA, herein referred to as Metrorail) and the Virginia Railway Express (VRE) —have stations within a few miles of EPG, as discussed below. In addition, the MARC system connects to both the Metro and VRE systems and may offer travel opportunities for NGA employees.

Metrorail. Metrorail has one station that serves EPG. The Franconia-Springfield station on the Blue Line is approximately 3 miles northeast of EPG. The Blue Line provides service to Ronald Reagan National Airport and the Pentagon, as well as the central core area of Washington, DC, with connections to each of the other Metro lines. Metro operates 7 days a week with weekday service generally available from 5:30 AM to midnight. Service on the Blue Line generally is 6 minutes during peak times and 12 minutes during off-peak times. The Franconia-Springfield Station is also a stop for the Virginia Railway Express, Fredericksburg Line (see additional information below).

NGA is planning to provide shuttle service to/from the Franconia-Springfield Station. Shuttle times to/from the station will complement both the train and metrorail schedules. Shuttle service during the non-peak times will be needed to support ridership to the Pentagon and other DC destinations, as well as to provide service to the mid-afternoon VRE trains. Exact schedules and shuttle sizes (e.g., van versus bus) have not yet been established.

Information about the Metrorail is provided at the end of this Appendix. WMATA also has a weblink: http://www.wmata.com/default.cfm.

Virginia Railway Express (VRE). VRE connects Northern Virginia and Washington, D.C. with commuter rail service on two lines, one from Fredericksburg and one from Manassas. Three VRE stations are in the general vicinity of Fort Belvoir. The Lorton station is approximately 4.5 miles south of EPG. The Franconia-Springfield station is adjacent to the Franconia-Springfield Metro station, approximately 3 miles northeast of EPG. The third station, the Manassas line station closest to EPG, is the Backlick Road station, located about 4.5 miles north of EPG. The Fredericksburg Line operates between Fredericksburg and Union Station in Washington, DC. It serves locations in Stafford County, Prince William County, Fairfax County, Alexandria, and Arlington County. Service frequency at these stations is every 30 minutes from approximately 6:00 AM to 8:40 AM and from 4:00 PM to 7:15 PM. There is one mid-afternoon train (i.e., 1:25 PM), heading southbound from both stations. The Manassas Line operates between Broad Run/Manassas and Union Station. It serves locations in Prince William County, Fairfax County, Alexandria and Arlington County. Service frequency at the Backlick Road Station is every 40 minutes from approximately 5:30 AM to 8:20 AM and from 4:20 PM to 6:45 PM. There is one mid-afternoon train (1:44 PM), heading southbound.

At this time, NGA is planning to provide separate shuttle service to/from the Franconia-Springfield Station and, if ridership warrants, the Backlick Road Station (i.e., not to the Lorton Station). Shuttle times to the Backlick Road Station will coincide with the train schedule, and scheduling shuttles to/from the Franconia-Springfield Station will complement both the train and metrorail schedules. Shuttle service for the Backlick Road mid-afternoon train would be on an as needed basis, with employees requesting a ride up to the day needed. There will be sufficient shuttle service to the Franconia-Springfield Station, as described above, for employees to catch the mid-afternoon train. Exact schedules and shuttle sizes (e.g., van versus bus) have not yet been established.

Information about each station is provided at the end of this Appendix, along with the current schedules. VRE also has a weblink: http://www.vre.org/ .

MARC Trains. The MARC Train Service (MARC) is an integral component of Maryland's transportation system. There are three lines, between Washington, DC and Baltimore, MD; Washington, DC and Perryville, MD; and Washington, DC and Martinsburg, WV. All lines end at Union Station in Washington DC. Riders would have to take a blue line train to the Franconia-Springfield Station in order to take advantage of the NGA shuttle. It is difficult to determine if any NGA employee will ride the MARC trains, but that service does provide opportunities for employees to get to EPG via this route. Information about the MARC system is included in this Appendix. MARC also has a website: www.mtamaryland.com .

Bus Service

Presently, there is no bus service to EPG. A number of bus routes operate within a half-mile or less of the site. These include Fairfax Connector Routes 304, 305, 331, and 332 and Metrobus Routes 18R and 18S. All six of these routes connect to the Franconia-Springfield Station. Discussions with bus services will have to be undertaken to identify potential new bus stops or bus routes. In addition, NGA will need to investigate whether or not commuter buses or other non-NGA buses can access EPG without significant delays caused by security screening passengers and vehicles.

Some of the local bus services and commuter services are identified below. Most of the local buses are focused on getting commuters to a VRE or Metrorail station. Even with the shuttle

service NGA provides from the two VRE/Metrorail stations, described above, it is difficult to know, at this time, if employees would drive to a locally-provided commuter lot, get on a bus, and then get on a shuttle to their final destination. This would have to be further investigated, too.

Metrobus. Metrobus is part of WMATA's transit system and is the regional bus service, with over 350 routes. Weblink: http://www.commuterpage.com/metrobsched.htm

Fairfax Connector. The Fairfax Connector bus system runs seven days a week with service throughout Fairfax County and to Metrorail Stations on the Orange, Blue and Yellow lines, including the Pentagon Transit Center. Currently, South County Bus Routes 331 and 332 pass the Barta/Backlick Intersection of EPG, but the purpose of those routes is to and from the Franconia-Springfield Metro/VRE Station. NGA will investigate the feasibility of having a bus stop on EPG. Weblink: http://www.fairfaxcounty.gov/connector/

OmniRide. OmniRide is Potomac and Rappahannock Transportation Commission's (PRTC's) commuter bus service. OmniRide offers convenient weekday (Monday - Friday) service from locations throughout Prince William County along the I-95 corridor and Manassas and Gainesville areas along the I-66 corridor to destinations that include the Vienna, West Falls Church and Franconia/Springfield Metrorail Stations, the Pentagon, Crystal City, Rosslyn/Ballston, downtown Washington, D.C., Capitol Hill, and the Washington Navy Yard. PRTC also provides Metro Direct to the Franconia-Springfield and West Falls Church Metro stations. The Metro Direct services are ideal for commuters with non-traditional work schedules and those who need midday commuting options. NGA will investigate the potential to provide service to EPG, particularly when the HOV connection to I-95 is completed. Weblink: http://www.prtctransit.org/

OmniLink. OmniLink is PRTC's local weekday (demand responsive) bus service that operates in Eastern Prince William County and the Manassas area. Unlike a traditional public bus service that operates only along a designated route, with advanced notice, OmniLink buses can be rerouted to serve locations up to ¾ mile off the route when there is time available in the schedule. There is a Cross-County Connector, going from Manassas to Woodbridge. Weblink: http://www.prtctransit.org/omnilink/index.php

Loudon County Transit Commuter Bus Service: Loudoun County Transit operates throughout Loudoun taking passengers into the Metropolitan Washington region. These same commuter buses also bring passengers to Loudoun County via West Falls Church Metro Station. Loudoun County Transit operates rush hour service from park and ride lots in Loudoun to destinations that include West Falls Church Metro, Rosslyn, the Pentagon, and Washington, D.C. Weblink: http://www.loudoun.gov/Default.aspx?tabid=785

Other bus systems which target VRE and Metrorail Stations as the end point include, but are not limited to: Arlington ART Bus, DASH/Alexandria Transit Company, FRED, and GRTC. Comparable systems exist in Maryland. In addition to these local bus systems, one private company, Lee Coaches, also provides commuter bus service to Fort Belvoir from the Fredericksburg/Stafford County area.

Appendix C. Parking Management

Parking Management

At each of NGA's existing NCR locations, there are a variety of parking capacities and configurations, ranging from very limited parking at the Bethesda site, plentiful parking at Reston, to limited parking and remote parking for the Washington Navy Yard. Fundamental to all sites, though, is the reserved parking for different groups, to include seniors, Band V/GS-15 employees, all other employees, van/carpools, handicap and VIPs. At the New Campus, there will be approximately 5200 parking spaces within NGA's secure perimeter, and 550 spaces for site visitors and students attending NGA College classes or NGA-hosted conferences. NGA understands that in addition to the aggressive program identified in this TMP, reserved parking needs to be limited, as this decreases the number of parking spaces available for general use. At this time, reserved parking will be set aside for senior management (i.e., SES, SIS, DISLs), some security personnel, and employees working within the 24/7 Operations Center. The existing parking policy will have to be revised; the current policy is included in this Appendix.

NGA is committed to:

- Providing unlimited parking for car/vanpools.
- Limiting reserved parking.
- Setting aside approximately 140 handicap spaces.
- Providing parking facilities for bicycles, motorcycles, and hybrid vehicles.
- Providing shower and locker facilities for bicyclists and access to regional trails.

Appendix D. Alternate Work Hours & Locations

Alternate Work Hours & Locations

Alternate Work Schedules

Alternate work schedules, such as flex time, variable work hours and the compressed work week have been successful in spreading peak hour traffic volumes over the peak period and to reduce traffic volumes two days of the week. Flex time includes staggered and flexible work hours which allows employees to arrive or leave before or after the normal congested commuting period. The flexible working arrangements increases the opportunity of prospective rideshare employees having similar core period working hours. The compressed work week includes working four 10-hour days (4/10), or nine days over the two week period (5/4/9). Generally, with the 5/4/9 plan, employees are off every other Friday or Monday.

NGA currently offers alternate work schedules, with the work hours policy included in this Appendix. The program will be re-evaluated and modifications made, such as to the core hours. In addition, the program will be marketed and communicated to all employees. Participation will be monitored and tracked to help identify any gaps or hurdles to participation.

Telework

Telework is defined as any alternate work arrangement in which an employee performs officially assigned duties at an approved alternate location other than the primary worksite. The alternate location where work is performed might be a residence, a GSA Telecenter, an agency office closer to the employee's residence, or any other approved location. Telework can help reduce traffic congestion and can benefit the workforce by reducing commuting times and employee absenteeism. In addition, telework can be an effective recruitment and retention tool and effective means for continuity of operations during inclement weather and disasters.

NGA has a telework program. The Program Manager is Ms. Deborah Harrison, 301-227-3791. There is an NGA website dedicated to this program. The NGA Telework policy, the Telework Agreement Form, the tri-fold brochure, and list of points of contact for each agency Directorate are included in this Appendix.

At present, there are 48 civilians participating in the program, with formal telework agreements executed. However, there are many other employees who participate through informal agreements with their supervisors, such as working a home for a day or two, or working at another NGA location; exact numbers of informal agreements cannot be captured, as a result. Improved participation in NGA's Telework Program is being aggressively pursued and participation will be monitored. The focus will be on two basic options:

- Work at home, for unclassified work only
- Work at GSA Telecenters in the NCR, for unclassified work only

Options also being pursued include:

- Using kiosks set aside within the offices of another IC agency
- Partnering with other IC agencies to develop a telework center(s) for both classified and unclassified work

Suitability of Jobs and Eligibility of Employees. Telework agreements are formed based upon management's discretion that a position is suitable for telework. While all jobs may not be

suitable, telework arrangements can be feasible for a variety of tasks, including data analysis, data entry, policy development, research, programming and word processing. Rather than thinking about the suitability of the job, potential teleworkers should think of their jobs as a group of tasks, some of which may be able to be performed from an alternate approved location. Managers also determine which employees are suitable for telework based on personal characteristics such as demonstrated dependability, ability to handle responsibility, and ability to self-motivate.

Types of Telework Arrangements. There are two basic types of telework arrangements, "regular and recurring" and "ad hoc," based on the recognition that organizational and employee needs may vary considerably, and should be considered on a case-by-case basis. Some situations require occasional or infrequent arrangements while others are more conducive to longer periods or regularly scheduled arrangements. The intent in offering two types of telework is to provide supervisors, managers, and employees with maximum flexibility to establish an arrangement that is responsive to their particular situation.

- **Regular and Recurring**--approved work schedule where eligible employees regularly work at least one day per biweekly pay period at an alternate worksite.
- **Episodic or Situational (Ad hoc)**--approved telework performed at an alternate worksite on an occasional, one-time, or irregular basis. This type of telework can offer a good solution for an employee who is dealing with a temporary medical situation, or during inclement weather or disaster.

Telework as a Reasonable Accommodation. Telework can be an excellent tool for accommodating some employees with disabilities, enabling them to work more hours and/or manage their medical conditions more effectively. As an incentive to encourage telework, the DoD Computer/Electronic Accommodation Program (CAP) will provide computer systems and office equipment to employees with qualified disabilities who have a signed telework agreement.

Work at home. The equipment needed for an employee's telework arrangement varies depending on the employee's work assignment, number of desired telework days, and necessary degree of connectivity to NGA systems. Equipment needed might include a laptop or might be as simple as notebooks, reading materials, and writing utensils. All work performed from home must be unclassified.

GSA Telecenters. GSA Telework Centers are located throughout the NCR. As a part of the Department of Defense (DoD), NGA's cost for using the telework centers is paid for by DoD on a first-come/first served basis as funding permits. GSA telework centers provide much of the same equipment that you would find in a traditional office setting such as computers, printers, and fax machines. Work performed from telework centers must be unclassified. Locations of the centers are provided in this Appendix.

Appendix E. Ride-sharing

Ride-Sharing

Currently NGA has a ride-sharing program, and parking spaces closest to the building entrances are reserved for van/carpools. Approximately 5% of the parking spaces are set aside for van/carpools; this percentage is based on demand. Along with use of mass transit, an aggressive ride-sharing program is crucial to ensuring that parking need and the number of parking spaces is balanced. Employee education is paramount to the success of this program.

NGA is committed to:

- Reserve parking spaces for car/vanpools.
- Offer a ride-matching service and identify/work with local or regional ride-matching services.
- Identify park-and-ride lots in the NCR to help employees develop carpools and identify financial opportunities to form vanpools.
- Focus increased carpool/vanpool efforts on areas currently unserved by transit.
- Research guaranteed ride home opportunities available to the federal government.
- Market the program and conduct surveys, as needed.
- Coordinate with commercial vanpool vendors, such as Van Pool Services Inc.

Carpools

Carpools generally operate on a share-the-ride, share-the-cost basis. With an average of two to three people, each member may not be required to drive more than one out of every two or three weeks.

At the New Campus, a carpool is defined as two or more people in a car. The carpool will be registered with Transportation Coordinator, to include the name(s) of the carpool riders, and one hangtag will be provided. On occasion, all the riders may not be going to work, such as during vacations and sick days. During that time, the carpool can keep the hangtag. However, should work hours change, or transfers to another assignment outside the New Campus occur, the carpool ceases to exist when only one member remains. New members may be recruited into the carpool, thus preserving the carpool's space reservation and providing the carpool with a recruiting tool to continue to exist. The Transportation Coordinator will closely monitor carpools to ensure the program is being used appropriately.

Vanpools

Vanpools are more formal operations, with a primary and back-up driver and a vehicle that typically carries up to 15 passengers. Vanpools generally need to operate at full occupancy (14 riders) to cover operating expenses. To assist new or potential operators a number of state and local governments provide startup seed money to vanpool drivers. The programs include interest free loans for a specified period of time and passenger subsidies. For example the Potomac and Rappahanock Commission provides funding for VanStart and VanSave programs.

The VanStart program provides financial assistance on a temporary basis to new vanpools starting to build ridership. The VanSave program provides assistance to vanpools experiencing a loss of ridership that threatens the survival of the vanpool arrangement. Prince William County residents can also take advantage of the Personal Property Tax Relief Program for vanpools. To be eligible for any of these programs, eligibility requirements must be met. Information about each of these programs is included in the back of this Appendix and at the weblink: http://www.prtctransit.org/.

Guaranteed Ride Home

A reason often cited to not participate in ridesharing arrangements is the need to have a personal vehicle at hand for emergency situations. NGA will identify opportunities to provide emergency transportation to one's home or child's school, daycare, etc. This may include a limited taxi/bus fare subsidy, volunteers, and/or participation in a regional ridematching program that offers this service, such as Commuter Connections (see description below).

Ridematching Services

NGA will continue to offer ride-matching services to its employees. In addition, NGA will also educate employees about the other ridematching services within the NCR so that carpools may be established with employees commuting along the I-95 corridor; the flyovers from I-95 planned for the EPG and the commuter lot planned at the intersection of Barta and Backlick Roads provide opportunity for easy drop offs and pick ups for commuters. Several examples of regional ride-sharing services are as follows:

Commuter Connections is a regional network of transportation organizations coordinated by the Metropolitan Washington Council of Governments. Commuter Connections offers free services to those who work in the Metropolitan Washington area. Services provided include ridematching for carpools and vanpools and administration of the Guaranteed Ride Home program. Weblink: http://www.mwcog.org/commuter/ccindex.html

The ***RideSources Program*** is operated by the Fairfax County Department of Transportation and is a member of Commuter Connections. The RideSources program provides commuters with free ride-sharing information, including ridematching assistance to form or join carpools or vanpools. A brochure is found at the end of this Appendix and the weblink is http://www.fairfaxcounty.gov/fcdot/sources.htm.

OmniMatch is a free, personalized ridematching service for carpoolers and vanpoolers sponsored by the Potomac and Rappahannock Transportation Commission. Through the use of an extensive regional database, OmniMatch links commuters who have similar work hours, origination and destination points. There are OmniMatch carpools and vanpools originating from the Prince William and Manassas area with destinations throughout Northern Virginia, the District and Maryland. Weblink: http://www.prtctransit.org/.

Ride-sharing Marketing

Basic to the success of any TMP program are employee education and information dissemination. At a minimum, NGA will work with the local/regional Ridesharing Programs in promoting group riding. In addition, NGA will host transportation fairs, distribute ridesharing marketing materials to employees, and display information material, such as posters, brochures,

etc., in common areas. One-on-one service will be provided to employees to identify transportation options, as needed. Education has already started on the New Campus East website, as evidenced by the vanpool Questions and Answers information found at the end of this Appendix.

In order to set objectives and monitor performance, employee transportation surveys will be conducted, as needed. Surveys are useful in determining commuting patterns, mode split, average commute distance and travel times, employee attitudes, needs, and willingness to switch modes. The data will be useful in updating and improving this program.

Appendix F.
Transit Subsidy

Transit Subsidy Program

NGA currently participates in the NCR Transit Subsidy Program. The Transit Subsidy Program allows eligible employees (i.e., DoD civilian and military personnel, including nonappropriated fund employees, who are permanently stationed in the NCR) to receive "transit passes" or metrochek vouchers in amounts equal to their commuting costs, not to exceed $110 per month; contractors are not eligible for this subsidy. The nontaxable benefit applies to both mass transit and qualified vanpool participants. There are currently 99 employees participating in the program, with the highest percentage of participation being Washington Navy Yard personnel. Participation varies annually as employees are transferred from site-to-site. The Financial Management Directorate oversees the program and quarterly distribution of the subsidy.

With the move to the new campus, participation in this program will increase to reflect the significant increase in ridership on mass transit and in car/vanpools; participation will be tracked. In fact, actions are being taken now to encourage employees to join vanpools and ride mass transit to get accustomed to new commuting options before the move. In addition, NGA will investigate transit incentives for contractors, such as whether or not there is a legal requirement, under the Clean Air Act, for an employer of certain sizes to provide such subsidies.

Included in this Appendix are the US Department of Defense (National Capital Region) Public Transportation Benefit Program Application and the brochure on the program.

Related weblinks:

Executive Order 13150, "Federal Workforce Transportation." Executive Order 13150 "Federal Workforce Transportation in the NCR" requires Federal agencies to provide employee incentives to use mass transit to and from work.

DoD Memo related to the program: http://www.dtic.mil/ref/html/Memo-MassTransitBen.pdf

Home page for the transit subsidy program implemented for DoD by Washington Headquarters Service: http://www.dtic.mil/ref/html/NCRTransitpass.html

Appendix G.
Bicycling & Walking

Bicycling and Walking

At the current NGA sites, bicycle racks are provided, and several of the sites have bike lockers. The latter will be provided at the New Campus. In addition, there will be pedestrian/bicycle paths that link EPG to the neighboring communities, and clothes lockers and showers will also be available. Metrorail and VRE provide space for people to bring bicycles on-board the trains, and many of the metrobuses have bicycle racks on the front of the buses to accommodate those riders. Due to the traffic in and around EPG and limited access to trails at this time, bicycling may be limited to transportation to commuter lots and mass transit stations and employees living within a certain radius of EPG vice long distance travel to work.

Walking to existing NGA sites is limited to employees who live within approximately ½ mile from the facility and at those sites where sidewalks/trails provide easy access. At EPG, the distance from the Barta/Backlick Road entrance is about a 20 minute walk, and the distance to the proposed Fairfax County/Cissna Road entrance will be even farther. Therefore, walking to the New Campus will likely be limited to employees residing in neighborhoods immediately adjacent to EPG. Marketing walking as an alternative means of transportation is not viable at this time.

NGA will:

- Investigate whether or not there is a need to provide bicycle racks on some/any of the shuttles planned to and from the Metrorail and VRE stations.

- Educate employees on the bike commuting options, to include identifying bike paths.

- Tap into available services provided by other agencies, such as the Commuter Connections, which has designed a guide to ease the transition to bike commuting for Washington metropolitan area employees and to help employers encourage this smarter way to work. http://www.mwcog.org/commuter/Bdy-bike.html

- Keep track of bike locker use as a means of measuring program participation.

APPENDIX E – PUBLIC COMMENTS AND ARMY RESPONSES

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NCE Parking Lot
Final Environmental Assessment and Draft FNSI
Comments on the EA

Name/Agency	Comment Number	Comment Category	Comment	Response
Federal Agencies (code 'F')				
U.S. Environmental Protection Agency (USEPA)	F-1-1	Mitigation requirements	It is not clear if the vegetation planted [on the project site] is in fulfillment of mitigation requirements to replace uplands, wetlands or forest loss. This should be explained and clarified especially in the Final FONSI.	EA text revised to reflect that vegetation on the project site was planted in fulfillment of requirements agreed to by USACE and Fort Belvoir DPW to restore vegetation that was cleared for contractor parking and storage areas during the construction of NCE (Section 2.1). The vegetation is intended to minimize erosion and provide habitat until the larger, 84-acre parcel that includes the project site is developed as a large-campus tenant similar to NCE.
USEPA	F-1-2	Mitigation requirements	(EA p. 89) EPA appreciates efforts made to minimize impacts to wetland and woodland resources and provide mitigation for unavoidable impacts; but EPA is concerned about the use by the proposed project of property set aside for development of mitigation. When a site is developed for mitigation, there is expectation that the property will be protected from future impacts and allowed to develop into a fully functioning resource. There is considerable time before a mitigation site fully replaces functions and values of the resource that was originally removed or impacted. It is detrimental to "re-start" mitigation. The temporal loss of resource, and the uncertainty that the functions have been fully replaced, complicates the assessment of appropriate mitigation. Consideration should be given to mitigation to account for temporal loss of functions and to be certain that the national goal of no net loss of resources is achieved.	See response to comment F-1-1.
USEPA	F-1-3	Wetlands	(EA p. 59) Wetlands near the project site that may have an impact should be described and quantified. In addition, the functional values of the wetlands should be discussed.	EA text revised to provide additional detail about the wetlands near the project site (Section 3.5.3.2). The proposed action would have no impacts on wetlands near the project site (Section 3.5.3.3)..
USEPA	F-1-4	Stormwater	(EA p. 89) What would be the determining factor for NGA to decide on use of LID measures?	The phrase "if determined feasible" with regard to LID/ stormwater management was deleted from the EA.
USEPA	F-1-5	Hazardous Materials	(EA p. 77) Please ensure that wells that may be closed due to relocation are properly abandoned according to Virginia regulations or guidelines.	Text revised to reference Virginia Department of Health (VDH) regulations/procedures for the closure of Class III groundwater monitoring wells (Section 3.8.2.2).
National Capital Planning Commission (NCPC)	F-2-1	Parking	We note that the applicable NCPC Comprehensive Plan goal is one employee space for every two employees (a 50% level) for the NGA property, which is less than the 60% level allowable under Army regulations. We note that the EA cites a 52% parking level for the current NGA site and the draft 2014 Fort Belvoir Transportation Management Plan (TMP) shows a 59% parking level for the site. It appears that the proposed parking expansion does not conform to NCPC Comprehensive Plan policies.	Fort Belvoir maintains that NCE is not currently bound to the 50 percent parking requirement because the campus (and the entirety of the Fort Belvoir North Area [FBNA]) does not have a two-way connection to the I-95 High Occupancy Toll lanes. Rather, as a suburban federal office complex, NCE is required to maintain a 60 percent parking ratio under applicable NCPC policies. The Fort Belvoir Garrison Commander is preparing a memo that will require NCE to achieve a 50 percent parking ratio once Phase II of the Defense Access Ramp (DAR) project is completed. Once completed, the ramps will provide two-way access to the HOT lanes. NCE has agreed to this requirement. Text was added to the EA reflecting NCE's agreement to this requirement. Fort Belvoir will allow NCE to maintain its 60 percent parking ratio until the second DAR is completed.
NCPC	F-2-2	Mitigation	The proposed project will adversely impact the Army's ability to use the site for its intended purpose as environmental mitigation pursuant to the BRAC ROD.	See response to comment F-1-1.

Name/Agency	Comment Number	Comment Category	Comment	Response
NCPC	F-2-3	Parking	(EA p. 22) Staff considers the existing use of the site for overflow parking as adverse (rather than stated as "no impact") since facilitating "Single Occupant Vehicle" travel reduces demand for carpooling/ vanpooling, mass transit, walking, and biking; undercuts the TMP's effectiveness; and impacts air quality/climate change to a greater degree. Please ensure that the previously-mentioned impact topic descriptions (and No Action alternative) more accurately reflect the adverse impacts from the site's current and continued future use for employee parking.	See response to comment F-2-1. From a land use perspective, the site would continue to be used under the No Action Alternative as it is currently. This would not conflict with the underlying land use designation of Institutional/Professional, nor would it prevent future development of the parcel as an administrative campus as depicted in the *Fort Belvoir Real Property Master Plan* (RPMP). Further, the continued use of the site as overflow parking under No Action would not prevent the use of adjacent/nearby parcels in accordance with their underlying land use designation. The context/baseline for describing short-term construction and long-term operational impacts of the No Action and Proposed Action Alternatives on transportation and air quality resources is whether or not the volume of employee vehicles traveling to NCE would increase. Under either alternative, the volume of traffic would remain the same in the long term, and no new vehicle trips would be created. The proposed parking lot would only accommodate existing vehicles traveling to NCE under the Proposed Action, as would the existing unpaved overflow lot under No Action. Describing reduced demand for other transit modes or continuation of current traffic volumes as adverse impacts on transportation and air quality, respectively, is not valid in this context.
NCPC	F-2-4	Parking/ Formal submittal of project for NCPC review	We refer you to NCPC's Comprehensive Plan for the National Capital to reference policies against which, the parking expansion would be evaluated when submitted for formal NCPC review.	See responses to comments F-2-1 and F-2-3.
State Agencies (code 'S')				
Virginia Department of Environmental Quality (VADEQ), VADEQ Northern Regional Office (NRO), Virginia Water Protection (VWP) Program	S-1-1	Permitting	The VWP Permit is a state permit which governs wetlands, surface water and surface water withdrawals and impoundments. It also serves as § 401 certification of the federal Clean Water Act § 404 permits for dredge and fill activities in waters of the United States. The VWP Permit Program is under the Office of Wetlands and Stream Protection within the DEQ Water Division. In addition to central office staff who review and issue VWP Permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities. **Agency Findings:** The VWP program at the DEQ NRO states that a VWP permit from DEQ may be required should impacts to surface waters be necessary.	The proposed project would have no impacts on wetlands or surface waters (see Section 3.4.2.3).

Name/Agency	Comment Number	Comment Category	Comment	Response
VADEQ, Office of Stormwater Management	S-2-1	Erosion & Sediment Control	The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal non-point source pollution mandates (e.g. Section 313 of the Clean Water Act and federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 2,500 square feet in Chesapeake Bay Preservation Area would be regulated by VESCL&R. Accordingly, the Army must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan should be submitted to the DEQ Northern Regional Office that serves the area where the project is located for review for compliance. The Army is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy.	EA text revised to reflect the project site's location within a Chesapeake Bay Preservation Area (Section 3.6.3.2). EA text revised to note that ESC plan prepared for the project will be submitted to VADEQ NRO for review and approval (Section 4.3).
VADEQ, National Pollutant Discharge Elimination System (NPDES) Permit Program	S-3-1	Construction stormwater management	The operator or owner of a construction activity involving land disturbance of equal to or greater than 1 acre is required to register for coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities and develop a project specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the General Permit, and it must address water quality and quantity in accordance with the Virginia Stormwater Management Program (VSMP) Regulations. **Agency Findings:** The Northern Regional Office had no specific comments regarding the need for water permits (VPDESNPA/MS4). The project manager is reminded to follow all applicable regulations.	NGA (or its contractor) would register for coverage under the General Permit and would prepare a SWPPP as a condition of obtaining registration (Section 3.4.4.1 and Section 4.3).

Name/Agency	Comment Number	Comment Category	Comment	Response
VADEQ, Office of Stormwater Management (OSWM)	S-4-1	Stormwater management	**Agency Findings:** DEQ-OSWM finds that the proposed project will not result in land disturbance on lands analogous to RPA lands, but will impact lands analogous to RMA lands. **Requirements:** Development in areas analogous to RMA is subject to general performance criteria found in 9 VAC 25-830-130 of the *Regulations*, including requirements to: • minimize land disturbance (including access and staging areas); • retain indigenous vegetation; and • minimize post-development impervious surfaces. For land disturbance over 2,500 square feet, the project must comply with: • the requirements of the *Virginia Erosion & Sediment Control Handbook, Third Edition, 1992,* and • stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations* (9 V AC 25-870-10). **Conclusion:** DEQ-OSWM determined that the proposed activities will be consistent with the regulations and the Chesapeake Bay Preservation Act and the Coastal Lands Management enforceable policy of the Virginia Coastal Zone Management Program (VCP), provided the above requirements are adhered to.	EA text revised to reflect the location of the proposed site in a Chesapeake Bay Preservation Area (Section 3.4.4.1 and Section 4.2). EA text revised to reflect adherence of the proposed action to the specific regulations noted in comment S-4-1 (Section 4.2 and Section 4.3).
VADEQ, Air Division	S-5-1	Air quality	The Army should take all reasonable precautions to limit emissions of NOx and VOCs, principally by controlling or limiting the burning of fossil fuels.	Comment noted.
	S-5-2		**Asphalt Paving:** In accordance with 9 VAC 5-45-780, there are limitations on the use of "cut-back" (liquefied asphalt cement, blended with petroleum solvents) that may apply to paving activities associated with the project. Moreover, there are time-of-year restrictions on its use during the months of April through October in VOC emission control areas.	Application of surfacing materials would be in accordance with all applicable federal and state regulations.
	S-5-3		**Fugitive Dust:** During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 V AC 5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following: • Use, where possible, of water or chemicals for dust control; • Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; • Covering of open equipment for conveying materials; and • Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.	As stated in the EA (Section 4.2), BMPs would be used during construction to minimize emissions of fugitive dust.
	S-5-4		If project activities include the open burning of construction material or the use of special incineration devices, this activity must meet the requirements under 9 VAC 5-130 et seq. of the Regulations for open burning, and may require a permit. The Regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact Fairfax County officials to determine what local requirements, if any, exist.	This comment is not applicable because the proposed action would not involve open burning.

Name/Agency	Comment Number	Comment Category	Comment	Response
	S-5-5		The installation of fuel-burning equipment (e.g. boilers and generators), may require permitting from DEQ prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). The applicant should contact DEQ-NRO for guidance on whether this provision applies.	This comment is not applicable because no new permanent sources of emissions would be created as part of the proposed action.
VADEQ, Division of Land Protection and Revitalization (DLPR)	S-6-1	Hazmats	One Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site and two Formerly Used Defense Sites (FUDS) [are located] in close proximity to the project site: **CERCLA:** ID# VA5210020082- Fort Belvoir, Belvoir Research & Development Center, Fort Belvoir, VA 22060. NPL Status: Not on the NPL. **FUDS:** 1) Fort Belvoir. FUDS# C03VA0518. Fed ID# VA9799F1717. 2) Fort Belvoir Engineer Training. FUDS# C03VA0099. Fed ID# VA9799F1579	Comment noted. As stated in the EA, the proposed action would not impede ongoing long-term monitoring of the benzene plume underlying the project site (Section 3.4.3.1).
VADEQ, NRO	S-6-2	Hazmats	DEQ's petroleum contamination (PC) case files may identify petroleum releases that should be evaluated by the project engineer or manager to establish the exact location of the release, the nature and extent of the petroleum release, and the potential to impact the proposed project. The facility representative should contact the Tanks Program at DEQ-NRO for further information and to access the administrative records of the PC cases which are determined to be in close proximity to the proposed project.	Comment noted. As stated in the EA, long-term monitoring of the benzene plume underlying the project site would continue (Section 3.4.3.1).
VADEQ, Federal Facilities Restoration Program	S-6-3	Hazmats	The DEQ's Federal Facilities Restoration Program recommends contacting Ms. Kelly Lease, Environmental Compliance Branch Chief, Directorate of Public Works, Environmental & Natural Resource Division, Fort Belvoir, Virginia at (703) 806-0020 for information concerning Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) obligations at Fort Belvoir's Main Post. Ms. Lease, or her designee, should be advised prior to initiating any land, sediment, or groundwater disturbing activities at or near Military Munitions Response Program range areas and Main Post Solid Waste Management Units (SWMUs).	Ms. Lease has been actively involved in reviewing the EA.
VADEQ	S-6-4	Hazmats	**Generated Waste:** Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.	EA text revised to reflect the need to comply with applicable federal, state and local laws and regulations with regard to potentially contaminated soils or construction-related wastes (Section 3.8.2.2).
VADEQ	S-6-5	Hazmats	**Asbestos-containing Material and Lead-based Paint:** Any structures being demolished, renovated or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to construction. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9 VAC 20-80-640 for ACM and 9 VAC 20-60-261 for LBP must be followed.	Comment noted. As stated in Section 1.4 of the EA, the proposed action does not involve the alteration or removal of existing structures and has no potential to result in impacts on or from these substances. (The 28,000-square-foot modular building on the project site would be removed under a separate action for which Fort Belvoir DPW has prepared a Record of Environmental Consideration [REC].)
VADEQ	S-6-6	Hazmats	DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management (IPM). The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible.	Text revised to note that herbicides and pesticides used on the parking lot site in the long term would be applied in accordance with Fort Belvoir's IPM policies (Section 3.8.3.1).

Name/Agency	Comment Number	Comment Category	Comment	Response
Virginia Department of Conservation and Recreation, Division of Natural Heritage (VA DCR-DNH)	S-7-1	Biological resources	**Agency Findings:** VA DCR-DNH searched its Biotics Data System for occurrences of natural heritage resources in the project vicinity…..[D]ue to the scope of the activity and the distance to the resources, adverse impacts on the resources are not expected.	Comment noted.
	S-7-2		**State-listed Plant and Insect Species**: VA DCR-DNH found that the propose project will not affect any documented state-listed plants or insects.	Comment noted.
	S-7-3		**State Natural Area Preserves:** There are no State Natural Area Preserves under OCR's jurisdiction in the project vicinity.	Comment noted.
	S-7-4		**Recommendations:** Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized. New and updated information is continually added to the Biotics Data System.	Comment noted.
Virginia Department of Game and Inland Fisheries (VDGIF)	S-7-5	Biological resources	**Agency Findings:** DGIF reviewed the FEA and found that based on the scope and location of the proposed work, adverse impacts upon species or resources under its jurisdiction are not expected.	Comment noted.
VDGIF	S-7-6		**General Protection of Wildlife Resources:** To minimize overall impacts to wildlife and natural resources, VDGIF offers the following recommendations: • Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. • Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. • Maintaining wooded lots to the fullest extent possible. • Adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year for all tree removal and ground clearing. • Adhere to erosion and sediment controls during ground disturbance. • Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.	Vegetation clearance on the project site would be limited to that necessary to construct the proposed parking lot. No vegetated buffers within 100 feet of nearby streams would be disturbed by the proposed action. As stated in the EA (Section 3.5.4.3), NGA would adhere to a time of year restriction between April 1 and July 15 to minimize impacts on PIF species that may use those areas as nesting habitat. Alternatively, if disturbance of vegetation cannot be avoided in that time frame, Fort Belvoir DPW will conduct surveys for active bird nests and avoid or minimize the disturbance of areas where such nests are located. NGA would prepare ESC plans in accordance with the VESCL&R. As noted in the EA text (Section 2.1), the proposed parking lot would include low impact development (LID) measures in accordance with Section 438 of the Energy Independence and Security Act (EISA) to maintain the pre-development hydrology of the site; to minimize the volume and velocity of stormwater generated on the site; and to filter sediments and pollutants in stormwater generated on the site.
VDGIF	S-7-7	Concurrence	**Conclusion:** DGIF finds the project to be consistent with the Fisheries Management enforceable policy of the VCP, assuming adherence to erosion and sediment controls.	Comment noted.
Virginia Department of Health (VDH), Office of Drinking Water (ODW)	S-8-1	Potable water	Recommendation. Best Management Practices should be employed on the project site. These practices should include Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures.	EA text revised to include the requirement for construction contractors to prepare and adhere to a spill prevention and countermeasures plan during construction activities (Section 3.8.3.2) As stated in EA text, NGA would implement erosion and sediment control measures in accordance with the VESCL&R (Section 4.2).
VDH, ODW	S-8-2		VDH concludes that there are no apparent impacts on public drinking water sources as a result of this proposed project.	Comment noted.

Name/Agency	Comment Number	Comment Category	Comment	Response
VADEQ NRO	S-9-1	Sewage systems	Agency Recommendation. Contact DEQ NRO to ensure compliance with the Sewage Collection and Treatment (SCAT) Regulations if necessary.	NGA will coordinate with Fort Belvoir DPW in planning and executing the project, and will adhere to applicable requirements for utility infrastructure underlying the site that will not be reused as part of the project.
Virginia Department of Transportation (VDOT)	S-10-1	Transportation	Agency Findings. The VDOT Northern Virginia District Office reviewed the FEA and found that the proposed construction will be completely within the boundaries of FBNA, and there will not be any impact to VDOT facilities. The new parking lot will not have any long-term impacts on the transportation network surrounding FBNA.	Comment noted.
Virginia Department of Historic Resources (VDHR)	S-11-1	Historic and Archaeological Resources	Agency Findings. Pursuant to Section 106 of the National Historic Preservation Act, DHR has been in direct consultation with the Department of the Army and its agents regarding this project and the parties have reached consensus that no historic properties will be affected by the New Campus East Parking Lot. DHR has no further comment at this time.	Comment noted.
VADEQ	S-12-1	Pollution prevention	Consider development of an effective Environmental Management System (EMS).	Comment noted.
	S-12-2		Consider environmental attributes when purchasing materials.	Text revised to reflect that the parking lot would be built in accordance with EISA 438, UFC 1-200-02, the USGBC LEED certification worksheet, and the HPSB Guiding Principles Worksheet (Section 2.1).
	S-12-3		Consider contractors' commitment to the environment (such as an EMS) when choosing contractors.	Comment noted.
	S-12-4		Choose sustainable materials and practices for infrastructure construction and design.	See response to comment S-12-2.
VADEQ	S-13-1	Water conservation	Grounds should be landscaped with hardy native plant species to conserve water as well as lessen the need to use fertilizers and pesticides.	Text revised to note that vegetation planted on project site will include native, drought-tolerant species (Section 2.1).
	S-13-2		Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.	The proposed action does not include turf conversion.
	S-13-3		Improve irrigation practices by: o upgrading sprinkler clock; water at night, if possible, to reduce evapotranspiration; o installing a rain shutoff device; and o collecting rainwater with a rain bucket or cistern system with drip lines.	The proposed action does not involve irrigation.
VADEQ	S-14-1	Federal Consistency	**Federal Consistency Concurrence.** Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the VCP, DEQ finds that the proposal is consistent with the VCP provided all applicable permits and approvals are obtained as described below in the Regulatory and Coordination Needs section. However, other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, the Army must ensure that this project is operated in accordance with all applicable federal, state and local laws and regulations.	Comment noted.

Name/Agency	Comment Number	Comment Category	Comment	Response
	S-14-2		**Surface Waters and Wetlands.** Should it be determined that surface water and/or wetland impacts associated with projects included in this proposal would occur, a Virginia Water Protection Permit issued by the DEQ Northern Regional Office may be required pursuant to Virginia Code §62.1-44.15:20. If necessary, a Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, the Army Corps of Engineers, and local wetlands boards. For additional information and coordination, contact DEQ-NRO, Trisha Beasley at (703) 583-3940.	The proposed action would have no impacts on surface waters or wetlands.
	S-14-3		**Erosion and Sediment Control and Stormwater Management.** This project must comply with Virginia's Erosion and Sediment Control Law (Virginia Code § 62.1-44.15:61) and Regulations (9 VAG 25-840-30 et seq.) and Stormwater Management Law (Virginia Code§ 62.1-44.15:31) and Regulations (9 VAG 25-870-210 et seq.) as administered by DEQ. Activities that disturb 2,500 square feet or more in CBPAs would be regulated by VESCL&R and VSWML&R. Erosion and sediment control, and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073.	As stated in the EA, NGA will implement ESC measures in accordance with the Virginia ESCL&R during the project's construction phase (Section 4.2).
	S-14-4		Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities (VAR1 0). For projects involving land disturbing activities of equal to or greater than one acre the applicant is required to register for coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAG 25-870-1 et seq.). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Daniel Carawan at (804) 698-4088.	As stated in the EA, NGA will obtain coverage under the General Permit during the project's construction phase (Section 3.4.4.1).
	S-14-5		**Air Quality Regulations.** This project is subject to air regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code (VAG) are applicable: • asphalt paving operations (9 VAG 5-45-780 et seq.) • fugitive dust and emissions control (9 VAG 5-50-60 et seq.); and • open burning restrictions (9 VAG 5-130 et seq.). The installation of fuel burning equipment (e.g. boilers and generators), may require a permit (9 VAG 5-50-10 et seq. and 9 VAC 5-80-10 et seq.) prior to construction. Also, contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, James LaFratta at (703) 583-3928.	The project will comply with all applicable regulations pertaining to air quality. The project would not create new permanent sources of emissions. The project would not involve open burning.

Name/Agency	Comment Number	Comment Category	Comment	Response
	S-14-6		**Solid and Hazardous Wastes.** All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. Some of the applicable state laws and regulations are: • Virginia Waste Management Act (Virginia Section 10.1-1400 et seq.); • Virginia Hazardous Waste Management Regulations (VHWMR) (9 VAG 20-60); • Virginia Solid Waste Management Regulations (VSWMR) (9 VAG 20-81); and • Virginia Regulations for the Transportation of Hazardous Materials (9 V AC 20- 11 0). Some of the applicable federal laws and regulations are: • Resource Conservation and Recovery Act (RCRA) (42 U.S.C. section 6901 et seq.); • Title 40 of the Code of Federal Regulations; and • U.S. Department of Transportation Rules for Transportation of Hazardous materials (49 CFR Part 1 07). For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813.	The project would comply with all applicable federal and state regulations regarding the use, storage, transport and disposal of hazardous materials and hazardous wastes. The project will be reviewed by Fort Belvoir DPW to ensure that impacts on sites undergoing remediation for hazardous waste are avoided or minimized.
	S-14-7		**Asbestos-Containing Material.** It is the responsibility of the owner or operator to thoroughly inspect any existing structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAG 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAG 20-110-10 et seq.). Contact the DEQ-NRO, Kathryn Perszyk at (703) 583-3856 and the Department of Labor and Industry, Ronald L. Graham at (804) 371-0444, for additional information.	The project would not involve disturbance of structures containing ACM.
	S-14-8		**Lead-Based Paint.** If applicable, this project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation, David Dick at (804) 367-8588.	The project would not involve disturbance of structures containing lead based paints.
	S-14-9		**Natural Heritage Resources.** Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before the project is implemented, since new and updated information is continually added to the Biotics Data System.	Comment noted.

Name/Agency	Comment Number	Comment Category	Comment	Response
	S-14-10		**Wildlife Resources and Protected Species.** • DGIF maintains a database (http://vafwis.org/fwis/) of wildlife locations, including threatened and endangered species, trout streams and anadromous fish waters. • Coordinate with DGIF (Amy Ewing at Amy.Ewing@dgif.virginia.gov) as necessary on its recommendations.	Comment noted.
	S-14-11		**Coastal Lands Management.** The project must be conducted in a manner that is consistent with the coastal lands management enforceable policy of the VCP as administered by DEQ pursuant to the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15 et seq.) and the Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 25-830 et. seq.). The proposed project is subject to 9 V AC 25-830-140 for construction in lands analogous to RPA and the general performance criteria of 9 VAC 25-830-130 for construction in lands analogous to RMA. For additional information and coordination, contact DEQ-OSWM, Daniel Moore at (804) 698-4520.	Comment noted.
	S-14-12		**Local Coordination.** For any archaeological work done, archaeological reports should be sent to the CRMPB of the Fairfax County Park Authority for review and concurrence at the following address: 2855 Annandale Road Falls Church, VA 22042 Submit one hard copy in addition to one digital copy on a disc. Refer to the attached letter from Fairfax County dated May 7, 2015 for further details. Contact Fred Selden, Director of the Fairfax County Department of Planning and Zoning with questions (703-324-1325). Coordinate with the local utility to verify potential impacts to the public water distribution system and the sanitary sewer collection system (Fairfax County Public Works and Utilities, 703-324-5033).	Comment noted.
Local Agencies (code 'L')				
Fairfax County Department of Planning and Zoning	L-1-1	Vegetation	Staff supports the landscaping plan to replant vegetation to replace vegetation that will be removed during construction.	Comment noted.
	L-1-2	Stormwater/ water quality	Staff strongly encourages a structured parking alternative in the future to reduce impervious surfaces and promote water quality through natural infiltration of stormwater.	Comment noted.
Fairfax County Park Authority	L-2-2	Cultural Resources	The CRMPB has no cultural resource concerns regarding the project and no archaeological work is warranted.	Comment noted.

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US Army Corps of Engineers

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