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**FINAL
PROGRAMMATIC ENVIRONMENTAL
ASSESSMENT**

**CAMP BUCKNER AND CAMP NATURAL BRIDGE
UPGRADES**

**UNITED STATES MILITARY ACADEMY
WEST POINT, ORANGE COUNTY, NEW YORK**

**Contract Number DACW51-01-D-0018
Delivery Order 024**

Prepared for:

**U.S. Military Academy
Directorate of Housing and Public Works
Building 667, Ruger Road
West Point, New York 10996**

**U.S. Army Corps of Engineers
New York District (CENAN-PL-E)
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March 26, 2004

DIRECTORATE OF HOUSING AND PUBLIC WORKS
UNITED STATES MILITARY ACADEMY
WEST POINT, NEW YORK

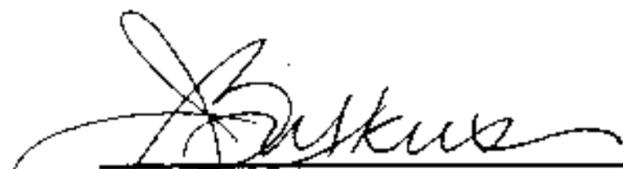
FINAL
ENVIRONMENTAL ASSESSMENT
APPROVAL SHEET

CAMP BUCKNER AND CAMP NATURAL BRIDGE UPGRADES,
WEST POINT, NEW YORK

January 2004



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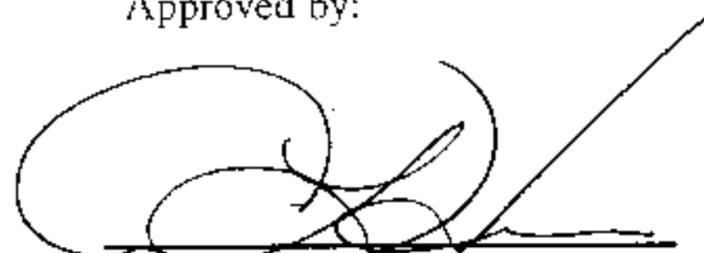
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**UNITED STATES MILITARY ACADEMY
WEST POINT, NEW YORK**

FINDING OF NO SIGNIFICANT IMPACT (FNSI)

**CAMP BUCKNER AND CAMP NATURAL BRIDGE UPGRADES PROJECT
WEST POINT, NEW YORK**

I. NAME OF ACTION

Camp Buckner and Camp Natural Bridge Upgrades Project by the United States Military Academy (USMA) at West Point, Town of Highland, Orange County, New York.

II. DESCRIPTION OF ACTION

- a. Proposed Action: The Proposed Action consists of upgrades, expansion, and new construction to improve aging buildings at the USMA at West Point's Camp Buckner and Camp Natural Bridge. The Proposed Action will be implemented in a phased development approach over several years, based on available funding. Elements of the upgrades include: demolition of 38 barracks and the construction of 29 new barracks, upgrades to 12 existing barracks, construction of arms rooms, construction of a new dayroom, increasing the seating and serving capacity of the Mess Hall at Camp Natural Bridge, demolition of the existing Battalion headquarters building, and construction of a new Battalion headquarters building.
- b. Alternatives: Alternatives to the Proposed Action that were considered include: (1) no action, (2) transporting cadets to existing training facilities located at other military installations, and (3) constructing a new summer training facility. The no action alternative would not address the current severe inadequacies of the existing summer training facilities, and therefore was rejected. The alternative of transporting cadets to other existing training facilities was eliminated because of high transportation expenses and logistical difficulties with scheduling training within the cadets' limited summer training timeframe, in conjunction with the limited availability of training facilities at other installations. The alternative of constructing a new summer training facility was eliminated from consideration because the USMA at West Point determined that it was not economically warranted; although they are in need of repair, the existing facilities at Camp Buckner and Camp Natural Bridge still remain useful.

III. ANTICIPATED ENVIRONMENTAL EFFECTS

The principal environmental issues related to the implementation of the Proposed Action are:

- 1) Potential soil erosion and/or sedimentation to Popolopen Lake as a result of soil disturbance during construction phases, and similar cumulative effects when combined with other USMA at West Point-sponsored Reasonably Foreseeable Future Actions (RFFAs);

- 2) Potential disturbance to occasional transient timber rattlesnakes if present in construction areas during construction;
- 3) Potential disturbance to bat species that use existing buildings as maternity roosts, as a result of demolition of some of the older barracks buildings;
- 4) Temporary increase in solid waste generation during the periods of construction, and similar cumulative effects when combined with other USMA at West Point-sponsored activities involving demolition/construction/renovation and selective timber harvesting;
- 5) Potential visual and cultural resources impacts;
- 6) Potential inconvenience to non-USMA at West Point-associated camp users (i.e., other than the USMA at West Point's Cadet summer training) as a result of the timing of construction activities;
- 7) Incidental damage to camp roads as a result of construction equipment and vehicle use; and,
- 8) Temporary, minor traffic control issues on camp roads during construction if it occurs during periods of camp use.

Several of these potential impacts would be mitigated by careful design, placement, and use of materials, and the use of good management practices and engineering controls. Mitigation measures must be addressed to diminish any potential significant adverse effects.

IV. MITIGATION MEASURES

Mitigation measures would be employed to address impacts from implementation of the Proposed Action including:

- 1) Erosion and sedimentation controls would be used in accordance with USMA at West Point and NYSDEC standards and specifications. The USMA at West Point would require its contractor to prepare and implement an Erosion Control Plan in compliance with NYSDEC's current stormwater management regulations, and this plan would be approved by the USMA at West Point before initiating demolition and construction activities;
- 2) Wherever practicable, buffer zones of undisturbed soils and vegetation measuring 100 feet wide would be maintained adjacent to all waterbodies and wetlands;
- 3) Hazardous materials used during construction would be identified and controlled, and any accidental spills would be contained and cleaned up in accordance with the *United States Military Academy Installation Spill Contingency Plan*;
- 4) USMA at West Point would monitor construction areas for timber rattlesnake activity when demolition or construction activities are scheduled outside of the September through May time period. In the event a timber rattlesnake is in an area where it is at risk of being harmed, the USMA at West Point's NRB would be notified to move timber rattlesnakes to a suitable, off-site rookery, den, or foraging habitat. Additionally, USMA at West Point would provide pre-construction training to contractor personnel to recognize and avoid road-killing occasional transient timber rattlesnakes that may traverse active construction areas;
- 5) To mitigate for negative impacts to maternity roost sites, the USMA at West Point would construct and erect bat houses capable of holding up to 100 bats in the Project area, and install a sufficient number of these bat houses in appropriate locations to serve as replacement roost sites prior to the start of demolition;

- 6) The impacts of Project construction and maintenance on visual and cultural resources (including historic structures and archaeological resources on-site, as well as off-site viewshed areas) would be minimized by following the provisions of the USMA at West Point's *Integrated Cultural Resources Management Plan* and *Historic Landscape Management Plan*, using designs, colors, and materials that are consistent with the historic and visual context of Camp Buckner and Camp Natural Bridge, by performing Phase I cultural resources investigations for undisturbed portions of the Project, by initiating the preparation of a Historic Building and Structures Inventory for the portion of the Project at Camp Natural Bridge in October 2004, and by adopting related recommendations resulting from the analysis of viewsheds, and from the NYSOPRHP;
- 7) Prior to demolition and/or upgrade of each building and infrastructure element, each building and infrastructure element would be examined by USEPA-certified inspectors. Following this examination, the USMA at West Point would identify, remove, and store or properly dispose of, any hazardous chemicals, explosives (such as weapons in the arms building and rooms), or regulated building materials (such as asbestos insulation or siding) that may be contained in each building and infrastructure element;
- 8) The USMA at West Point would develop a Construction and Demolition Waste Management Plan addressing the disposal of demolition and construction debris generated by the Project;
- 9) The USMA at West Point would schedule the major demolition and construction work to occur outside of the mid-May through mid-August period of most intensive use of Camp Buckner and Camp Natural Bridge, to avoid conflicts with USMA at West Point Cadet training sessions. The USMA would minimize inconvenience to other camp user groups during active construction periods through close coordination of construction work with the specific use requirements of these groups;
- 10) Project impacts to the condition of on-site roads and on- and off-site traffic would be resolved by requiring the contractor to maintain and restore on-site roadways as necessary during and after the construction period. The USMA at West Point will also require contractors to make every effort to prevent the tracking of mud from the construction sites onto the nearby public roads and highways, including NYS Route 293, and immediately remove any mud inadvertently tracked onto these roads and highways; and,
- 11) USMA at West Point would determine the direct and indirect air pollutant emissions associated with the Proposed Action, considering long-term air emissions in its evaluation and calculations, to assess conformity with established State Implementation Plan emission thresholds. The USMA at West Point would propose and implement air emissions control measures during construction and/or operation of the Project, as necessary, to ensure that no adverse effects result. If an air emissions permit is determined to be required pursuant to 6 NYCRR Part 231, then the USMA at West Point would secure the necessary permit from the NYSDEC.

V. FACTS AND CONCLUSIONS

Implementation of the mitigation measures identified would reduce the potential impacts of the Project, resulting in no significant adverse impacts to the environment. An Environmental Impact Statement is, therefore, not required.

VI. DOCUMENT AVAILABILITY AND POINT OF CONTACT

The Draft Environmental Assessment (EA) and the Finding of No Significant Impact (FNSI) are available for public review at the following locations:

West Point Community Library
Building 622
U.S. Military Academy
West Point, New York

Village Clerk
Village of Highland Falls
303 Main Street
Highland Falls, New York

Town Clerk
Town of Highland
254 Main Street
Highland Falls, New York

Highland Falls Public Library
298 Main Street
Highland Falls, New York

The deadline for public comment on this proposed action was November 30, 2003. One public comment letter was received, as provided in Appendix C of the Final EA. Responses to comments made during the comment period were incorporated into the Final EA.

The point-of-contact for further information is:

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ABBREVIATIONS AND ACRONYMS

AR	Army Regulation
BUREC	Bureau of Reclamation
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DA	Department of the Army
dB	Decibels
ESA	Endangered Species Act
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVAC	Heating/Ventilation/Air Conditioning
INRMP	Integrated Natural Resources Management Plan
ITAM	Integrated Training Area Management
KV	Kilovolt
LRAM	Land Rehabilitation and Maintenance
mgd	million gallons per day
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHLD	National Historic Landmark District
NHPA	National Historic Preservation Act
NO _x	Nitrogen Oxides
NRHP	National Register of Historic Places
NYCRR	New York State Codes, Rules, and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSECL	New York State Environmental Conservation Law
O&R	Orange and Rockland Utilities, Inc.
OCPD	Orange County Planning Department
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
PM or PM-10	Particulate Matter
RCRA	Resource Conservation and Recovery Act
RFFAs	Reasonably Foreseeable Future Actions
SIP	State Implementation Plan
SPDES	State Pollutant Discharge Elimination System
TSCA	Toxic Substances Control Act
USACERL	United States Army Construction Engineering Research Laboratory
USACE	United States Army Corps of Engineers
USDI	United States Department of the Interior
USEPA	United States Environmental Protection Agency
USFWS	United States Department of the Interior, Fish and Wildlife Service
USMA	United States Military Academy
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

1.1 BACKGROUND

The United States Military Academy (USMA) at West Point is a renowned and historic service academy that graduates and commissions over 900 officers each year. West Point is the Department of the Army's (DA's) oldest and most continuously occupied installation. The USMA at West Point offers a full range of academic, military, and athletic activities to almost 4,000 men and women cadets, as well as quality of life and community support services to USMA at West Point personnel.

Camp Buckner and Camp Natural Bridge were constructed from the early 1940s through the 1970s. Camp Buckner was built in 1943 as a cadet training facility, whereas Camp Natural Bridge was built as a prisoner-of-war camp and then converted to a training camp following the end of World War II in 1945. Additions and modifications have occurred through to the 1970s. Both camps serve the training mission of the USMA at West Point as Summer Training Camps for cadets and other military groups, such as the Army National Guard and Reserves.

1.2 LOCATION AND DESCRIPTION OF FACILITIES

The USMA at West Point is comprised of an approximately 16,000-acre property located on the west shore of the Hudson River at West Point in Orange County, New York (Figure 1). Camp Buckner and Camp Natural Bridge are located northwesterly of New York State (NYS) Route 293 on the eastern shore of Lake Popolopen, southwest of the West Point Main Post (Figure 2).

The camps consist of training facilities, barracks, athletic fields and courts, roads and trails, and other support buildings and structures. The Project Area for this EA is limited to those portions of the camps containing housing and support structures that are scheduled for upgrades (Figures 3 and 4).

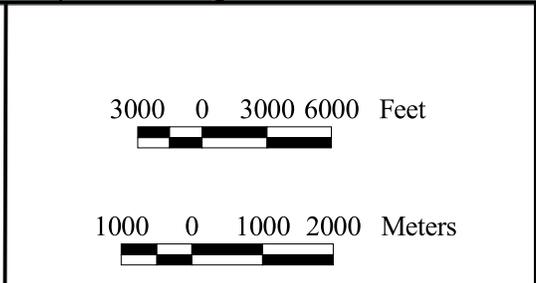
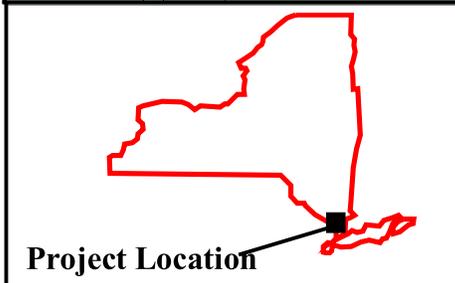
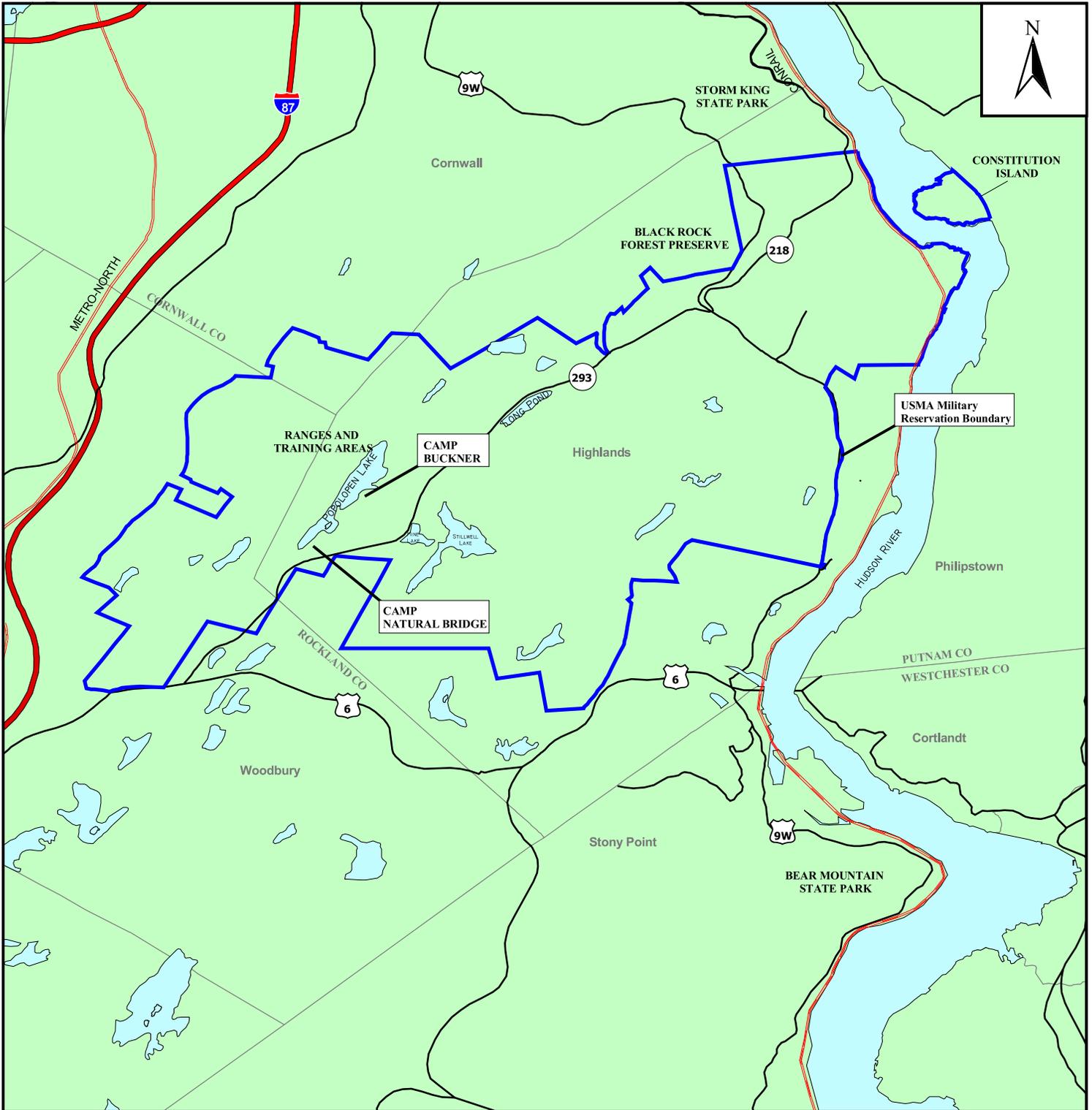


Figure 1. General Location of Camp Buckner and Camp Natural Bridge at the USMA, West Point, New York

Client:  U.S. Army Corps of Engineers
New York District

Prepared By:  NEA
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date:
09/18/03

Source: USACE Boundary of USMA Military Reservation;
New York State Department of State GIS Clearinghouse data;
US Census Bureau TIGER/2002 Linefiles;
ESRI 1999 Data and Maps CD-ROM Data.

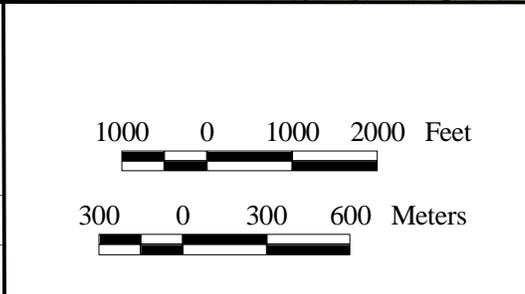
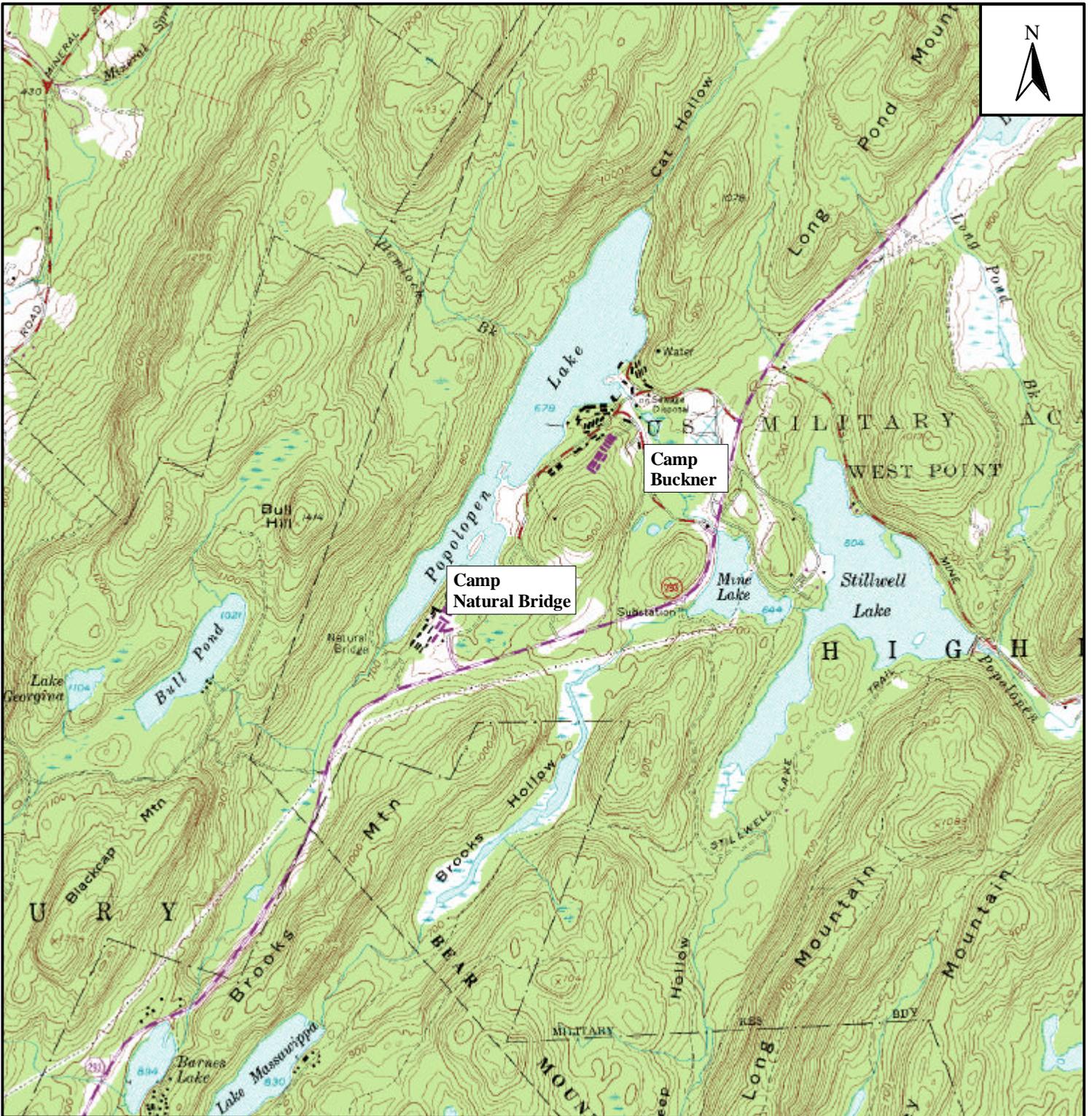


Figure 2. Location of Project Area Within the USMA, West Point, New York.

Client:  U.S. Army Corps of Engineers
New York District

Prepared By:  NEA
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date: 08/14/03

Source: USGS 7.5' series Quadrangles Popolopen Lake, NY 1957 photorevised 1981

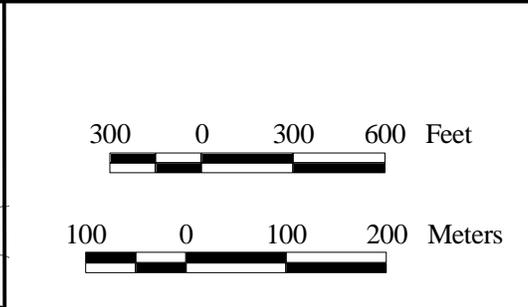
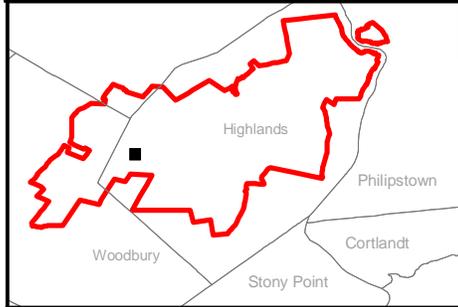
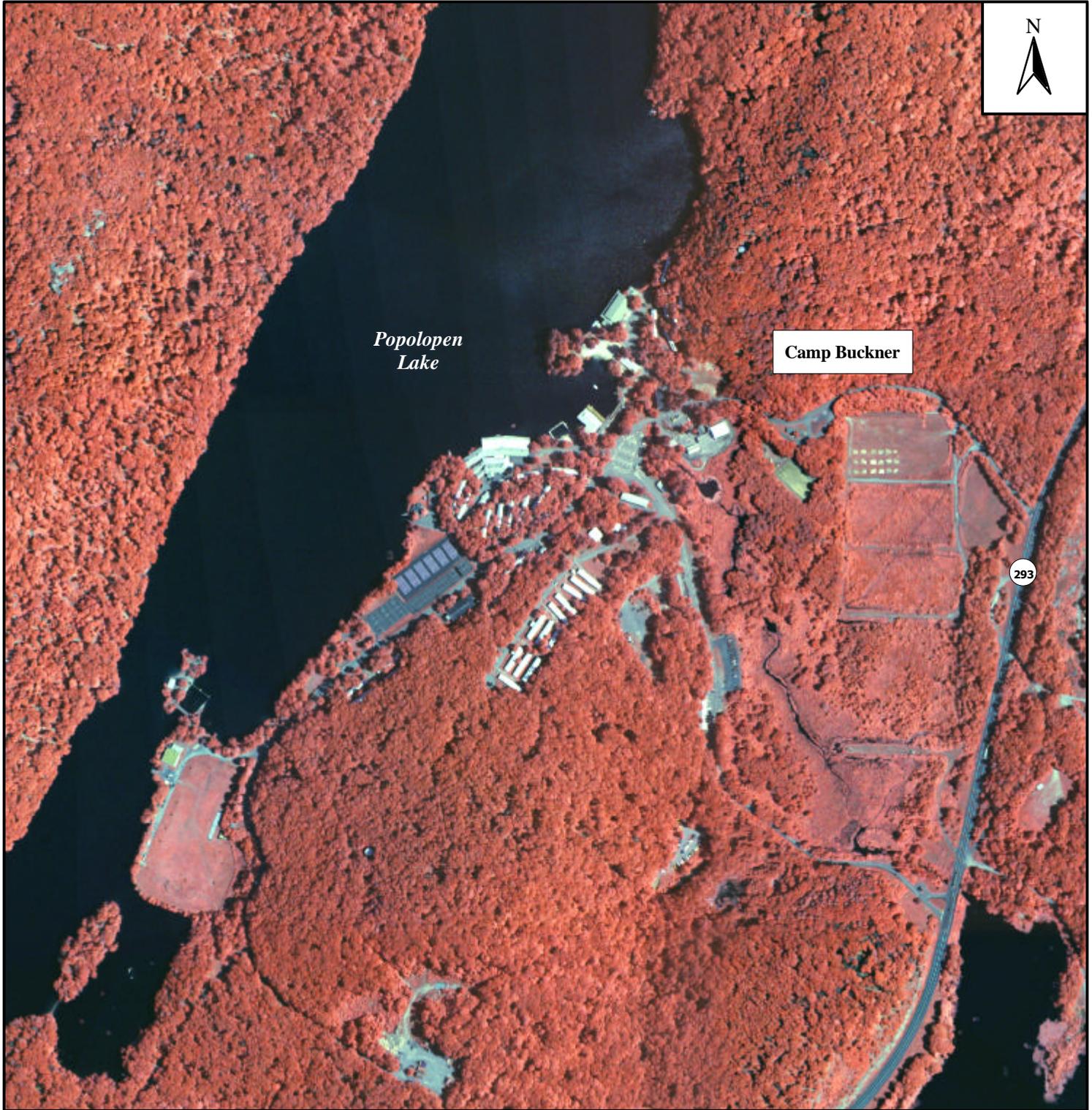


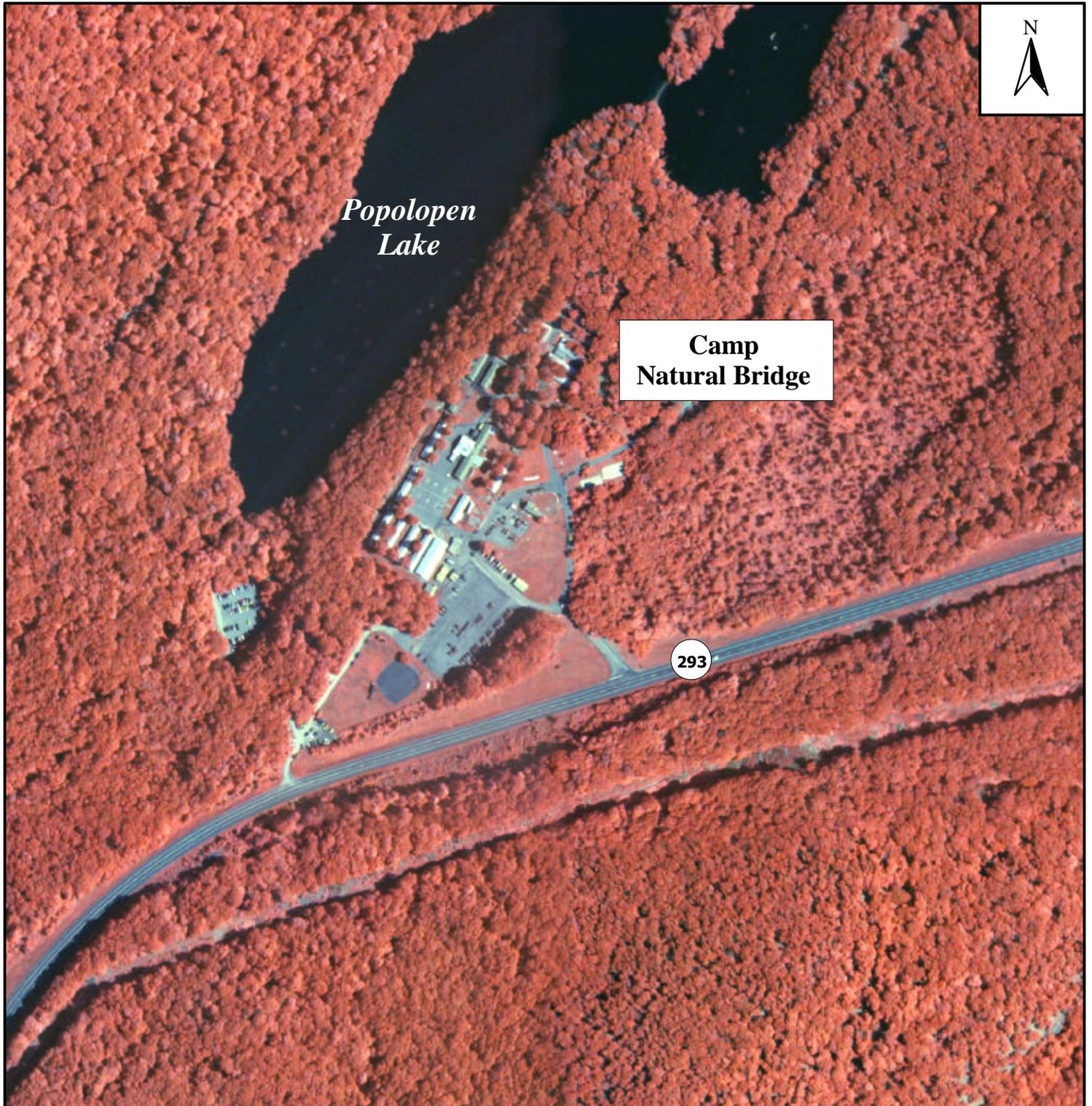
Figure 3. Project Area for the Camp Buckner Upgrade at the USMA, West Point, New York.

Client:  U.S. Army Corps of Engineers
New York District

Prepared By:  NEA
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date: 08/14/03

Infrared Digital Orthoquad provided by USACE.



*Popolopen
Lake*

**Camp
Natural Bridge**

293



200 0 200 400 Feet

50 0 50 100 Meters

**Figure 4. Project Area for the
Camp Natural Bridge Upgrade at the
USMA, West Point, New York.**

Client:  U.S. Army Corps of Engineers
New York District

**Prepared
By:**  **NEA**
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date:
08/14/03

Infrared Digital Orthoquad provided by USACE.

2.0 PROPOSED ACTION

2.1 PURPOSE AND NEED

The USMA at West Point has determined a need to replace or improve aging buildings at both Camp Buckner and Camp Natural Bridge. Neither camp has been upgraded since the 1970s, and many of the current structures were initially constructed in the 1940s through 1960s. Numerous structures are beyond their useful life and in the near future will be uninhabitable. The Mess Hall at Camp Natural Bridge feeds 1,200 personnel per meal, but can only seat 220 occupants. At both camps, arms rooms do not meet current security requirements and cannot be upgraded, day room facilities are inadequate, barracks are overcrowded, and latrines are substandard. Further, the metal roofs and siding on numerous buildings are severely rusted and dilapidated, exposing occupants to inclement weather and vermin. Additionally, buildings have settled over time causing concrete floor slabs to become cracked and uneven beyond repair.

2.2 DESCRIPTION OF PROPOSED ACTION

The multiple-year upgrades determined to be necessary are described in detail in the draft document, *Upgrades to Camps Buckner and Natural Bridge, United States Military Academy, West Point, New York* (STV Incorporated 2003). Elements of the upgrade include:

Camp Buckner

- 1) Demolition of 26 existing barracks (Buildings 1501-1526);
- 2) Upgrades to 12 of the existing barracks constructed in 1975;
- 3) Construction of 16 new barracks; and,
- 4) Construction of eight (8) arms rooms.

Camp Natural Bridge

- 1) Demolition of 12 existing barracks (Buildings 1704-1709, 1721, 1722, 1731, 1732, 1734, 1735);
- 2) Construction of 18 new barracks;
- 3) Demolition of existing arms room;

- 4) Construction of new arms room building;
- 5) Demolition of two existing shower/laundry buildings (Buildings 1702 and 1733);
- 6) Demolition of existing Battalion headquarters and Post Exchange buildings (Buildings 1713 and 1714);
- 7) Construction of new Battalion headquarters and Post Exchange buildings;
- 8) Demolition of existing recreation/dayroom building (Building 1723);
- 9) Construction of a new dayroom facility;
- 10) Addition to Mess Hall (Building 1701) to increase seating and serving capacity from 220 to 600 personnel; and,
- 11) Utilities installation and maintenance repair of existing sanitary line and back-up generator.

To avoid or minimize potential air pollutant emissions associated with the Project, none of the new facilities or upgrades to existing facilities would involve the installation of natural gas or oil heating or air conditioning systems. Instead, electric hot water heaters will be installed in new buildings (Cubbison 2004). Because the USMA at West Point does not plan to winterize the new facilities, no heating systems would be installed in new buildings. However, should heating systems be necessary in the future, then electric baseboard heating systems may be installed in new buildings.

The upgrades will be implemented in a phased development approach over several years. The elements of the proposed upgrades that would be implemented in a given year would be determined by prioritization of the upgrade elements and consideration of available annual funding levels.

So as not to interfere with the Cadet Summer Training programs, upgrades will be implemented during fall through spring. More likely than not, demolition of structures will be scheduled for the fall, immediately following Cadet Summer Training. Construction of new structures would be scheduled for the spring and completed prior to the start of the following year's training.

2.3 ALTERNATIVES

2.3.1 No-Action Alternative

In accordance with regulations promulgated by the Council on Environmental Quality (CEQ), 43 Code of Federal Regulations (CFR), Part 1500, Section 1502.14(d), a No-Action Alternative must be considered. The No-Action Alternative would involve using the current facilities at the USMA at West Point and not performing any upgrades to either Camp Buckner or Camp Natural Bridge. This alternative would avoid both minor temporary and long-term impacts associated with demolishing the existing barracks and construction of the new barracks and other support structures. However, this alternative would not address the current severe inadequacies of the existing summer training facilities. Accordingly, the USMA at West Point has determined that this alternative is not viable.

2.3.2 Alternatives Considered But Eliminated From Further Evaluation

The USMA at West Point considered transporting cadets to existing training facilities located at other military installations to fulfill their training mission. The USMA at West Point determined that the logistics associated with scheduling the necessary training within the cadets' limited summer training timeframe, in conjunction with the limited availability of training facilities at other installations, would be very difficult. Additionally, the USMA at West Point determined that the transportation of cadets to other military installations for summer training would be extremely expensive. Therefore, this alternative was eliminated from further evaluation for economic and scheduling reasons.

The USMA at West Point also considered constructing a new summer training facility that would satisfy all the requirements associated with carrying out the training mission of the USMA at West Point. However, the USMA at West Point determined that existing camp facilities at Camp Buckner and Camp Natural Bridge, although in need of repair, still remain useful, such that the construction of an entirely new summer training facility would not be economically warranted.

2.4 PERMITS AND APPROVALS

The DA, as a federal agency, is required to comply with several federal and state statutes, regulations, and Executive Orders regarding construction of new projects at the USMA at West Point. Major statutes, regulations, and Executive Orders that protect natural and cultural resources and establish environmental compliance requirements include:

- House of Representatives 3194 Legislation of November 30, 1999;
- National Environmental Policy Act (NEPA) of 1969;
- Army Regulation (AR) 200-2;
- CFR Part 930.33(a) and (b);
- Endangered Species Act of 1973 (as amended);
- Magnuson-Stevens Fishery Conservation and Management Act;
- New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Construction Permit GP-02-01 for Storm Water Discharges from Construction Activities;
- 15 CFR 930.34(b);
- Title 6 New York State Codes, Rules, and Regulations (NYCRR), Part 231;
- Bureau of Reclamation, Reclamation Safety and Health Standards;
- Section 404 of the Clean Water Act;
- Article 15 (Protection of Waters) of the New York State Environmental Conservation Law (NYSECL);
- Article 24 (Freshwater Wetlands) of the NYSECL;
- NYSDEC 401 Water Quality Certification; and,
- Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended).

The DA will also comply with the following Best Management Practices during construction of the individual project elements, as necessary:

- *Installation Spill Contingency Plan* (USMA 1996);
- *Introduction to Hazardous Waste Management* (USMA undated); and,
- *Project-specific Rock Blasting Plan*.

Any proposed action funded, authorized, or carried out by a federal agency must comply with NEPA. The Proposed Action would be carried out by a Federal Entity, the DA, and must comply with the DA's implementing regulations for NEPA, AR 200-2, *Environmental Effects of Army Actions*. Specifically, AR 200-2, Chapter 5-3, Paragraph b, specifies that an Environmental Assessment (EA) is required for construction of military facilities. Accordingly, this EA fulfills the NEPA requirements for the Proposed Action.

3.0 AFFECTED ENVIRONMENT

This section describes the existing natural and social environmental resources in and around the Camp Buckner and Camp Natural Bridge Upgrades Project area.

3.1 GEOLOGY

The USMA at West Point is located in eastern Orange County, New York, in the New England Upland Section of the New England Physiographic Province (United States Department of the Interior [USDI], Geological Survey 1995). The landscape consists of steep, rocky hillsides typically created through the physical and chemical alteration of metamorphic rocks. Bedrock in this area primarily consists of Precambrian metamorphic rock (gneiss, quartzite, marble, and anorthositic rocks) and some igneous rock formed during the Middle Proterozoic (Helikan) period (more than 570 million years ago) of the Paleozoic era and Phanerozoic eon (New York State Museum, Geological Survey 1986). The bedrock is exposed in many areas, such as the steep rock faces and cliffs fronting the Hudson River, and there are many large boulders exposed on the ground surface throughout the USMA at West Point.

3.2 SOILS

The Hollis-Rock Outcrop Association, the dominant soil association at the USMA at West Point, is also the dominant soil association in the Camp Buckner and Camp Natural Bridge Project area. These soils are derived from glacial deposits of schist, gneiss, and granite, and are found on mountainous uplands that are characterized by steep slopes, and areas of peaked elevation (USMA 1998). In general, soils in this association are medium-textured soils overlying crystalline bedrock, and are excessively drained and well-drained (USMA 1998). Seven soil series have been identified in the Project area. Table 1 summarizes characteristics of each soil series and identifies associated hazards or limitations.

Table 1. Characteristics of Soil Series in the Project Area.

Soil Series	Map Unit	Drainage Class	Landscape Occurrence	Hazards or Limitations
Carlisle muck, ponded	Cf	Very poorly drained	Depressional swamps, bogs, and marshes in upland till plains and lowland lake plains; slope <2%.	Water table at or near the surface most of the year.
Erie extremely stony soils, gently sloping	ESB	Somewhat poorly drained	Lower hillsides, foot slopes, and hilltops and along shallow drainage ways.	Seasonal wetness; potential erosion hazard; extremely stony.
Hollis soils, sloping	HLC	Well- to somewhat excessively drained	Hillcrests, hilltops and valley sides, and ridges of mountainous uplands; 3%-15%.	Shallow to rock; potential serious erosion hazard when exposed.
Hoosic gravelly sandy loam, 0%-3% slopes	HoA	Somewhat excessively drained	Terraces and broad flat areas along valley floors and on lowland plains.	Not applicable.
Rock-outcrop-Hollis complex, mod. steep	ROD	Somewhat excessively drained to well-drained	Hillcrests, hilltops, and ridges of the mountainous uplands; slope 15%-35%.	Shallow to bedrock; excessive droughtiness; very serious erosion hazard where vegetation has been removed.
Rock-outcrop-Hollis complex, sloping	ROC	Somewhat excessively drained to well-drained	Hillcrests, hilltops, and ridges of the mountainous uplands; slope 3%-15%.	Shallow to bedrock; excessive droughtiness.
Wayland silt loam	Wd	Poorly to very poorly drained	Low floodplains adjacent to streams that overflow; slopes \leq 3%.	Subject to flooding in early spring; water table at or near the surface for prolonged periods.

Source: USMA (1998).

3.3 WATER RESOURCES

3.3.1 Groundwater Resources

No federally-designated Sole Source Aquifers (U.S. Environmental Protection Agency [USEPA] 2003a) nor state-designated Primary or Principal Aquifers (Stegville 1999) exist near Camp Buckner or Camp Natural Bridge. Groundwater resources at the USMA at West Point consist of

alluvial deposits and a consolidated bedrock aquifer, with recharge primarily from precipitation (USMA 1998).

3.3.2 Surface Water Resources

Both Camp Buckner and Camp Natural Bridge are located along the eastern shore of Popolopen Lake. Popolopen Lake, a 149-acre waterbody, has an average depth of 10 feet, with a maximum depth of 31 feet (USMA 1998). Popolopen Lake is classified as Class A surface water by the NYSDEC. Class A waters are defined as, “source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. Suitable for fish propagation and survival” (NYSDEC 1994). Three perennial tributaries (Johnson Meadow Brook, Cat Hollow Creek, and Hemlock Brook) drain into Popolopen Lake. One intermittent tributary, originating in the forested wetland between Camp Buckner and Camp Natural Bridge, also drains into Popolopen Lake south of the Camp Buckner parade field (Deschenes and Beemer 2003). Flow from the one outlet of Popolopen Lake is controlled by a dam and represents the headwaters of Popolopen Brook (USMA 1998). In addition to being a popular recreation area (although use is restricted during summer training activities), Popolopen Lake is the source of potable water for both camps (USMA 1998).

Further, the USMA at West Point (1998) has established 100-foot riparian buffer zones around all waterbodies and either side of all streams. For small streams, the 100-foot riparian buffer is measured from the centerline of the stream, whereas for larger streams or rivers, the 100-foot riparian buffer is measured from each streambank (USMA 1998). The INRMP requires that activities within riparian buffer zones that might adversely affect the primary waterbody or stream be avoided (USMA 1998).

3.3.3 Public and Private Water Supply Sources

Popolopen Lake is the potable water supply for both Camp Buckner and Camp Natural Bridge. Additionally, Camp Buckner and Camp Natural Bridge are located at the headwaters of Popolopen Brook, which drains into Stillwell Lake and ultimately into the Lusk Reservoir, which provides the potable water supply to the remainder of the USMA at West Point.

3.4 FISHERIES

Popolopen Lake is popular for fishing. In the past it has been stocked with largemouth bass (*Micropterus salmoides*), channel catfish (*Ictalurus punctatus*), and walleye (*Stizostedion vitreum*) (USMA 1998). Twenty (20) species of fishes have been recorded for Popolopen Lake (USMA 1998) (Table 2).

Table 2. Fish Species Recorded in Popolopen Lake.

Common Name	Scientific Name
American eel	<i>Anguilla rostrata</i>
Alewife	<i>Alosa pseudoharengus</i>
Yellow bullhead	<i>Ameiurus natalis</i>
Brown bullhead	<i>Ameiurus nebulosus</i>
Channel catfish	<i>Ictalurus punctatus</i>
White sucker	<i>Catostomus commersoni</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Creek chub	<i>Semotilus atromaculatus</i>
Redfin pickerel	<i>Esox americanus</i>
Chain pickerel	<i>Esox niger</i>
Banded killifish	<i>Fundulus diaphanous</i>
Redbreast sunfish	<i>Lepomis auritus</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
Bluegill	<i>Lepomis macrochirus</i>
Smallmouth bass	<i>Micropterus dolomieu</i>
Largemouth bass	<i>Micropterus salmoides</i>
Black crappie	<i>Pomoxis nigromaculatus</i>
Blue-spotted sunfish	<i>Enneacanthus gloriosus</i>
Yellow perch	<i>Perca flavescens</i>
Walleye	<i>Stizostedion vitreum</i>

Source: USMA (1998).

3.5 VEGETATION AND SPECIAL NATURAL AREAS

3.5.1 Vegetation

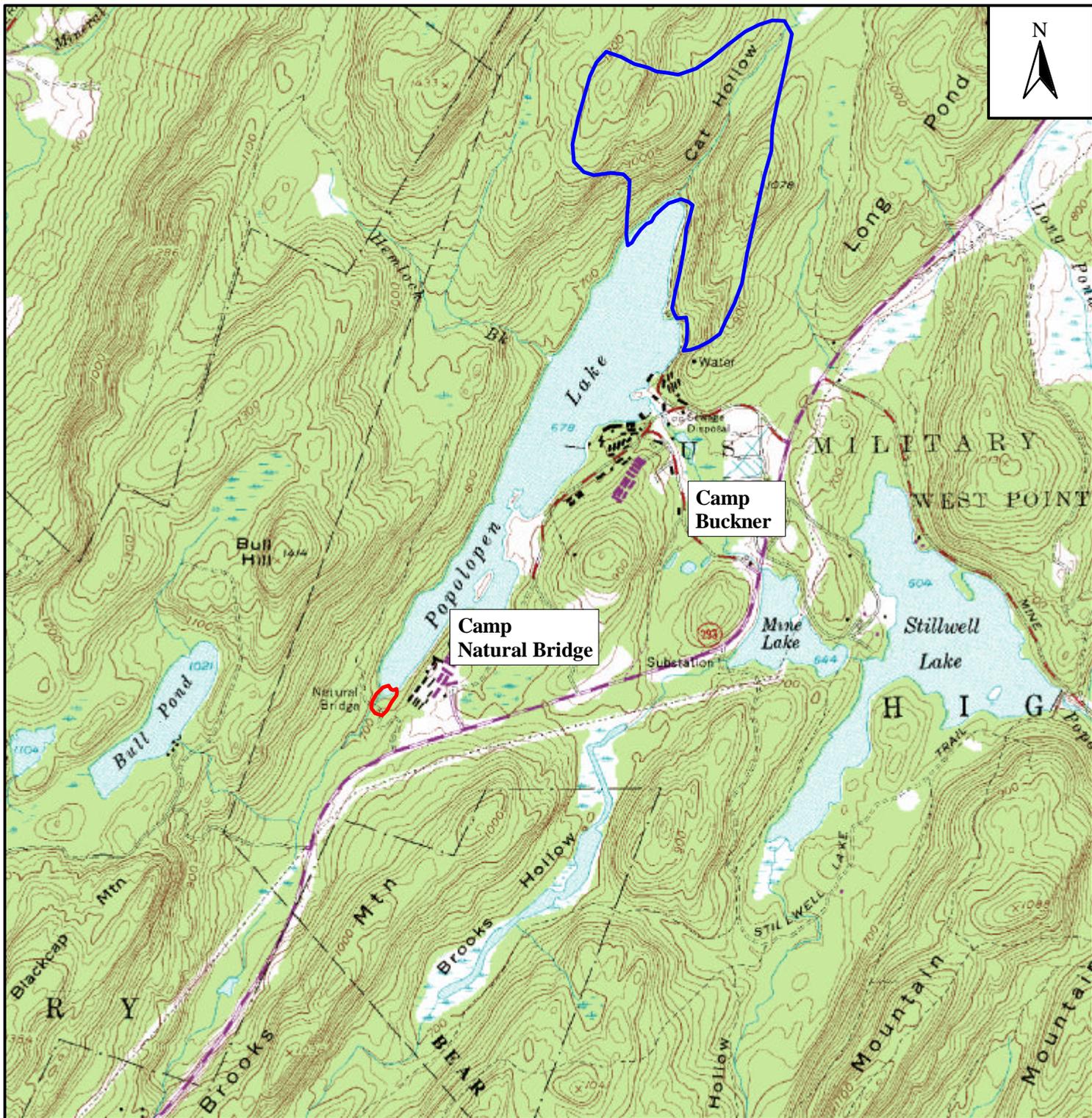
The Project area at Camp Buckner and Camp Natural Bridge consists primarily of open cleared areas and individual and groups of mature trees, abutting stands of Appalachian Oak-Hickory Forest characteristic of the Hudson Highlands region (USMA 1998). Open cleared areas include unvegetated sites, such as buildings, paved and gravel roads and parking areas, as well as areas of maintained lawn and roadside vegetation. Typical canopy species found in the Appalachian Oak-Hickory Forest at the USMA at West Point area include northern red oak (*Quercus rubra*), black oak (*Q. velutina*), and occasionally hickory (*Carya* spp.). Black huckleberry (*Gaylussacia baccata*) and sedges (*Carex* spp.) are common ground cover species (USMA 1998).

3.5.2 Special Natural Areas

No unique vegetative communities or plant species (*i.e.*, federal- or state-listed endangered, threatened, rare, or special concern) are known to occur on or in close proximity to the Project area (USMA 1998). However, the USMA at West Point (1998) has identified 12 natural areas that require special management because of their ecological or geological significance, unique geological structure, and/or aesthetic and educational value. Two identified natural areas, Cat Hollow and Natural Bridge, are located in the vicinity of Camp Buckner and Camp Natural Bridge (Figure 5).

Cat Hollow

Cat Hollow is located at the north end of Popolopen Lake, associated with Cat Hollow Creek between Beaver Pond and Popolopen Lake (USMA 1998). Cat Hollow is considered significant due to the diverse ecological communities found in the area. The northeastern shore of Popolopen Lake consists of pure hemlock stands and mixed forest communities that are used as a recreation area for Camp Buckner (USMA 1998).



LEGEND

- Cat Hollow
- Natural Bridge



Figure 5. Special Natural Areas in the Vicinity of Camp Buckner and Camp Natural Bridge at the USMA, West Point, New York.

Client: U.S. Army Corps of Engineers
New York District

Prepared By: **NEA**
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date: 08/14/03

Source: New York State Department of State
Digital Ortho Imagery, 1994-1999;
USACE Natural Areas Data Layer.

Natural Bridge

Natural Bridge is located at the southern end of Popolopen Lake where Johnson Meadow Brook flows into the lake. Natural Bridge is considered significant for its unique geological formation, with neutral marble occurring among the acidic granite and gneiss (USMA 1998). A grotto carved out of the billion-year-old marble is located upstream of Natural Bridge. The grotto contains a rich diversity of flora, including numerous spring wildflowers (USMA 1998).

3.6 WETLANDS, FLOODPLAINS, AND NAVIGABLE WATERWAYS

3.6.1 Wetlands

Based on a review of the Integrated Natural Resources Management Plan (INRMP): 1998 through 2002 (USMA 1998), no wetlands appear to be associated with Popolopen Lake. However, an emergent wetland is associated with the outlet from Popolopen Lake, located just to the east of Camp Buckner, and a forested wetland is located on the east side of Camp Natural Bridge between the camp and NYS Route 293.

Further, the USMA at West Point (1998) has established a minimum of a 100-foot buffer zone around all wetlands. The INRMP requires that activities within buffer zones be limited to those that would cause little or no impact to the wetland. However, for those activities already existing within buffer zones, those wetlands are subject to increased monitoring (USMA 1998).

3.6.2 Floodplains

Portions of both Camp Buckner and Camp Natural Bridge lie in a Zone A floodplain, the area predicted by the Federal Emergency Management Agency (FEMA) (1987) to be inundated by the 100-year flood estimated for Popolopen Lake and its outlet, and Zone X, defined as that area located outside of the 500-year floodplain (FEMA 1987). Zone A, as defined by FEMA (1987) is a special flood hazard area inundated by the 100-year flood, although no base flood elevation has been determined.

3.6.3 Navigable Waterways

Popolopen Lake, located adjacent to Camp Buckner and Camp Natural Bridge, consists of 149 acres of navigable water used by recreational boaters and fishermen (USMA 1998).

3.7 WILDLIFE

The diversity of wildlife is reflected in the USMA at West Point's Integrated Natural Resource Management Plan (INRMP), which is in the process of being updated (Beemer 2003). Based on the INRMP (USMA 1998) and updated information available from the USMA at West Point's NRB (Beemer 2003), 822 documented wildlife species have been observed on USMA at West Point property, including 48 species of mammals, 249 species of birds, 22 species of reptiles, 18 species of amphibians, 100 species of dragonflies and damselflies, 234 species of moths, and 76 species of butterflies, as well as aquatic life (38 species of fishes, 35 species of mollusks, two [2] species of crayfish).

Existing habitat in the Project area is limited to paved unvegetated and gravel roads and parking areas, open lawns, and Appalachian Oak-Hickory Forest interspersed with residential type camp structures (barracks), adjacent to Popolopen Lake. Common wildlife species that primarily utilize these areas include: northern watersnake (*Nerodia sipedon*), mourning dove (*Zenaida macroura*), Northern flicker (*Colaptes auratus*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), blue jay (*Cyanocitta cristata*), American robin (*Turdus migratorius*), black-capped chickadee (*Parus atricapillus*), scarlet tanager (*Piranga olivacea*), gray squirrel (*Sciurus carolinensis*), Eastern chipmunk (*Tamias striatus*), raccoon (*Procyon lotor*), and white-tailed deer (*Odocoileus virginianus*). Additionally, four bat species, including little brown myotis (*Myotis lucifugus*), northern long-eared myotis (*Myotis septentrionalis*), big brown bat (*Eptesicus fuscus*), northern red bat (*Lasiurus borealis*), have been identified using the older barracks as maternity roosts, and these roosts have contained up to 400 individual bats (Deschenes and Beemer 2003).

According to NYSDEC, Region 3, Division of Fish, Wildlife, and Marine Resources, no New York State wildlife management areas occur in the vicinity of Camp Buckner or Camp Natural Bridge (NYSDEC 2003).

3.8 ENDANGERED AND THREATENED SPECIES

The USMA at West Point's NRB (Beemer 2003) indicates that 123 species that have special status have been documented on USMA at West Point property. This includes 31 state-listed endangered or threatened or special concern vertebrates; 14 rare or otherwise noteworthy odonates (dragonflies and damselflies), 14 rare butterflies (eight [8] in New York State and six [6] regionally), two (2) moths listed as rare in New York State, and 62 rare plants (Beemer 2003). The Biological Survey Unit of the New York State Museum conducted an initial survey of threatened and endangered fauna and flora on the USMA at West Point in 1991 and 1992, which has been regularly updated by the USMA at West Point's NRB. These surveys concluded that no federally-listed species were permanent residents of, or breed on, the USMA at West Point, however, the timber rattlesnake (*Crotalus horridus*), a state-listed threatened species, has been found to be a permanent resident of USMA at West Point (USMA 1998).

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is a federal- and state-listed threatened species that has been sighted in the vicinity of the USMA at West Point. Additionally, a potential wintering site for the bald eagle has been identified on the west side of Popolopen Lake (Beemer 2002a). To ensure compliance with applicable endangered species regulations, the USMA at West Point has coordinated with the NYSDEC and United States Fish and Wildlife Service (USFWS) to develop a programmatic *Endangered Species Management Plan for the Bald Eagle* (Beemer 2002a). The programmatic management plan requires that the USMA at West Point consult informally and formally with USFWS pursuant to Section 7 of the ESA, and the NYSDEC pursuant to the NYSECL, regarding any USMA at West Point construction activity that may disrupt bald eagle activity at the USMA at West Point.

Timber Rattlesnake

The timber rattlesnake (*Crotalus horridus*) is a state-listed threatened species that has been sighted in the vicinity of the USMA at West Point, including road-killed timber rattlesnakes found by the USMA at West Point along NYS Route 293 in the vicinity of Camp Buckner and Camp natural Bridge. Little was known about the timber rattlesnake population on the USMA at West Point prior to 1994. At that time, a three-year radiotelemetry study was initiated to

investigate their population size, seasonal ranges, and habitat use, as summarized by Stechert (1996). The study identified three populations utilizing the USMA at West Point property and associated with three historic den sites that are located on the USMA at West Point. Additionally, timber rattlesnakes from a den located on Harriman State Park were found on USMA at West Point property, including a live telemetered rattlesnake that was tracked to the shoulder of NYS Route 293 near the Camp Buckner entrance (Stechert 1996). Furthermore, Stechert (1994) observed individuals and dens in Brooks Hollow, outside of the Military Reservation, but within one mile of Camp Natural Bridge to the southeast.

Small-footed Bat

The small-footed bat (*Myotis leibii*) is a state-listed species of concern that is known to occur in the vicinity of the Project area. Adult lactating individuals have been captured in the Cat Hollow Special Natural Area north of Camp Buckner, and it is likely that individuals of this species may forage near Camp Buckner (Deschenes and Beemer 2003).

Plant Species

An inventory of rare plants at the USMA at West Point was conducted during 1993 and 1994 (Barbour 1996). The survey concluded that there are 63 special status plant species present at USMA at West Point. Of these, 33 have special status in New York State, including 13 listed as state-endangered, 14 listed as state-threatened, and six listed as state rare (USMA 1998). Of the 63 special status plant species, Bush's sedge (*Carex bushii*) is reported in the emergent wetland that abuts Camp Buckner to the east and an occurrence of purple milkweed (*Asclepias purpurascens*) has been reported east of Camp Natural Bridge near NYS Route 293 in an electric transmission line right-of-way (USMA 1998). A subsequent survey of rare plants at the USMA at West Point has resulted in some modification to the rare plant list, but no changes to those found in the vicinity of the Project area (Deschenes and Beemer 2003).

3.9 LAND USE AND ZONING

3.9.1 Land Use and Local Zoning

Land use within the USMA at West Point has been divided into four zones: the Cadet Zone, which serves as the core of the Main Post/Academic Area; the Cadet Support Zone, the first of three concentric zones around the core; the Community Support Zone, the second of three concentric zones around the core; and the Industrial/Field Training/Recreation Zone, the third and final of three concentric zones around the core (Vollmer Associates, LLP undated).

Both Camp Buckner and Camp Natural Bridge occur entirely within the Industrial/Field Training/Recreation Zone. Facilities within the Industrial/Field Training/Recreation Zone are associated with activities required for cadet field training uses, outdoor recreational uses requiring significant expanses of land, and the operation and maintenance of the post (Vollmer Associates, LLP undated). Also, the Black Rock Forest Consortium operates an acid rain monitoring station and the USMA Natural Resources Branch operates a fire danger and meteorological facility at Camp Buckner. However, operation of these facilities and uses will not be disturbed as a result of the Project.

3.9.2 Planned Developments

All recent and ongoing development at Camp Buckner and Camp Natural Bridge should be compatible with uses outlined in the *USMA Master Plan for the Year 2007* (Vollmer Associates, LLP Undated). All planned developments are detailed in Section 5.0, Reasonably Foreseeable Future Actions.

3.9.3 Generation and Disposal of Waste Material

Academic, military, and athletic activities at the USMA at West Point generate ordinary, non-hazardous solid waste in the amount of approximately 26 tons per day. Current land use activities at Camp Buckner and Camp Natural Bridge are associated with training activities. These activities contribute to this generation of solid waste at the USMA at West Point.

Collected waste is either recycled or brought to the USMA at West Point Transfer Station at Range 3 prior to being disposed of off-site at an approved waste disposal site.

Wastewater at Camp Natural Bridge is collected through an aboveground collection system and transferred to the wastewater treatment plant at Camp Buckner (STV Incorporated 2003). The wastewater treatment plant at Camp Buckner serves both camps as a secondary treatment facility with a capacity of 0.25 million gallons per day (mgd) that operates from May until October of each year (USMA 1998). The USMA at West Point has recently implemented three repair and maintenance projects for the contact tank, a new chlorine contact chamber, and sewer line upgrades at the Camp Buckner wastewater treatment plant to sustain its current capacity (Driver 2003).

3.9.4 Recreational and Other Designated Facilities

Popolopen Lake is a popular recreation area for fishermen and boaters, along with the shoreline utilized for hunting and various other recreation activities (USMA 1998). Popolopen Lake and its surroundings are used for recreation year round, however access to certain areas may be restricted during Cadet summer training activities.

3.10 VISUAL RESOURCES

Visual resources at the USMA at West Point are associated with the historic contexts and landscapes developed during the acquisition and use of the USMA at West Point from the mid-18th century through the present day (Geo-Marine, Inc. 2001). Although a complete inventory and assessment of historic landscapes has not yet been prepared for the entire USMA at West Point, an *Historic Landscape Management Plan for the United States Military Academy at West Point, New York*, has been developed by the United States Army Construction Engineering Research Laboratory for the Main Post/Academic Area of the USMA at West Point (USACERL 2001). This historic landscape management plan identified specific historic landscapes associated with the development of the USMA at West Point over six temporal periods, and includes recommendations for preserving, restoring, improving, and maintaining these specific landscapes (Geo-Marine, Inc. 2001). Seventeen of these specific historic landscapes have been identified as eligible for the National Register of Historic Places (NRHP) (Geo-Marine, Inc.

2001), although none of these 17 NRHP-eligible historic landscapes are located within the Project area.

Therefore, the potential exists for the identification of additional historic landscapes within the Project area, including rural landscapes (associated with farmsteads), iron industry sites, and military landscapes (associated with military training) (Geo-Marine, Inc. 2001). As such, the *Historic Landscape Management Plan for the United States Military Academy at West Point, New York*, provides recommendations for procedures to be used in identifying and evaluating additional historic landscapes at the USMA at West Point, including the visual resources that would be associated with the historic landscapes in the Project area.

In addition to the *Historic Landscape Management Plan for the United States Military Academy at West Point, New York*, an inventory of buildings and structures was prepared for that portion of the Project area associated with Camp Buckner, which included the identification of visual resources associated with the built environment within the Project area (Salo et al. 2002). Results of the inventory for Camp Buckner identified one historic military landscape, which is discussed in greater detail below. Furthermore, results of a number of cultural resources investigations in the immediate vicinity of the Project area, including both Camp Buckner and Camp Natural Bridge, indicate that the Project area could contain additional historic landscapes associated with early settlement (18th through early 20th century), and the subsequent development and/or use of the Project area for early industrial activities associated with the iron industry (late 18th through early 19th century), as a tourist destination (mid 19th through mid 20th century), for military field training (mid 20th century through the present day), and as a former World War II-era German prisoner-of-war camp (Geo-Marine, Inc. 2001, Salo et al. 2002).

The historic military landscape within the portion of the Project area associated with Camp Buckner consists of a “cultural landscape that is at once functional, economical, and appropriate for its training mission” (Salo et al. 2002:70). The built environment associated with this cultural landscape interacts with its natural environment to create a “resort-like” setting that is “understated and rests easily on the land” (Salo et al. 2002:70), although a number of juxtapositions exist within the historic military landscape at Camp Buckner. At a large scale,

these juxtapositions include the contrast between the simplicity of the architectural design of the built environment at Camp Buckner with the drama of the architectural design of the built environment at the Main Post/Academic Area of the USMA at West Point. At a smaller scale, these juxtapositions include the contrast between building materials used for structures erected during World War II (easily erected, neutral-colored and monochromatic frame structures on concrete foundations, with asphalt shingles or roofing) with those used for structures erected during the Cold War era (more substantial and utilitarian structures of concrete block and metal) (Salo et al. 2002).

In addition to the influence of the built environment on the historic military landscape of Camp Buckner, cultural landscape features associated with the historic military landscape of Camp Buckner include stairs, bridges, aboveground utility lines, and access roads that have been erected over and around natural features, such as Popolopen Creek and the natural surface elevations and contours of Camp Buckner. Natural mature wooded vegetation has been retained for shade, and reduces the visual impact of the built environment within its natural setting (Salo et al. 2002). As a result of the interaction of the built environment, cultural landscape features, and natural landscape features, the historic military landscape associated with the portion of the Project area associated with Camp Buckner “is subtle and relies on repetition, careful, and logical siting, and a close relationship between buildings/structures and the natural setting” (Salo et al. 2002).

In addition to the historic military landscape identified within the portion of the Project area associated with Camp Buckner, 21 NRHP-eligible properties, consisting of World War II-era buildings, structures, and monuments, have been identified within this portion of the Project area. Although no Cold War-era buildings and structures within the portion of the Project area associated with Camp Buckner have been identified as NRHP-eligible, reassessment of the NRHP-eligibility of these buildings and structures has been recommended when they have reached 50 years of age (Salo et al. 2002).

As stated above, a number of additional historic landscapes could be associated with the Project area, including historic landscapes associated with early settlement, and the subsequent

development and/or use of the Project area for early industrial activities associated with the iron industry, as a tourist destination, for military field training, and as a former World War II-era German prisoner-of-war camp (Geo-Marine, Inc. 2001, Salo et al. 2002). Historic landscapes associated with the early settlement of the Project area would reflect the small-scale agricultural nature of this settlement, including archaeological sites as well as extant buildings and structures such as farmsteads, residences, stone fences, wells, and roadways (Salo et al. 2002). However, no historic landscapes or NRHP-eligible properties that would be associated with the early settlement of the Project area have been identified within the Project area at this time.

Historic landscapes associated with the development of the iron industry in the Project area would reflect early iron mining and smelting activities, including archaeological sites as well as extant buildings and structures such as mines, furnaces, foundries, dams, residences, and administrative buildings (Salo et al. 2002). Although no historic landscapes that would be associated with the iron industry have been identified within the Project area at this time, three NRHP-eligible properties associated with the iron industry have been identified within the Project area associated with Camp Buckner.

Historic landscapes associated with the development of the Project area as a tourist destination would reflect the picturesque architectural styles of permanent residences (Gothic, Italianate, and Tudor), and both the rustic architectural styles and nucleated plans of seasonal (summer) camps with campsites, cottages, bungalows, and support buildings (i.e., offices, stores, community buildings) arranged around features such as Popolopen Lake (Salo et al. 2002). However, no historic landscapes or NRHP-eligible properties that would be associated with the development of the Project area as a tourist destination have been identified within the Project area at this time.

Historic landscapes associated with the development of the Project area for military training would reflect the need for mass housing, special function buildings, and landscape features (i.e., trenches, targets, assault courses, athletic and recreational areas) in support of military training, including extant structures such as barracks, officer's quarters, and offices, mess halls, latrines, and archaeological sites containing subsurface features associated with training activities (Salo et

al. 2002). No historic landscapes or NRHP-eligible properties that would be associated with military training activities have been identified for the portion of the Project area associated with Camp Natural Bridge. However, as discussed above, one historic military landscape has been identified within the portion of the Project area associated with Camp Buckner.

Historic landscapes associated with the use of the portion of the Project area associated with Camp Natural Bridge as a World War II German prisoner-of-war camp would reflect the need for mass housing and special function buildings in support of detaining groups of individuals in an isolated location, and could also reflect the influence of such detained groups of individuals on the built environment, including decorative features such as graffiti or art. However, no historic landscapes or NRHP-eligible properties that would be associated with the use of this portion of the Project area as a World War II German prisoner-of-war camp have been identified within the Project area at this time.

3.11 CULTURAL RESOURCES

Cultural resources associated with the Project include archaeological, architectural, and visual resources. Archaeological and architectural resources associated with the Project are discussed below. Visual resources associated with the Project, including historic landscapes, are discussed in Section 3.10, Visual Resources.

3.11.1 Archaeological Resources

Although archaeological surveys have not been conducted within the Project area, archaeological resources associated with the immediate and general vicinity of the Project include both prehistoric and historic archaeological sites. Archaeological investigations in the immediate vicinity of the Project included archaeological survey and excavations in the late 1980s to test Isaacson and Landreth's predictive model for archaeological sensitivity (Geo-Marine, Inc. 2001), and identified both prehistoric and historic archaeological sites in the vicinity of Popolopen Lake and Stillwell Lake (Landreth and Edging 1989a, Landreth and Edging 1989b, and Landreth and Isaacson 1988, as cited in Geo-Marine, Inc. 2001). Subsequent archaeological investigations for the immediate vicinity of the Project included a number of surveys in association with the timber harvesting program at the USMA at West Point for the Range and Training Areas (Geo Marine,

Inc. 2001), and also identified both prehistoric and historic archaeological sites in the vicinity of the Project (Fuerst and Abel 1994, Schiepetti et al. 1999, as cited in Geo-Marine, Inc. 2001).

Including the archaeological sites identified in the immediate vicinity of the Project, archaeological surveys at the USMA at West Point have identified a total of 150 archaeological sites. Of these sites, 65 have been identified as either eligible for the NRHP or as contributing elements to the National Historic Landmark District (NHL) at the USMA at West Point. Another 62 of these sites are considered potentially eligible for the NRHP, pending formal NRHP evaluations (Geo-Marine, Inc. 2001). As noted above, these archaeological sites are both prehistoric and historic, including some sites with both prehistoric and historic components. Prehistoric site types include rockshelters, camps, lithic scatters, and isolated finds, and range from the Archaic through the Late Woodland subperiods. Historic site types include foundations, stone fences, animal pens, wells, middens, cemeteries, iron furnaces, forges, mines, mills, and railroads. These historic archaeological sites range from the 18th century through the 19th century, including the Revolutionary War, early settlement, early industry, and academy development periods (Geo-Marine, Inc. 2001).

In addition to the known archaeological sites in the immediate and general vicinity of the Project, previously unrecorded archaeological sites may also be located within the Project area, but have not yet been identified because archaeological surveys have not been implemented. To address the potential for the presence of previously unidentified archaeological sites in the Project area, the USMA at West Point's *Integrated Cultural Resources Management Plan* provides guidelines for the implementation of surveys to identify archaeological resources. These guidelines include performing surveys for archaeological resources prior to implementation of major projects, identifying archaeological sites in the Project area as sensitive resource zones, creating buffer zones around the sites to protect them from disturbance, and monitoring the site locations to ensure that disturbance is not incurred (Geo-Marine, Inc. 2001). Implementation of the guidelines in the USMA at West Point's *Integrated Cultural Resources Management Plan* as part of the implementation of the Project would ensure that archaeological resources in the Project area are protected.

3.11.2 Architectural Resources

Architectural resources associated with the Project area include buildings, structures, and monuments that were identified as part of an inventory of buildings and structures undertaken for that portion of the Project associated with Camp Buckner. This inventory evaluated 97 buildings and structures at Camp Buckner, including several associated with the 19th century iron industry in the Project area as well as World War II- and Cold War-era classroom facilities and housing. As a result of this inventory, a total of 24 buildings, structures, or monuments at Camp Buckner were recommended as eligible for the NRHP, including three local iron industry properties, 20 World War II-era or World War II-replica properties, and the Buckner Monument (Salo et al. 2002) (Table 3). Twenty-one of these 24 NRHP-eligible buildings, structures, or monuments are located within Camp Buckner, and are depicted on Figure 6. The remaining three NRHP-eligible properties (the Kiln/Furnace, the DMI Administration building [Building 1666], and the Range Control Building [Building 1670]) are located in the immediate vicinity of Camp Buckner, but are outside of the immediate Project area.

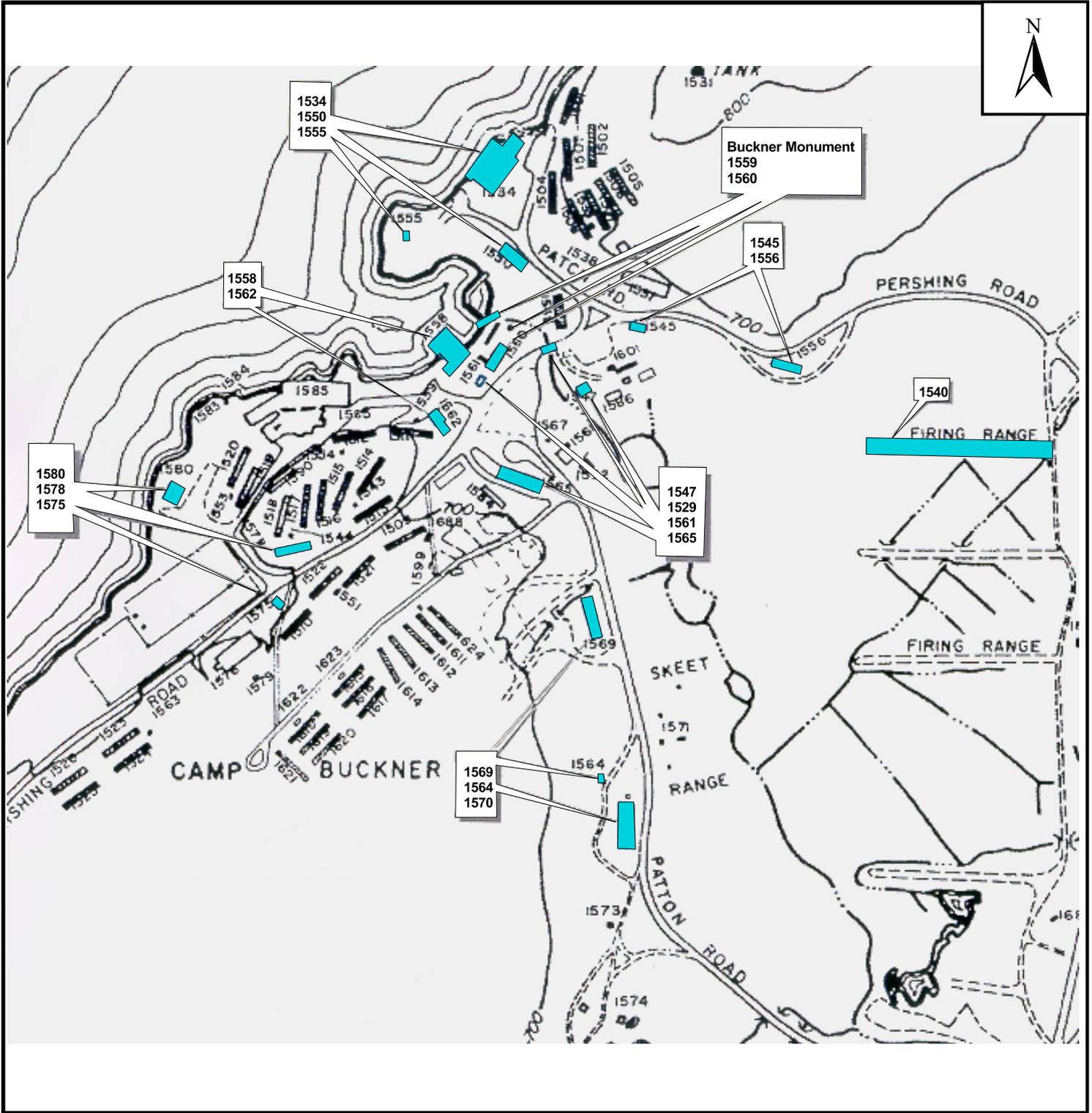
In addition to the architectural resources identified for the portion of the Project associated with Camp Buckner, historic resources surveys for the general vicinity of the Project have identified a number of other architectural resources as a result of the preparation of the original NHLD nomination for the USMA at West Point in the 1960s (Geo-Marine, Inc. 2001), the *Historic Resources Management Plan, United States Military Academy* (USACERL 1989), the *Historic American Building Survey/Historic American Engineering Record (HABS/HAER)* (Tompkins et al. 1984), the revised NHLD nomination form for the USMA at West Point (Prior et al. 2000), a historic bridges survey for the USMA at West Point (Nolte and Cinquino 2000), and architectural assessments of individual buildings, structures, and monuments within the USMA at West Point that are NRHP-eligible (Geo-Marine, Inc. 2001). Based on the results of these surveys and inventories in the general vicinity of the Project, 433 buildings and structures have been identified as NRHP-eligible, or potentially eligible pending concurrence by the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP), 34 monuments have been recommended as NRHP-eligible, 18 bridges have been identified as potentially NRHP-eligible, and 23 buildings and structures are of unknown eligibility and require evaluation (Geo-Marine, Inc. 2001, Prior et al. 2000, Nolte and Cinquino 2000).

Table 3. Buildings, Structures, and Monuments Recommended as NRHP Eligible.

Building Number	Building Name	Original Use at Camp Buckner
None	Kiln/Furnace	Kiln
None	Buckner Monument	Monument
1529	Popolopen Lake Dam	Dike
1534	Doris Barth Hall	Dance Pavilion
1540	Small Arms Range	Small Arms Range
1545	Fire Station	Family Housing
1547	Cadet Supply	Military Police Building
1550	Bath House	Bath House
1555	Altar	Altar
1556	General Storehouse	Cadre Dayroom
1558	Second Class Club	Cadet Club
1559	Boat Pier	Boat Pier
1560	Boathouse	Boathouse
1561	Officer-in-Charge	Cadet Staff
1562	Cadet Regimental Headquarters	Confinement Facility
1564	Central Guard House	General Storehouse
1565	Light Gun Shop	Arms Building
1569	Operations General Purpose	Military Police Barracks
1570	DEH Facility	Facilities
1575	Athletic Storage	Athletic Storage
1578	Luggage Storage	Conference
1580	Superintendent's Summer Cottage	Engineering Building
1666	DMI Administration	Family Housing-Non-Commissioned Officers
1670	Range Control	General Storehouse; Highland Falls Schoolhouse

Source: Salo et al. (2002).

In addition to the known architectural resources sites in the portion of the Project area associated with Camp Buckner, as well as in the immediate and general vicinity of the Project, previously uninventoried architectural resources may also be located within the portion of the Project area associated with Camp Natural Bridge, but have not yet been identified because an architectural inventory for this portion of the Project has not been performed. To address the potential for the presence of previously uninventoried architectural resources in the Project area, the USMA at West Point's *Integrated Cultural Resources Management Plan* provides guidelines for the implementation of inventories to identify architectural resources. These guidelines include

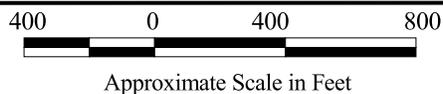


-  NRHP Eligible Structures
-  Building Numbers of NRHP Eligible Structures

Figure 6. Buildings, Structures, and Monuments at Camp Buckner Recommended as NRHP-Eligible at the USMA Westpoint, New York.

Client:  U.S. Army Corps of Engineers
New York District

Source: Salo et al 2002.



Prepared By:  NEA
NORTHERN ECOLOGICAL ASSOCIATES, INC.

Date: 09/18/03

updating the architectural inventory eligibility list for the USMA at West Point to include all buildings within the installation, continued application of the *Secretary of the Interior's Standards*, including developing property-specific treatment options to facilitate mission activities for the USMA at West Point or to maintain active use of historic buildings or structures, and developing a maintenance and treatment plan for the USMA at West Point for an interim plan for specific buildings or structures, or groups of like buildings or structures such as those found in the Project area, that would retain the historic character of buildings or structures and their settings, but would permit the continued use, maintenance, and repair of these buildings and structures (Geo-Marine, Inc. 2001). Implementation of the guidelines in the USMA at West Point's *Integrated Cultural Resources Management Plan* as part of the implementation of the Project would ensure that architectural resources in the Project area are protected.

3.12 SOCIOECONOMICS

3.12.1 Population

As of May 2001, the USMA at West Point maintained a population of 12,251 military and civilian residents, including over 4,000 cadets (Bjornsen 2001). The population of the 30.9-square-mile Town of Highlands, which encompasses the USMA at West Point, was 12,484 in the year 2000 (Ulrich 2002). The population of the Town of Highlands constituted approximately 4 percent of the population of Orange County, New York (population 341,367) during the same year.

Each summer from mid-June to mid-August, the USMA at West Point's outdoor range and maneuver areas, including Camps Buckner and Natural Bridge, are used by an average of over 2,400 cadets for military leadership and field training. For the remainder of the year, the small arms ranges are made available to other users, including other military personnel stationed at the USMA at West Point, other active Army units, about 150 Army Reserve and National Guard units, and civilians (Vollmer Associates, LLP Undated). Based on usage totals from 1998, the small arms ranges are used by a total of about 26,700 people annually (Vollmer Associates, LLP Undated).

3.12.2 Economy and Employment

The dominant industries in the Town of Highlands are public administration, retail trade, and education (Orange County Planning Department [OCPD] 1990). The USMA at West Point is the largest employer in Orange County, New York (Vollmer Associates, LLP Undated). Additionally, the USMA at West Point routinely hires local and regional contractors to perform construction and rehabilitation activities for numerous Projects at the USMA at West Point. In the year 2000, there were 4,794 construction jobs in Orange County (New York State Department of Labor 2002).

3.12.3 Community Services

In addition to its formal military and academic programs, the USMA at West Point provides quality of life and community services for those who reside on post or are employed by the USMA at West Point (USMA 1996b). The USMA at West Point also provides services to approximately 9,000 retired military personnel and their dependents that reside within 50 miles of the USMA at West Point (USMA 1996b). Services provided include medical, dental, housing, child care facilities, chapel, recreational facilities, community club, fire department, administrative, commissary, post exchange, security, social support services, and other logistical support. Children of military members that reside on post also are eligible to attend on-post elementary and middle schools.

Many of the athletic and physical recreational opportunities and facilities available to cadets at the USMA at West Point also are available to retirees, relatives, and guests, and to the surrounding community and general public, except between mid-June and mid-August, when Cadet Summer Training is occurring. Existing recreational facilities at Camp Buckner and Camp Natural Bridge include tennis and basketball courts, track and field, soccer field, skeet and trap range, and boating facilities.

When not in use by the USMA at West Point's cadets, the small arms ranges and maneuver areas, including facilities at Camp Buckner and Camp Natural Bridge, are made available to other users including other military personnel stationed at the USMA at West Point, other active Army units, about 150 Army Reserve and National Guard units, other Federal agency training

groups (including the Treasury Department and Immigration and Naturalization Service), and civilians such as local police departments and gun clubs (Vollmer Associates, LLP Undated). On an annual basis, the small arms ranges are used by a total of about 26,700 people (Vollmer Associates, LLP Undated). Of the groups that use the small arms ranges, the number of days in use varies from a minimum of one month (civilian use) up to 6.2 months (cadets) (Vollmer Associates, LLP Undated).

3.12.4 Tax Revenues

Because West Point is a federally owned facility, no federal, state, or local property tax revenue is generated by this facility. However, civilian and military personnel employed at, or visiting, the USMA at West Point contribute to state and local sales tax revenues on goods and services purchased in the Town of Highlands and adjacent municipalities. Employment of individuals and local contractors by the USMA at West Point also contributes to state and federal income taxes.

3.12.5 Transportation

Camp Buckner and Camp Natural Bridge are located just west of NYS Route 293, which is the major northeast-southwest road traversing the installation, and which provides easy access to the camps from other part of the USMA at West Point as well as areas outside the military reservation. The camps are located approximately 5 miles from Washington Gate at the Main Post. There are five other major highways in the vicinity of the USMA at West Point, including U.S. Route 9W, which traverses the USMA at West Point property for 3.5 miles. There are approximately 16 miles of paved roads within the USMA at West Point, including NYS Route 293. Access to Camp Buckner from Route 293 is provided by Pershing Road and Patton Road, and access to Camp Natural Bridge from Route 293 is provided by an unnamed access road. In addition, unimproved roads (also called firebreaks) total approximately 60 miles at the USMA at West Point, and these unimproved roads provide access to all of the training areas and ranges.

Public access to certain areas of the USMA at West Point (e.g., the Main Post area) is provided for special events and for general sight-seeing (USMA 1998). However, public access to the USMA at West Point training areas (including those at Camps Buckner and Natural Bridge) is

strictly limited, for security and safety reasons (USMA 1998). During home football games held at the USMA at West Point (at the Main Post) on about six Saturdays each year, cadets must park their cars at Camp Buckner to make room for public visitor parking in the Main Post Area (Vollmer Associates, LLP Undated).

At Camp Buckner and Camp Natural Bridge, the existing secondary paved roads and unimproved roads in the areas of proposed upgrades are very narrow (STV Incorporated 2003). However, the proposed Project would not involve widening or improving the existing roads, or constructing new roads at the camps.

Other transportation facilities available at the USMA at West Point include passenger rail service, which operates out of Grand Central Station in New York City and makes three stops on the east side of the Hudson River. Conrail's West Shore Line, a single-track freight-only rail system, runs through West Point near the Main Post/Academic Area (USMA 1998). In addition, the Hudson River is a navigable waterway used for transportation by passenger boats, barges, and cargo ships, some of which deliver fuel oil and coal to the USMA at West Point.

3.13 AIR QUALITY

The USMA at West Point is located in the southern portion of the Hudson Valley Air Quality Control Region, in the Lower Orange County Metropolitan Area (USMA 1998). Southern Orange County is currently classified as an attainment area for all National Ambient Air Quality Standards (NAAQS) criteria pollutants (carbon monoxide, nitrogen dioxide, particulate matter, lead, and sulfur dioxide), except ozone (NYSDEC 1996a, NYSDEC 1996b). Southern Orange County is classified as a severe non-attainment area for ozone (NYSDEC 1996b).

There are several major stationary and mobile sources of air pollutant emissions present in the greater USMA at West Point property. Stationary sources include five oil-fired boilers, two incinerators, a restricted burn site, and nuclear, biological, and chemical training activities. Mobile sources include vehicular traffic, such as light-duty, gasoline-powered trucks and automobiles, heavy-duty diesel-powered vehicles, and aircraft (USMA 1998). With the exception of one oil-fired boiler and the restricted burn site during peak conditions; all major

stationary and mobile sources of air pollutant emissions are in compliance with air quality standards (USMA 1998).

3.14 NOISE

Noise is generally defined as unwanted sound. Noise levels below 65 decibels are considered to be “normally acceptable in suitable living environments” (USEPA 1974).

There is no primary source of sustained noise in the vicinity of Camp Buckner and Camp Natural Bridge, and noise level measurements have not been obtained specifically in these areas. Intermittent noise at Camp Buckner and Camp Natural Bridge primarily results from helicopter missions and firing exercises in the vicinity of the camps (USMA 1998).

Helicopter noise levels have been measured at the Lake Frederick Drop Zone, located approximately 1.75 to 2 miles southwest of the camps (Vollmer Associates, LLP Undated). The most frequently used type of helicopters at the USMA at West Point are UH-1H helicopters, which commonly fly at a cruising altitude of 1,000 feet above ground level. The hourly equivalent sound directly beneath the flight path of a UH-1H helicopter at this altitude is approximately 56.4 decibels (dB), and the hourly equivalent at the ground level 2,000 feet away from the flight path is 51.9 dB (USMA 1998). Both of these figures are below the 65-dB threshold considered to be normally acceptable in suitable living environments. Noise levels associated with helicopter landings (“drops”) and take-offs are typically higher. Using the Lake Frederick Drop Zone as a basis of measurement, a UH-1H helicopter that completes three drops per hour results in noise levels of approximately 67.7 dB at a distance of 1 mile from the drop zone, and 61.5 dB at 2 miles from the drop zone (Vollmer Associates, LLP Undated). These measurements would be expected to approximate noise levels at Camp Buckner and Camp Natural Bridge during helicopter use at the Lake Frederick Drop Zone, and at 1 mile from the drop zone are slightly above the 65-dB threshold considered to be normally acceptable in suitable living environments.

Noise from artillery training and firing exercises is less quantifiable, but is also present at the ranges associated with Camp Buckner and Camp Natural Bridge, as part of normal training exercises (Vollmer Associates, LLP Undated). This type of “blast” noise is probably audible at some level within the Project area.

3.15 UTILITY INFRASTRUCTURE

3.15.1 Potable Water Supply

Potable water for both Camp Buckner and Camp Natural Bridge is supplied through the 0.41 mgd Camp Buckner water treatment plant with raw water drawn directly from Popolopen Lake. Water is supplied to the two camps through 3.6 miles of pipe and three storage tanks (USMA 1998), which is adequate to supply enough potable water for 1,000 personnel (Vollmer Associates, LLP Undated).

3.15.2 Storm Drainage

Storm drainage at Camp Buckner and Camp Natural Bridge consists of a network of natural swales, man-made ditches, and road culverts that discharge directly into Popolopen Lake (USMA 1998).

3.15.3 Electricity

Electricity at the USMA at West Point is provided by Orange and Rockland Utilities, Inc. (O&R). O&R transmits electricity to Camp Buckner and Camp Natural Bridge through overhead lines connected to a substation located at the intersection of NYS Route 293 and Mine Road (USMA 1998).

3.15.4 Telecommunications

Telecommunication services at Camp Buckner and Camp Natural Bridge are considered antiquated and in need of upgrade (STV Incorporated 2003). Telephone lines that connect alarm systems to the Battalion headquarters have caused numerous false alarms due to deteriorating lines (STV Incorporated 2003).

3.16 HAZARDOUS MATERIALS

No National Priorities List sites or other sites currently subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are located at the USMA at West Point (USEPA 2003b, USEPA 2003c). The USMA at West Point is listed as a large quantity generator of hazardous waste, and a United States Mint facility located adjacent to West Point also reports hazardous waste handling activities (USEPA 2003d). However, none of these facilities are located within the Camp Buckner or Camp Natural Bridge Project area.

A former landfill is located on the southeast side of Camp Buckner, approximately 200 feet southeast of the nearest proposed new barracks location at Camp Buckner. The depth of fill is relatively shallow, and the wastes are reportedly mostly landscaping debris and materials. A cleanup was conducted in 1989 and some tanks and barrels were also removed from the area (Woodward Clyde Federal Services 1995). However, no evidence of hazardous leachate was identified from the landfill, and it was determined that the site does not present a health risk (Woodward Clyde Federal Services 1995).

Various hazardous materials are currently used and/or present at the USMA at West Point. These hazardous materials include potential unexploded ordnance (UXO) within an inactive artillery impact area along the proposed northwest boundary of the Main Post/Academic Area and within active and inactive artillery impact areas in the ranges, training areas, and dud zones west of the Main Post/Academic Area. However, the Project area is located within the Popolopen Lake training exclusion area, which has a low potential for encountering hazardous materials associated with potential UXO.

Additional hazardous materials are also stored or in use at various facilities at the USMA at West Point. Activities and departments that generate hazardous, toxic, and/or infectious wastes include: the Keller Army Hospital, automotive repair shops, pest control activities, the Department of Chemistry, the Photography Laboratory, the USMA Elementary School, and the USMA Band. In addition, radiological wastes are generated in the Nuclear Laboratory in the Department of Physics (Vollmer Associates, LLP Undated). These substances are handled in accordance with USEPA regulations, stored and handled according to the USMA at West Point

health and safety plan, and monitored on a regular basis. The USMA at West Point currently uses a contracted waste hauler to dispose of these wastes at state-licensed off-site disposal facilities (Vollmer Associates, LLP Undated). Any hazardous material spills that occur on USMA at West Point are reported, contained, and remediated in accordance with the USMA Installation Spill Contingency Plan (USMA 1996a).

3.17 PUBLIC HEALTH AND SAFETY

The USMA at West Point operates and maintains a full array of public health and safety programs that serve the USMA at West Point community, including medical services at Keller Army Community Hospital, emergency medical response and transport teams, security services (military police), fire protection provided by three fire stations on the installation, potable water supply, wastewater treatment, pest management programs, and solid waste collection and off-site disposal. In addition, the USMA Natural Resources Branch operates a fire danger and meteorological facility located at Camp Buckner. However, construction and operation of the Project would not disturb or impede the use of these facilities.

In addition, the U.S. Department of Defense and the DA have established standards for housing and other new facility design, and several Technical Instructions and Army Regulations have been established regarding housing and facility upgrades (STV Incorporated 2003). In addition, the USMA at West Point implements a building inspection and maintenance program for both its historic and newer buildings and facilities (Geo-Marine, Inc. 2001), which contributes to maintaining acceptable levels of public health and safety in its structural developments.

The currently deteriorated condition of the facilities at Camp Buckner and Camp Natural Bridge does not effectively promote, or may even compromise, some aspects of the health and safety of occupants. Numerous structures are beyond their useful life and are becoming structurally unsound, barracks are overcrowded, latrines are substandard, and roofs and siding of numerous buildings are rusting and rotting, exposing occupants to weather and vermin. In addition, arms storage rooms at both camps do not meet current security standards.

3.18 ENVIRONMENTAL JUSTICE

There are currently 1,033 active duty military personnel at the USMA at West Point. As of 2001, demographic information for the minority status of these personnel at West Point indicated that there were 829 Whites, 124 Blacks, 50 Hispanics, 3 Native Americans, 16 Asian/Pacific Islanders, and 11 personnel of other descent (USMA 2001).

Only military housing exists within the USMA at West Point community. However, low-income housing is scattered throughout the Village of Highland Falls, with the nearest low-income housing community, Weyant Green, located adjacent to the USMA at West Point's South Post, off West Point Highway on Webb Lane. Weyant Green, owned by Quaker Hill Housing, consists of six buildings with a total of 51 housing units built in 1983 with funding from the U.S. Department of Housing and Urban Development.

4.0 ENVIRONMENTAL CONSEQUENCES

This section identifies the impacts or consequences to the natural and social environment that may result from implementing the proposed upgrades to Camp Buckner and Camp Natural Bridge.

4.1 GEOLOGY

Implementation of the Proposed Action likely would involve excavation of surficial fill material only, and would not impact geological formations. No blasting is anticipated to be required to implement the Proposed Action; however, in the unlikely event blasting of surface geological formations is required, the USMA at West Point would require the contractor to prepare and follow specifications in a project-specific *Rock Blasting Plan* approved by the USMA at West Point prior to initiation of construction activities (USMA 1998). The majority of the proposed upgrades would be located within the footprints of the demolished structures, however the excavation of surficial soil for the placement of slabs for new structures would have a long-term impact on topography of the subsurface geologic formation. However, this impact would be minor because the existing subsurface geologic formation does not have a specific economic (*i.e.*, mining resource) or other structural use, and use of this formation as structural support for the building would be consistent with adjacent land uses.

4.2 SOILS

Implementation of the Proposed Action likely would result in minimal earth moving and excavation resulting from equipment movement and material storage limited to the immediate vicinity of construction work areas. Additionally, no use of off-site borrow materials, nor off-site excavation or disposal of soil, would be required. Although earthmoving activities would be minimal, the majority of soils series in the Project area are shallow and subject to serious erosion (USMA 1998). Therefore, best management practices for erosion and sedimentation control would be implemented to mitigate the potential for soil erosion during earthmoving and excavation activities.

Specifically, best management practices for erosion and sedimentation control would be outlined within an Erosion Control Plan, required to be prepared by the contractor and approved by the USMA at West Point prior to the initiation of construction activities. The Erosion Control Plan would ensure compliance with NYSDEC's current stormwater management regulations for construction activities pursuant to the SPDES that became effective March 10, 2003. The Erosion Control Plan would include provisions that excavated soil be temporarily sidecast and stored adjacent to work areas, exposed soil be stabilized, and erosion control devices (e.g., hay bales, silt fence) be installed to minimize erosion and subsequent sedimentation. As a result, no significant soil erosion or sedimentation would result from implementation of the Proposed Action.

4.3 WATER RESOURCES

4.3.1 Groundwater Resources

Because no public water supply wells or sole source, primary, principal, or important aquifers occur at, or near, Camp Buckner and Camp Natural Bridge, there would be no impact on groundwater resources through implementation of the Proposed Action.

4.3.2 Surface Water Resources

The Proposed Action is located adjacent to the eastern shore of Popolopen Lake. As identified in Section 4.2, best management practices for erosion and sedimentation control would be implemented during demolition and construction activities to minimize any potential soil erosion and subsequent sedimentation to the lake. In addition, during demolition and construction, hazardous materials would be identified and controlled, and any accidental spills would be contained in accordance with the *United States Military Academy Installation Spill Contingency Plan* (USMA 1996). Further, any activities that occur within the 100-foot riparian buffer zone would receive greater scrutiny from USMA at West Point (USMA 1998).

With the implementation of the design measures and best management practices discussed above, demolition and construction activities associated with the Proposed Action would not

have a significant effect on surface water resources at the USMA at West Point as a result of sedimentation, turbidity, or hazardous waste runoff.

4.3.3 Public and Private Water Supply Sources

Popolopen Lake is the potable water supply for both Camp Buckner and Camp Natural Bridge, and the camps are located at the headwaters of Popolopen Brook, which drains into Stillwell Lake and ultimately the Lusk Reservoir, which in turn provides the potable water supply to the remainder of the USMA at West Point. Therefore, protection of these surface waters is critical to protect the potable water supply for the USMA at West Point. Implementation of the best management practices described in Sections 4.2 and 4.3.2 would minimize potential sedimentation, turbidity, and hazardous waste runoff into Popolopen Lake, and thereby prevent temporary and long-term significant impacts to the potable water supply of the USMA at West Point.

4.4 FISHERIES

Implementation of the Proposed Action likely would not degrade water quality or aquatic habitat because no fill or construction activities would occur directly in Popolopen Lake or its outlet to Popolopen Brook. Implementation of the Proposed Action adjacent to the lake or brook likely would not degrade water quality because construction would comply with best management practices for stormwater management and erosion and sedimentation control, as specified in Section 4.2, and hazardous material spill control, as specified in Section 4.3.2. In addition, implementation of the Proposed Action likely would not increase water temperature because no thermal inputs or removal of shoreline vegetation or shade trees is proposed. Implementation of the Proposed Action would not involve construction or placement of culverts, impoundments, dams, or other structures that would alter the ambient rate or pattern of water flow, or water depths of Popolopen Lake, or act as an impediment to movement of aquatic life. As a result, implementation of the Proposed Action likely would not impact habitat or significantly impair the viability of fisheries habitat.

4.5 VEGETATION AND SPECIAL NATURAL AREAS

4.5.1 Vegetation

The USMA at West Point has designed the upgrades to utilize existing footprints of the demolished structures for new structures to the maximum extent possible. Therefore, only minor vegetation clearing may be necessary in locations where new structures would be constructed on previously undisturbed land. In addition, measures would be implemented to reduce the potential for erosion and subsequent loss of vegetation as a result of demolition, construction, and maintenance activities have been identified in Section 4.2.

4.5.2 Special Natural Areas

The two Special Natural Areas identified by the USMA at West Point, Cat Hollow and Natural Bridge, are not located physically within the Project area and therefore would not be impacted as a result of implementation of the Proposed Action.

4.6 WETLANDS, FLOODPLAINS, AND NAVIGABLE WATERWAYS

4.6.1 Wetlands

Implementation of the Proposed Action would not involve any dredge or fill activities in wetlands and, as a result, would have no direct impact on federal or state jurisdictional wetlands. Therefore, implementation of the Proposed Action would not require permits from the NYSDEC pursuant to Article 24 (Freshwater Wetlands) of the NYSECL, or from the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act.

Additionally, in accordance with the INRMP, any activities proposed to occur within the 100-foot buffer zone to wetland areas would receive greater scrutiny from USMA at West Point (USMA 1998), and would be limited to those which would result in little or no impact to the wetland; therefore, implementation of the Proposed Action likely would not impact these resource areas.

4.6.2 Floodplains

The 100-year floodplain to Popolopen Lake and its outlet will be taken into consideration when designing the placement of new structures. Specifically, new structures would be placed within Zone X, located outside the 500-year floodplain, as depicted on the Flood Insurance Rate Map (FEMA 1987) for the Project area. Therefore, implementation of the Proposed Action would have no undue adverse impacts on floodplains.

4.6.3 Navigable Waterways

Implementation of the Proposed Action would not result in any fill or dredging activities in Popolopen Lake or alteration to existing dikes or dams. Therefore, the Proposed Action would not impede current navigability of Popolopen Lake.

4.7 WILDLIFE

Implementation of the Proposed Action could have minor short-term and long-term impacts on terrestrial wildlife populations occurring in the area. During demolition and construction activities, the demolition of buildings, particularly older barracks buildings, would negatively impact those bat species that use the buildings as maternity roosts, including the little brown myotis, northern long-eared myotis, big brown bat, and northern red bat. These demolition activities could result in the temporary and permanent disturbance of maternity roost sites and could result in possible mortality of pregnant and/or immature individuals. To mitigate for negative impacts to maternity roost sites, the USMA at West Point would construct and erect bat houses capable of holding up to 100 bats in the Project area, and install a sufficient number of these bat houses in appropriate locations to serve as replacement roost sites prior to the start of demolition.

During demolition and construction activities, the clearing and grading of work areas would also result in the loss of some vegetative cover used by amphibians, reptiles, small mammals, and birds. These construction activities could result in the temporary and permanent disturbance of habitat and possible mortality of individuals of less mobile, burrowing, and/or denning species of amphibians, reptiles, and mammals. The return of ground dwelling species would be prohibited

at the site of new barracks or the addition to the Mess Hall due to the placement of permanent slabs. The return of ground dwelling species would be reduced in temporary construction areas due to the high level of soil compaction that would result from construction equipment traveling over terrestrial habitat. Construction activities may also cause the temporary and permanent displacement of more mobile species due to increased human activity and habitat alterations. Following construction, wildlife species are expected to resume their normal habits consistent with post-construction habitat availability in and within the vicinity of the Project area.

Implementation of the Proposed Action would result in a permanent loss of wildlife habitat located within the footprint of the few new barracks that will not be built on the footprint of the demolished barracks, and the Mess Hall addition. Small, disjunct areas of relatively open, park-like, deciduous forest would be cleared to allow the construction of these few barracks, however, other suitable foraging, nesting, and resting sites of similar habitat exist immediately adjacent to the Project area. Other impacts would be primarily to maintained lawn and currently developed areas that support limited wildlife diversity. As a result, implementation of the elements of the Proposed Action would result in permanent, but minor impacts on wildlife and associated habitat resources.

4.8 ENDANGERED AND THREATENED SPECIES

Bald Eagle

The identified wintering habitat for the bald eagle is located on the west side of Popolopen Lake and should not be impacted by demolition and construction activities at Camp Buckner and Camp Natural Bridge on the east side of the lake. However, construction activities that would occur between December and March would be monitored to avoid disturbance of bald eagles that utilize Popolopen Lake during the winter. Further, and in accordance with relevant provisions identified in the programmatic *Endangered Species Management Plan for the Bald Eagle* (Beemer 2002a), the USMA at West Point would consult with the USFWS regarding the potential impacts of the Proposed Action on the bald eagle. The USMA at West Point does not anticipate that the Proposed Action would adversely affect the bald eagle.

Timber Rattlesnake

Timber rattlesnake has not been reported as occurring at either Camp Buckner or Camp Natural Bridge, although road-killed timber rattlesnakes have been found by the USMA at West Point along NYS Route 293 in the vicinity of Camp Buckner and Camp Natural Bridge, a live telemetered rattlesnake was tracked to the shoulder of NYS Route 293 near the Camp Buckner entrance (Stechert 1996), and occurrences have been reported in Brooks Hollow, less than one mile to the southeast (Stechert 1994). Implementation of the upgrades would result in no direct impacts to this habitat. Although an occasional transient timber rattlesnake may be impacted if it attempts to traverse active construction areas, special care would be taken to avoid deliberately causing road mortality. Specifically, the USMA at West Point would provide pre-construction training to contractor personnel to recognize and avoid road-killing occasional transient timber rattlesnakes that may traverse active construction areas.

According to Section 11-0535 of the NYSECL, the taking, importation, transportation, possession or sale of endangered or threatened species of wildlife is prohibited, except under license or permit from the NYSDEC. To mitigate potential impacts to the timber rattlesnake during construction of the proposed facilities, USMA at West Point would monitor the impacted areas for timber rattlesnake activity when demolition or construction activities are scheduled outside of the September through May time period. In the event of a timber rattlesnake encounter, USMA at West Point has a verbal agreement with the NYSDEC to move timber rattlesnakes to a suitable, off-site rookery, den, or foraging habitat (Beemer 2002b). This verbal agreement identifies Jim Beemer, Natural Resource Biologist, USMA at West Point, as the person that would be notified in case of an encounter and the person that would handle and translocate individual timber rattlesnakes.

Small-footed Bat

Individual small-footed bats are likely to use areas near Camp Buckner for foraging. The small-footed bat is an insectivore that forages on the wing above open waters, wetlands, or openings in forest canopies. Implementation of the Proposed Action would involve limited disturbance or alteration of existing potential bat foraging habitats in the vicinity of Camp Buckner, and therefore would not result in significant impacts to individual small-footed bats.

Plant Species

Implementation of the Proposed Action would not directly impact wetlands, such that no impacts to Bush's sedge are anticipated. Because the purple milkweed occurrence is not located within the areas impacted by the Proposed Action, no direct disturbance or indirect impacts on the purple milkweed are anticipated.

4.9 LAND USE AND ZONING

4.9.1 Land Use and Local Zoning

The Proposed Action represents an in-kind upgrade of existing uses and structures within the Industrial/Field Training/Recreation Zone. Thus, implementation of the Proposed Action would result in no significant adverse effect on existing land uses. Moreover, the Proposed Action would be consistent with uses identified in the *USMA Master Plan for the Year 2007* (Vollmer Associates, LLP Undated), as well as substantively improve facilities required to fulfill the USMA at West Point's training mission.

4.9.2 Planned Developments

Implementation of reasonably foreseeable future actions (see Section 5.0) in conjunction with the Proposed Action would be consistent with the *USMA Master Plan for the Year 2007* (Vollmer Associates, LLP Undated). The potential contribution of the Proposed Action to cumulative effects is addressed in Section 6.0.

4.9.3 Generation and Disposal of Waste Material

The Proposed Action would temporarily generate various typical solid demolition and construction debris that would be minor compared to the total amount of solid waste generated per year at USMA at West Point. The USMA at West Point would develop a Construction and Demolition Waste Management Plan that would address the disposal of demolition and construction debris at on-site industrial receptacles, and the periodic collection and disposal of this debris off-site at an approved waste disposal site. Implementation of the Proposed Action

would therefore have a minor, temporary impact on the generation and disposal of waste material.

Routine maintenance activities associated with the Proposed Action would not generate an increase in the amount of ordinary, non-hazardous solid waste compared to the current conditions. Further, implementation of the Proposed Action would not create any additional demand on the Camp Buckner wastewater treatment plant compared to current conditions.

4.9.4 Recreational and Other Designated Facilities

Implementation of the annual phase of the Proposed Action would be scheduled to occur during spring and fall seasons to avoid summer training use of Camp Buckner and Camp Natural Bridge and therefore would not interfere with any existing summer recreational uses of Popolopen Lake and other areas in the general vicinity of Camp Buckner and Camp Natural Bridge. Additionally, each annual demolition and construction phase would be designed in such a manner as to allow full functioning of camp facilities during seasonal training periods. Therefore, implementation of the Proposed Action would not interfere with summer training or recreational activities.

4.10 VISUAL RESOURCES

The USMA at West Point is committed to maintaining the integrity of visual resources associated with the Project area, including those visual resources associated with historic, cultural, and natural landscapes, so that the built environment of the Project area maintains its harmony with the surrounding natural environment (Geo-Marine, Inc. 2001). Therefore, the USMA at West Point would implement a variety of measures to protect the visual resources of the entire Project area, including those visual resources relating to the historic military landscape and the NRHP-eligible properties identified within the portion of the Project area at Camp Buckner.

As currently planned, the architectural elements and the phased implementation of the Proposed Action could have a direct impact on the visual resources within the Project area. To ensure that the direct impact of the Proposed Action is not adverse or significant, the USMA at West Point

would implement architectural designs and facility location plans that reflect and maintain the military summer camp appearance of the Project area. The USMA at West Point would also implement architectural designs and facility location plans that visually blend with historically significant World War II-era buildings, and that do not detract significantly from the extant Cold War-era buildings within the Project area. Finally, the USMA at West Point would implement architectural designs and facility location plans that would not create a significant visual intrusion on the viewsheds of the Project area from adjacent areas such as the Black Rock Forest, or from adjacent transportation corridors such as NYS Route 293.

Measures to ensure that architectural designs and facility location plans would not have a direct, adverse, significant, impact on visual resources within the Project area would be consistent with recommendations and guidelines established in the *Integrated Cultural Resources Management Plan, United States Military Academy, West Point*, and the *Historic Landscape Management Plan for the United States Military Academy at West Point, New York* (Geo-Marine, Inc. 2001, USACERL 2001). To successfully implement the recommendations and guidelines from these management plans, an inventory of buildings and structures would be prepared for the portion of the Project at Camp Natural Bridge, including a cultural landscape evaluation for this portion of the Project.

Finally, implementation of successive phases of the Proposed Action would be consistent with recommendations made by the NYSOPRHP, following review and comments on the architectural designs and facility location plans for the Proposed Action.

4.11 CULTURAL RESOURCES

As currently designed, the Project has the potential to impact cultural resources, including archaeological and architectural resources. Archaeologically, the Project appears to be located in an area with moderate to high sensitivity. Architecturally, the Project area contains a number of NRHP-eligible buildings, structures, or monuments associated with Camp Buckner, and may contain similar architectural resources in that portion of the Project area associated with Camp Natural Bridge. To ensure that implementation of the Project would have no adverse effect on

cultural resources in or eligible for inclusion in the NRHP, the following procedures would be incorporated into the Project.

To address the potential for the presence of previously unidentified archaeological sites in the Project area, the USMA at West Point would implement the guidelines included in the installation's *Integrated Cultural Resources Management Plan*. These guidelines include:

- Performing Phase I surveys for archaeological resources prior to implementation of the various components of the Project, particularly previously undisturbed portions of the Project area;
- Identifying archaeological sites in the Project area as sensitive resource zones;
- Creating buffer zones around archaeological sites to protect them from disturbance; and
- Monitoring the site locations to ensure that disturbance is not incurred (Geo-Marine, Inc. 2001).

Implementation of the guidelines in the USMA at West Point's *Integrated Cultural Resources Management Plan* as part of the Project would ensure that archaeological resources in the Project area are protected, and no adverse effects would be incurred on archaeological resources identified as NRHP-eligible.

To address the presence of previously uninventoried architectural resources in the Project area, the USMA at West Point would implement the guidelines included in the installation's *Integrated Cultural Resources Management Plan* to inventory architectural resources. These guidelines include:

- Updating the architectural inventory eligibility list for the USMA at West Point to include all buildings within the Project area;
- Continuing to apply the *Secretary of the Interior's Standards*, including developing property-specific treatment options to facilitate mission activities of the USMA at West Point in the Project area, and to maintain the active use of these historic buildings or structures;

- Developing an interim plan for specific buildings or structures, or groups of like buildings or structures, in the Project area that would retain the historic character of buildings or structures and their settings, but would permit the continued use, maintenance and repair of these buildings and structures (Geo-Marine, Inc. 2001).

Furthermore, architectural design plans for replacement of, or improvements to, structures in the Project area would be evaluated to ensure that architectural resources that are NRHP-eligible, or potentially NRHP-eligible, would not be adversely affected. The USMA at West Point has initiated a Historic Building and Structures Inventory of Camp Natural Bridge, to assess the historic property status of buildings and structures at Camp Natural Bridge. Any additional portions of the Project area that have not undergone an architectural inventory would also be evaluated for architectural and historical significance, to identify architectural resources that are NRHP-eligible, or potentially NRHP-eligible.

Implementation of the guidelines in the USMA at West Point's *Integrated Cultural Resources Management Plan* as part of the Project would ensure that architectural resources in the Project area are protected.

4.12 SOCIOECONOMICS

4.12.1 Population

The proposed upgrades and new construction at Camp Buckner and Camp Natural Bridge would not have any effect on the overall, year-round population of the Town of Highlands, Orange County, or the USMA at West Point.

When fully completed, the proposed upgrades at Camp Buckner would provide lodging for 1,400 cadets at peak capacity during the summer training season. The proposed upgrades and new construction at Camp Natural Bridge would allow for a peak capacity of 1,100 trainers and support staff during summer months only. When fully completed, Camp Natural Bridge upgrades would provide new, permanent structural lodging for 300 people that are currently

housed in tents, and would provide upgraded lodging facilities for the 750 beds currently available at the camp. Overall, implementation of the Project would not substantially increase the current lodging capacity of the camps; and furthermore, these camps are designed for temporary use only and not permanent housing. Therefore, no increases in the USMA at West Point population would occur as a result of implementation of the Project.

4.12.2 Economy and Employment

Project construction would have a minor beneficial impact on the economy and employment in Orange County and the surrounding areas as a result of temporary employment of local and/or out-of-state construction contractors. The demolition of existing structures, construction, and upgrades will be phased over four years, and the total project cost for planning, construction, and management is estimated at \$27.25 million (USMA 2003). Annual expenditures for construction are estimated to be up to \$7 million per year (Cubbison 2003). Beneficial impacts on the regional economy are expected in the form of increased employment, increased contractor spending on local building supplies and equipment, and worker spending of disposable income on local lodging, services, and goods.

Operation of the proposed upgrades would have no significant long-term impact on the economy or employment in Orange County and surrounding areas because no substantial increase in permanent jobs or visitors (and visitor spending) would result from the proposed upgrades.

4.12.3 Community Services

No reduction of services provided by the USMA at West Point to its military and retired personnel and their dependents, or funding for these services, would result from implementation of the Project. A possible exception would be the temporary limitation or prohibition of use of specific recreational facilities at Camp Buckner and Camp Natural Bridge in the vicinity of construction activity during the time of construction, for safety reasons. However, this restriction would be limited to the time of demolition and construction, and demolition/construction would be timed to avoid the period of most intensive use of the camps between mid-May and mid-August. Furthermore, there are numerous alternative locations for

recreational opportunities throughout other areas of the USMA at West Point, such that no significant impact on recreational activities is expected.

The timing of Project construction at Camp Buckner and Camp Natural Bridge would be coordinated to occur outside of the period of most intensive camp use for cadet training, to avoid the period from the third week of May through the third week of August. Therefore, construction of the Project over several years would not significantly impact the USMA at West Point's ability to fulfill this aspect of its training mission.

Other groups (such as other active Army units, Army Reserve and National Guard units, other Federal agencies, and civilians) that use the camp facilities between mid-August and mid-May may be inconvenienced if demolition and construction activities coincide with their period or areas of use. Alternatively, these groups may be prevented from using certain facilities, or prohibited entirely from using the camps at certain times during demolition and construction. However, the USMA at West Point would coordinate scheduling of other groups' usage of the camps to accommodate their use requirements as much as possible while maintaining Project construction objectives.

When fully implemented, operation of the Project would enhance the USMA at West Point's provision of this community service to it own, as well as other user groups, by providing upgraded, higher quality facilities.

4.12.4 Tax Revenues

The construction and operation of the proposed Project would not result in any change in federal, state, or local tax-exempt status of the USMA at West Point. Temporary construction activities may generate a minor temporary increase in state sales tax revenues as a result of sales of goods and services to construction personnel in the Village of Highland Falls and adjacent municipalities.

4.12.5 Transportation

During the period of construction, a minor, temporary increase in the volume of traffic would occur along the existing secondary paved roads and unimproved roads at Camp Buckner and Camp Natural Bridge as a result of use and movement of construction contractor's equipment and vehicles. Damage to roads may occur from repeated use by heavy equipment or personal vehicles. However, the roads at the camps will be maintained and restored as necessary during and after the construction period. The USMA at West Point will make every effort to prevent the tracking of mud from the construction sites onto the nearby public highway, NYS Route 293, and will immediately remove any mud inadvertently tracked onto this highway, to avoid potential safety concerns.

The majority of proposed construction work will be scheduled to avoid the period of most intensive training use by the USMA at West Point, mid-June through mid-August. However, the construction period may coincide with periods of other group use, or when off-site parking is needed at Camp Buckner to support home football games. However, the USMA at West Point will coordinate construction activities and maintain signage as needed to alert any users of the camps of construction-related traffic.

No new roads, or widening or improvements to existing roads, are proposed as part of this Project. Because the total capacity of the camps after construction is projected to remain the same as before construction, and because the proposed use of the camps will remain the same, no substantial increase in automobile traffic volume is expected. Finally, the Project would not affect the existing rail or water navigation systems serving the USMA at West Point. Therefore, no long-term impact on the existing transportation network is anticipated.

4.13 AIR QUALITY

The Clean Air Act Amendments of 1990, 40 CFR 93.158, require that emissions associated with Federal Actions do not interfere with State Implementation Plans (SIPs) for achieving National Ambient Air Quality Standards of criteria pollutants that currently are in non-attainment. Because the Project would be implemented in the Hudson Valley Air Quality Control Region, which is classified as a severe non-attainment area for ozone, the USMA at West Point must

evaluate direct and indirect emissions associated with any proposed actions and ensure these emissions conform with the SIP.

Direct emissions are defined as those that are directly associated with the Federal Action, and would include long-term emissions generated by any new stationary emission source (such as a new power generating facility), and temporary emissions generated by construction equipment, vehicles, and certain construction activities (including particulate matter [PM] generated by excavation, rock blasting, and building demolition, as well as volatile organic compound [VOC] emissions associated with asphalt paving and curing). Indirect emissions are defined as those emissions that occur in support of the Federal Action, and would include any new or increased emissions generated by existing stationary emission sources serving the action (such as an existing power facility that increases its operating capacity or delivery volumes to serve new heating/cooling systems in new and upgraded buildings).

The new and upgraded facilities at Camp Buckner and Camp Natural Bridge will be served by reinforcing the existing electric feeder lines from O&R's substation on Mine Road. O&R would convert their existing system to increase capacity to serve the proposed camp upgrades and new buildings. Both camps would be served by dual 4.16 kilovolt (KV) feeders, which would supply to eight new, pole-mounted distribution transformers at Camp Buckner and nine new, pole-mounted transformers at Camp Natural Bridge (Vollmer Associates, LLP Undated).

To avoid or minimize potential air pollutant emissions associated with the Project, none of the new facilities or upgrades to existing facilities would involve the installation of natural gas or oil heating or air conditioning systems. Instead, electric hot water heaters will be installed in new buildings (Cubbison 2004). Because the USMA at West Point does not plan to winterize the new facilities, no heating systems would be installed in new buildings. However, should heating systems be necessary in the future, then electric baseboard heating systems may be installed in new buildings.

Before construction of the Project, the USMA at West Point will identify and evaluate temporary and long-term direct and indirect emissions of VOCs and nitrogen oxides (NO_x) – which

combine in the atmosphere to produce ozone – in accordance with SIP emission thresholds. In addition, USMA at West Point will assess the particulate matter (PM-10) emissions and any other pertinent emissions associated with construction and operation of the Project. The temporary and long-term direct and indirect emissions projected to be generated by the Project would be compared with specific SIP emission thresholds for severe ozone non-attainment areas, and the USMA at West Point would determine whether this threshold would be exceeded as a result of implementing the Project.

The identification, evaluation, and assessment processes project to determine if priority pollutants, including SIP emission thresholds for VOCs, NO_x, PM-10, and any other pertinent emissions, will fall within the statutory limits during and after construction will be included in a general conformity review of the Project. Various construction-related activities and factors will also be examined as part of the Project's conformity review, such as asphalt laying, painting or staining, and the number of construction vehicles. Many of the impacts of these construction-related activities and factors are dependent on the date and duration of a activities such as clearing, stripping, grading, excavation, and backfilling, the amount and type of asphalt to be used during construction, the number of tractors, rollers, backhoes and other construction equipment used for construction activities, and the number of workers commuting to the construction sites.

If thresholds would be exceeded, then the USMA at West Point would propose and implement air emissions control measures during construction and/or operation of the Project, as necessary, to ensure that implementation of the Project would have no significant adverse impact on air quality. If an air emissions permit is determined to be required pursuant to 6 NYCRR Part 231, then the USMA at West Point would secure the necessary permit from the NYSDEC.

4.14 NOISE

Implementation of the Project would not involve the long-term operation of significant noise-generating sources, nor would it increase or alter the existing levels of the primary noise sources in the vicinity of the camps at the USMA at West Point (helicopter missions and firing exercises).

However, as a result of blasting and other demolition- and construction-related activities, there would be a temporary increase in localized noise generated during demolition and construction of the proposed facilities. Prior to implementation of construction activities, blasting contractors would be required to prepare and submit to USMA at West Point a project-specific Rock Blasting Plan and to implement applicable noise-reduction and health and safety requirements. All materials and procedures used during the blasting activity would conform to the Bureau of Reclamation (BUREC) Reclamation Safety and Health Standards. The amount of noise resulting from blasting activities will be monitored using air blast recordings of each blasting activity. All monitoring equipment will be calibrated and maintained according to the National Bureau of Standards. Noise would be mitigated by performing construction and blasting activities only during daylight hours, and by requiring the construction contractors to use equipment that meets specific standards.

Noise levels at the new and upgraded camp facilities are likely to be the same as for the existing camp facilities. Existing and proposed noise levels are assumed to be, at least some of the time, above the 65-dB threshold that is considered to be “normally acceptable in suitable living environments”, as a result of routine helicopter missions, artillery training, and firing exercises that occur at the Lake Frederick Drop Zone and the adjacent ranges. However, the affected people who would use the camp facilities would generally be the same people (military and law enforcement trainees) for whom the artillery training and firing exercises are provided; therefore, the affected population is considered to be less sensitive than the general public in a residential area. Additionally, the camps are not intended for long-term residency. Finally, the new barracks that would replace existing tent lodging sites at Camp Natural Bridge would likely serve to dampen the noise experienced by individual camp users, compared to lodging in tents.

Therefore, implementation of the proposed Project would not significantly affect existing noise levels, and the location of new and upgraded facilities in this area of intermittently elevated noise levels would not negatively affect the users of the facilities.

4.15 UTILITY INFRASTRUCTURE

4.15.1 Potable Water Supply

The Camp Buckner water treatment plant produces enough water for 1,000 personnel and would not need to be upgraded to accommodate existing and projected uses of Camp Buckner and Camp Natural Bridge (Vollmer Associates, LLP Undated).

4.15.2 Storm Drainage

In locations where new structures would be constructed on previously undisturbed land, the USMA at West Point would design and implement site-specific Storm Water Pollution Prevention Plans in accordance with NYSDEC's current stormwater management regulations for construction activities pursuant to SPDES. Therefore implementation of the Proposed Action have no undue adverse effect on storm drainage at Camp Buckner and Camp Natural Bridge.

4.15.3 Electricity

Increased electrical loads at Camp Buckner and Camp Natural Bridge would initially be served by reinforcing the existing 4.16 KV feeder lines from O&R (Vollmer Associates, LLP Undated). However, when O&R upgrades to 69 KV, electricity to Camp Buckner will be upgraded to serve two 75 KVA and six KVA pole-mounted distribution transformers and Camp Natural Bridge will upgraded for four 75 KVA and five 50 KVA transformers (Vollmer Associates, LLP Undated).

4.15.4 Telecommunications

The Proposed Action would have a beneficial impact to telecommunications by replacing or upgrading the existing system to one that is usable and reliable.

4.16 HAZARDOUS MATERIALS

Construction of the Project would not disturb any known hazardous waste sites, waste disposal, or unexploded ordnance areas. The nearest waste area is a former landfill located approximately

200 feet southeast of the nearest proposed new barracks location at Camp Buckner, and would not be directly disturbed by the proposed development.

New buildings would be located on, or in close proximity to, existing building footprints and in areas of the camps that have undergone previous structural development. Similarly, staging areas for construction material and equipment storage would be located in areas that avoid hazards associated with hazardous waste and unexploded ordnance. Any necessary utility upgrades, and generally any development in areas not previously reviewed for hazardous materials, would be reviewed by environmental personnel at the USMA at West Point as part of the planning process, to verify that no hazardous materials or conditions exist.

Prior to demolition and/or upgrade of each building and infrastructure element, each building and infrastructure element would be examined by USEPA-certified inspectors. Following this examination, the USMA at West Point would identify, remove, and store or properly dispose of, any hazardous chemicals, explosives (such as weapons in the arms building and rooms), or regulated building materials (such as asbestos insulation or siding) that may be contained in each building and infrastructure element prior to demolition or upgrade.

Blasting activities involving explosives may be required during demolition activities and construction of the Project. Hazardous material specifications in the project specific Rock Blasting Plan required by the USMA at West Point would cover all stages of blasting activity, including transportation, handling, storage, and use of explosives, and would be implemented during each phase of the activity. All materials and procedures used during the blasting activity will conform to the BUREC Reclamation Safety and Health Standards. As a result, blasting activities associated with implementation of the Project likely would not result in an increased risk to human health or the environment from exposure to hazardous materials.

Construction also would involve the transport, temporary storage, and use of typical hazardous construction materials, such as solvents, lubricants, sealants, adhesives, petroleum products, and paints. Implementation of construction activities, including the transport, use, and temporary storage of potentially hazardous materials, would comply with proper handling and reporting

procedures identified in the USMA at West Point's *Installation Spill Contingency Plan* (USMA 1996a).

Following construction, activities conducted during normal operating periods at the upgraded facilities may include the use or generation of hazardous materials. Examples of such activities include pest and vegetation control. Throughout the USMA at West Point, all hazardous materials would continue to be handled in accordance with Federal laws and Army regulations, including Resource Conservation and Recovery Act (RCRA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Toxic Substances Control Act (TSCA), and various Army regulations. Therefore, no adverse effects regarding the use or generation of hazardous materials are expected to result from implementation of the Project.

4.17 PUBLIC HEALTH AND SAFETY

The proposed upgrades to the Camp Buckner and Camp Natural Bridge facilities would result in a marked beneficial impact on the conditions promoting the health and safety of those individuals who use them. Structurally unsound buildings would be replaced with modern buildings designed for current and planned future uses, and in accordance with current standards for DA structure development (STV Incorporated 2003). Some departures from the DA standard design specifications would be made, and are deemed acceptable, due to the limited and seasonal use of the facilities. For example, new barracks would be designed with less living space per soldier than the standard design (22 square feet as opposed to 72 square feet per soldier), and new latrines would continue to use the gang latrine configuration (STV Incorporated 2003). However, structural defects and conditions exposing occupants to inclement weather and vermin would be corrected with construction of the new barracks. Elimination of tent sites in exchange for new barracks at Camp Natural Bridge would also reduce the exposure of occupants to natural health and safety hazards such as insect- and rodent-borne diseases. In addition, the proposed new arms rooms at Camp Buckner and a new arms building at Camp Natural Bridge would bring the buildings up to security standards. All new and upgraded buildings would conform to current standards applicable to their uses regarding sanitation, security, fire protection, and emergency access and egress.

Implementation of the proposed Project would not substantially increase the required level of effort to provide public health and safety services at the USMA at West Point. Although there would be an overall net increase in the size of enclosed indoor spaces, the existing facilities at the camps are already part of the service area for the USMA at West Point's security and fire protection and response teams, and the level of required service would not be increased to accommodate the Project.

As stated in Sections 4.9.3 and 4.15, construction and operation of the completed Project facilities would not result in a significant adverse impact on solid waste management, and would not require upgrades or increases in capacity to the USMA at West Point's water treatment plant for potable water supplies or the Camp Buckner wastewater treatment plant. Therefore, no adverse effects on these aspects of public health and safety services at the USMA at West Point are anticipated.

4.18 ENVIRONMENTAL JUSTICE

In accordance with Executive Order 12898 (dated February 11, 1994), Federal agencies are required to identify and address the potential for disproportionately high and adverse environmental and human health effects on minority and low-income populations, resulting from the agencies' programs, policies, and activities. Based on the information presented in Section 4.0, Environmental Consequences, of this EA, no significant or unacceptable adverse environmental or human health effects are expected to result from implementation of the Proposed Action.

Low-income housing, Weyant Green, is located east of the Project area in the Village of Highland Falls. It is anticipated that implementation of the Proposed Action would not negatively affect the Weyant Green community as a result of increased traffic, noise, air pollution, or potential changes to visual quality because of its remote location relative to the Project area. Because implementation of the Project would not negatively impact this community, no disproportionately high and adverse impact to minority or low-income populations would occur.

5.0 REASONABLY FORESEEABLE FUTURE ACTIONS

Reasonably foreseeable future actions (RFFAs) in the general vicinity of Camp Buckner and Camp Natural Bridge can be grouped into three distinct categories: (1) annual ongoing activities, (2) routine activities, and (3) routine maintenance activities. Annual ongoing activities include: cadet summer training; military and law enforcement training; and hunting, fishing, and other recreational activities. Routine activities include elements of the Integrated Training Area Management (ITAM) Program and timber harvests. Routine maintenance activities are: repairs to Camp Buckner and Camp Natural Bridge sewer line, addition to range control headquarters Building 1402, renovation of extant structures to the new bathhouse at Round Pond recreation area, renovations to the record fire range (Range 11), upgrades to the fiber optics system for the USMA at West Point, and construction new barracks at Camp Buckner and Camp Natural Bridge (Figure 6). Each of these additional actions would be implemented within the 5-year period between April 2004 and September 2008.

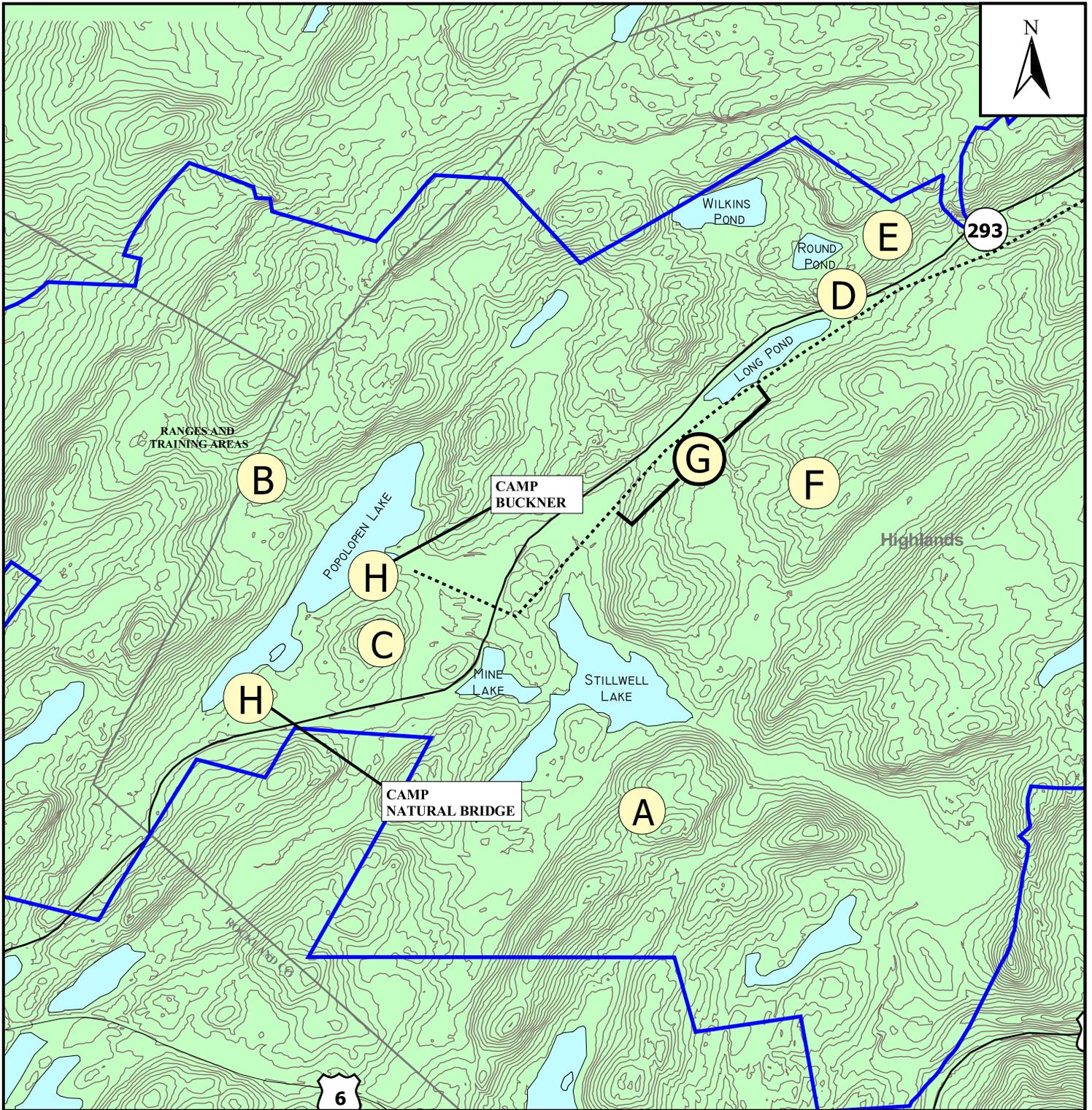
5.1 ANNUAL ONGOING ACTIVITIES

5.1.1 Cadet Summer Training

Cadet summer training occurs annually from June through August at Camp Buckner and Camp Natural Bridge. The summer training includes a range of military training activities such as, marksmanship, small unit tactics, road marches, physical training, obstacle courses, bayonet courses, orienteering, and land navigation.

5.1.2 Military and Law Enforcement Training

The National Guard and Reserves units hold weekend training year round throughout the ranges at the USMA at West Point. Training activities include a range of military training activities such as, marksmanship, small unit tactics, road marches, physical training, obstacle courses, bayonet courses, orienteering, and land navigation. Law enforcement personnel primarily use the ranges at the USMA at West Point for marksmanship training.



LEGEND

-  USMA Military Reservation Boundary
-  2003 Timber Harvest
-  2004 Timber Harvest
-  Repairs to Camp Buckner and Camp Natural Bridge Sewer Line
-  Addition to Range Control Headquarters, Building 1402
-  Renovations of Extant Structures and New Bathhouse at Round Pond Recreation Area
-  Renovations to Record Fire Range (Range 11)
-  I3MP Fiber Optics Upgrades
-  New Facilities Construction at Camp Buckner and Camp Natural Bridge

Figure 7. Reasonably Foreseeable Future Actions at the USMA, West Point, New York.

Client:  U.S. Army Corps of Engineers
New York District

Source: USACE Boundary of USMA Military Reservation;
New York State Department of State GIS Clearinghouse data;
US Census Bureau TIGER/2002 Linefiles;
ESRI 1999 Data and Maps CD-ROM Data.

2000 0 2000 4000 Feet


Prepared By:



Date:
09/18/03

5.1.3 Hunting, Fishing, and Other Recreational Activities

Specified portions of the ranges at USMA at West Point are open for hunting, fishing, and other recreation at certain times of the year based on wildlife management decisions that are determined on an annual basis.

5.2 ROUTINE ACTIVITIES

5.2.1 Installation Training Area Management Activities

The Integrated Training Area Management (ITAM) Program was established by the DA to maintain and sustain usable ranges. The Land Rehabilitation and Maintenance (LRAM) component of the ITAM is designed to reduce long-term training impacts by prescribing preventative and corrective land maintenance and restoration practices. Typical LRAM projects include: stream protection, pistol range erosion protection improvements, trail rehabilitation, range road re-routing, and trench rehabilitation.

5.2.2 2003 Timber Harvest

Selected trees will be cut and removed from 77 acres of the West Point Military Reservation, to the southeast of Stillwell Lake, as part of the ongoing forest management program. Trees selected for removal are those with significant insect or disease damage or poor form, those creating overcrowding within the stand, and other mature trees which are not likely to maintain vigor until the next harvest. Trees will be removed by tractor and skid to designated areas for loading onto trucks. The tree harvest is scheduled for August 2003 through February 2004.

5.2.3 2004 Timber Harvest

Selected trees will be cut and removed from an area of the West Point Military Reservation, northwest of Camp Buckner and Camp Natural Bridge, as part of the ongoing forest management program. Trees selected for removal are those with significant insect or disease damage or poor form, those creating overcrowding within the stand, and other mature trees which are not likely to maintain vigor until the next harvest. Trees will be removed by tractor and skid to designated

areas for loading onto trucks. The tree harvest is scheduled for August 2004 through February 2005.

5.3 ROUTINE MAINTENANCE ACTIVITIES

5.3.1 Repairs to Camp Natural Bridge and Camp Buckner Sewer Line

Repairs and preventative maintenance will be performed on the 55-year old pipeline to prevent leaks in the lines that run from Camp Natural Bridge to Camp Buckner and from Camp Buckner to Popolopen Creek. Repairs will be made by inserting a polyethylene lining inside the existing pipeline from the two termination points of the existing line.

5.3.2 Addition to Range Control Headquarters Building 1402

An addition to contain space for four offices and a shop area is proposed to be added to Range Control Headquarters Building 1402 in the future, with a schedule for this activity to be determined. A 40- by 45-foot, one-story addition, identical in appearance to the existing building, will be added to the southwestern elevation of the existing structure.

5.3.3 Renovation of Extant Structures and New Bathhouse at Round Pond Recreation Area

Two structures at Round Pond, Building 1352 and Building 1354, both built in 1937, are in deteriorating condition and are scheduled for routine repairs and maintenance. Additionally, an addition to a modern bathhouse is included as part of this project.

5.3.4 Renovations to Record Fire Range (Range 11)

The Record Fire Range (Range 11) at the USMA at West Point would be upgraded to meet current record fire range requirements. Upgrades would include the installation of new firing positions, new targets, and new electronic target control and scoring systems. All upgrades to the Record Fire Range (Range 11) would occur within the footprint of the existing range, and no new ground disturbance, excavation, or significant construction would be associated with this project.

5.3.5 I3MP Fiber Optics Upgrade Project

The I3MP Fiber Optics Upgrade project consists of the installation of an upgraded fiber optics system throughout the main cantonment area, and extending this upgraded fiber optics system to Camp Buckner. Extension of this upgraded fiber optics system to Camp Buckner would be from existing utility poles along NYS Route 293 between the Main Post/Academic Area of the USMA at West Point to Camp Buckner. The I3MP Fiber Optics Upgrades project is scheduled for NEPA and Section 106 analysis in October 2003, and is scheduled to begin in January 2004.

5.3.6 New Facilities Construction Project at Camps Buckner and Natural Bridge

The New Facilities Construction Project at Camp Buckner and Camp Natural Bridge will consist of the construction of a limited number of new facilities at Camp Buckner and Camp Natural Bridge to support the expansion of the U.S. Corps of Cadets, which was initiated with the class of 2008, and will be necessary to support the Cadet Annual Field Training for the class of 2008, which will occur during the summer of 2004. Two new barracks for cadets will be constructed at Camp Buckner, and will include the installation of necessary infrastructure such as electricity, HVAC, sewage, and potable water. Four new barracks for active duty and reserve component military trainers, including the installation of necessary infrastructure such as electricity, HVAC, sewage, and potable water, and one new arms room to support military trainers, including the installation of necessary infrastructure such as electricity, fire protection, and HVAC, will be constructed at Camp Natural Bridge. All facilities will be constructed on previously disturbed and/or excavated ground. A Record of Environmental Consideration was prepared for this project on September 11, 2003, in accordance with the categorical exclusion under the provisions of 32 CFR 651.19, AR 200-2, Environmental Analysis of Army Actions, Appendix B, Section II (c) (1), and the anticipated date for project implementation is Fall 2003.

6.0 CUMULATIVE IMPACTS

Cumulative environmental effects are the result of a proposed action being added to effects of other past, present, and RFFAs, regardless of the agency or person responsible for such actions. The current condition of the summer training facilities at Camp Buckner and Camp Natural Bridge serves as a baseline for cumulative effects analysis.

Cumulative effects associated with these past, present, and RFFAs at the USMA at West Point are summarized in this section by resource area, including soils, water resources, biological resources, land use, visual resources, cultural resources, socioeconomics, air quality, noise, utility infrastructure, and public health and safety. This section provides a summary of direct, indirect, and cumulative impacts associated with the Proposed Project, the No Action Alternative, and RFFAs. This section addresses only those resources subject to cumulative effects, whereas “no effect” issues are not addressed.

6.1 SOILS

The implementation of past, present, and reasonably foreseeable future development in the Project area would have minor short-term and long-term direct impacts on soils. Earth disturbance associated with demolition and construction activities of the Proposed Action and trail use by the timber harvest activities may result in temporary, indirect soil erosion and sedimentation. However, the use of site-specific erosion control measures and best management practices during, and immediately after, earth disturbance activities of the RFFAs would reduce the potential temporary erosion and sedimentation effects to a level that is not undue or significant.

The ITAM, specifically the LRAM, will have a long-term, beneficial impact to soils by integrating the USMA at West Point’s training mission with current and planned land uses while protecting significant natural and cultural resources.

6.2 WATER RESOURCES

The implementation of past, present, and reasonably foreseeable future development in the Project area likely would have no direct or indirect significant impacts on groundwater resources, surface waters, or public water supplies. Any development would be required to avoid, minimize, or mitigate potential adverse impacts on these resources to a level that is not significant in accordance with federal and state regulations, and the application of best management practices for erosion and sedimentation control and hazardous and toxic material spill control and remediation.

Additionally, LRAM will have a long-term, beneficial impact to surface waters by remediating and preventing erosion resulting from training activities and prescribing preventative and corrective land maintenance and restoration practices for training areas.

6.3 BIOLOGICAL RESOURCES

The implementation of past, present, and reasonably foreseeable future development in the Project area likely would increase the potential for short-term and long-term adverse impacts on biological resources, including the long-term direct loss or conversion of common vegetation types, and subsequent short-term direct loss or indirect displacement of wildlife. Because existing biological resources in the region of influence are generally common in Orange County and upstate New York, cumulatively these impacts would be considered minor. Any potential significant impacts on rare, threatened, or endangered species or vegetation communities would be avoided, minimized, or mitigated to a level that is not significant in accordance with the Endangered Species Act of 1973 (as amended) and New York State rare, threatened, or endangered species protection laws.

6.4 LAND USE

Implementation of RFFAs in addition to the Project would not result in adverse impacts on existing or planned land uses at the USMA at West Point. The Project, in addition to the other RFFAs noted in Section 5.3 (including the repairs to the Camp Buckner and Camp Natural Bridge sewage line, addition to the Range Control Headquarters Building 1402, and the

renovation of extant structures and new bathhouse at Round Pond Recreation Area) are designed to improve existing facilities within the context of existing land use development patterns; therefore, beneficial cumulative impacts on land use are anticipated. All of the RFFAs described in Section 5.0 (including routine training activities, training area management activities, recreational activities, timber harvesting, and repairs and renovations mentioned above) are planned and located in areas designated for these types of land use, consistent with the *USMA Master Plan for the Year 2007* (Vollmer Associates, LLP Undated), the INRMP, and the ITAM and LRAM. Therefore, no adverse cumulative impacts on existing or future land uses are anticipated.

Regarding the generation and disposal of waste material, the amount of solid waste generated cumulatively, from implementation of the Project in combination with other RFFAs (including the selective harvest and disposal of non-marketable timber, repairs to Camp Natural Bridge and Camp Buckner sewage line, the addition to Range Control Headquarters Building 1402, and the renovation of extant structures and new bathhouse at Round Pond), may result in a short-term increase in solid waste disposal needs for the USMA at West Point. Although the USMA at West Point utilizes off-site commercial solid waste disposal facilities at the Orange County sanitary landfill, landfill capacity is not limitless; and many issues arise, on both a regional and society-wide basis, from the scarcity of, and planning for, solid waste disposal. In step with this issue, in early 2003, Orange County enacted a mandatory recycling program for its sanitary landfill that specifies 15 solid waste materials that must be separated from the general solid waste stream by each individual disposer/user, including institutions such as the USMA at West Point (Orange County 2003). Although there may be cumulative solid waste disposal impacts from the Project and RFFAs, the USMA at West Point will work to improve its waste disposal procedures to contribute to solutions to this larger issue.

6.5 VISUAL RESOURCES

The USMA at West Point is committed to maintaining the visual integrity of visual resources associated with historic, cultural, and natural landscapes at the USMA at West Point. Accordingly, the USMA at West Point's *Integrated Cultural Resources Management Plan* and *Historic Landscape Management Plan for the United States Military Academy at West Point*,

New York, are integral to evaluating and planning projects and activities that have the potential to adversely affect visual resources at the USMA at West Point installation, and would be adhered to for each individual project, as applicable. Therefore, no significant cumulative impacts to visual resources are anticipated to result from the Project and RFFAs at the USMA at West Point.

6.6 CULTURAL RESOURCES

The implementation of RFFAs and developments in the Project area are not likely to result in adverse impacts on significant cultural resources at the USMA at West Point. In accordance with the USMA at West Point's *Integrated Cultural Resources Management Plan*, before implementing each major project, the USMA at West Point would complete all applicable aspects, evaluations, and action items prescribed in this plan. By definition, this plan requires the integration of cultural resources assessment and management into the routine activities, processes, and planning of activities at the USMA at West Point. Therefore, implementation of the *Integrated Cultural Resources Management Plan* would ensure that cultural resources are protected and properly managed for all RFFAs.

6.7 AIR QUALITY

The implementation of past, present, and reasonably foreseeable future development in the Project area likely would have temporary adverse direct and indirect impacts on air quality at the USMA at West Point. All actions may result in increased direct emissions of exhaust and fugitive dust from construction machinery and activities. However, temporary construction emissions generally would be minor and confined primarily to individual Project sites. Cumulatively, these temporary emissions of NAAQS criteria pollutants likely would not exceed SIP emission thresholds at the USMA at West Point, and would conform to the SIP. The proposed Project is being designed such that none of the new facilities or upgrades to existing facilities would involve the installation of heating or air conditioning systems that would result in increased air pollutant emissions, and all hot water heaters would operate using electricity instead of natural gas or oil. Therefore, long term operation of the Project is not anticipated to contribute to adverse air quality impacts, when considered cumulatively with other RFFAs. However, because the Project is located in a non-attainment area for priority pollutants (VOCs

and NO_x), the USMA at West Point will perform a general conformity review of the Project to determine if priority pollutants will fall within statutory limits during and after construction. Furthermore, the USMA at West Point will implement air emissions control measures during construction of the Project, as necessary, to ensure that implementation of the Project would have no significant adverse impact on air quality.

6.8 UTILITY INFRASTRUCTURE

The implementation of past, present, and reasonably foreseeable future development in the Project area likely would have long-term beneficial impacts on the utility infrastructure. The Proposed Action would rectify deterioration conditions of existing structures, but not place additional demand on the existing utilities. However, routine maintenance activities are planned to upgrade components of the sewage system, which would result in minor beneficial long-term impacts.

6.9 PUBLIC HEALTH AND SAFETY

The implementation of past, present, and reasonably foreseeable future development in the Project area have the potential to result in a temporary, minor, direct and indirect impacts on human health by the storage, use, transport, and disposal of hazardous materials associated with construction activities. Cumulatively, however, these potential impacts would be reduced to a level that is not undue or significant by handling all such hazardous materials in accordance with the applicable health and safety plans and *USMA Installation Spill Contingency Plan* (USMA 1996a).

7.0 SUMMARY AND CONCLUSIONS

7.1 PROPOSED ACTION

The Proposed Action would consist of upgrades to Camp Buckner and Camp Natural Bridge to be implemented in a phased manner over multiple years. Elements of the upgrades include: demolition of 38 barracks and the construction of 29 new barracks, upgrades to 12 existing barracks, construction of arms rooms, construction of a new dayroom, increasing the seating and serving capacity of the Mess Hall at Camp Natural Bridge, the demolition of the existing Battalion headquarters building, and construction of a new Battalion headquarters building. The upgrades will be implemented in a phased development approach over several years with annual funding and priority determining which elements would be implemented each year.

7.2 ALTERNATIVES

The No Action Alternative would not fulfill the USMA at West Point's training mission and therefore was rejected.

7.3 ANTICIPATED ENVIRONMENTAL EFFECTS

The principal direct and indirect environmental issues related to the implementation of the Proposed Action would include:

- Potential soil erosion and/or sedimentation to Popolopen Lake as a result of soil disturbance during construction phases, and similar cumulative effects when combined with other USMA at West Point-sponsored RFFAs;
- Potential disturbance to occasional transient timber rattlesnakes if present in construction areas during construction;
- Potential disturbance to bat species that use existing buildings as maternity roosts, as a result of demolition of some of the older barracks buildings;
- Temporary increase in solid waste generation during the periods of construction, and similar cumulative effects when combined with other USMA at West Point-sponsored activities involving demolition/construction/renovation and selective timber harvesting;

- Potential visual and cultural resources impacts;
- Potential inconvenience to non-USMA at West Point-associated camp users (i.e., other than the USMA at West Point's Cadet summer training) as a result of the timing of construction activities;
- Incidental damage to camp roads as a result of construction equipment and vehicle use; and,
- Temporary, minor traffic control issues on camp roads during construction if it occurs during periods of camp use.

Several of these potential impacts would be mitigated by careful design, placement, and use of materials, and the use of good management practices and engineering controls. Mitigation measures must be addressed to diminish any potential significant adverse effects.

7.4 MITIGATION MEASURES

Mitigation measures would be employed to address impacts from implementation of the Proposed Action including:

- 1) Erosion and sedimentation controls would be used in accordance with USMA at West Point and NYSDEC standards and specifications. The USMA at West Point would require its contractor to prepare and implement an Erosion Control Plan in compliance with NYSDEC's current stormwater management regulations, and this plan would be approved by the USMA at West Point before initiating demolition and construction activities;
- 2) Wherever practicable, buffer zones of undisturbed soils and vegetation measuring 100 feet wide would be maintained adjacent to all waterbodies and wetlands;
- 3) Hazardous materials used during construction would be identified and controlled, and any accidental spills would be contained and cleaned up in accordance with the *United States Military Academy Installation Spill Contingency Plan*;
- 4) USMA at West Point would monitor construction areas for timber rattlesnake activity when demolition or construction activities are scheduled outside of the September through May time period. In the event a timber rattlesnake is in an area where it is at risk of being harmed, the USMA at West Point's NRB would be notified to move timber

rattlesnakes to a suitable, off-site rookery, den, or foraging habitat. Additionally, USMA at West Point would provide pre-construction training to contractor personnel to recognize and avoid road-killing occasional transient timber rattlesnakes that may traverse active construction areas;

- 5) To mitigate for negative impacts to maternity roost sites, the USMA at West Point would construct and erect bat houses capable of holding up to 100 bats in the Project area, and install a sufficient number of these bat houses in appropriate locations to serve as replacement roost sites prior to the start of demolition;
- 6) The impacts of Project construction and maintenance on visual and cultural resources (including historic structures and archaeological resources on-site, as well as off-site viewshed areas) would be minimized by following the provisions of the USMA at West Point's *Integrated Cultural Resources Management Plan* and *Historic Landscape Management Plan*, using designs, colors, and materials that are consistent with the historic and visual context of Camp Buckner and Camp Natural Bridge, by performing Phase I cultural resources investigations for undisturbed portions of the Project, by initiating the preparation of a Historic Building and Structures Inventory for the portion of the Project at Camp Natural Bridge in October 2004, and by adopting related recommendations resulting from the analysis of viewsheds, and from the NYSOPRHP;
- 7) Prior to demolition and/or upgrade of each building and infrastructure element, each building and infrastructure element would be examined by USEPA-certified inspectors. Following this examination, the USMA at West Point would identify, remove, and store or properly dispose of, any hazardous chemicals, explosives (such as weapons in the arms building and rooms), or regulated building materials (such as asbestos insulation or siding) that may be contained in each building and infrastructure element prior to demolition or upgrade;
- 8) The USMA at West Point would develop a Construction and Demolition Waste Management Plan addressing the disposal of demolition and construction debris generated by the Project;
- 9) The USMA at West Point would schedule the major demolition and construction work to occur outside of the mid-May through mid-August period of most intensive use of Camp Buckner and Camp Natural Bridge, to avoid conflicts with USMA at West Point Cadet

training sessions. The USMA would minimize inconvenience to other camp user groups during active construction periods through close coordination of construction work with the specific use requirements of these groups;

- 10) Project impacts to the condition of on-site roads and on- and off-site traffic would be resolved by requiring the contractor to maintain and restore on-site roadways as necessary during and after the construction period. The USMA at West Point will also require contractors to make every effort to prevent the tracking of mud from the construction sites onto the nearby public roads and highways, including NYS Route 293, and immediately remove any mud inadvertently tracked onto these roads and highways; and,
- 11) USMA at West Point would determine the direct and indirect air pollutant emissions associated with the Proposed Action, considering long-term air emissions in its evaluation and calculations, to assess conformity with established State Implementation Plan emission thresholds. The USMA at West Point would propose and implement air emissions control measures during construction and/or operation of the Project, as necessary, to ensure that no adverse effects result. If an air emissions permit is determined to be required pursuant to 6 NYCRR Part 231, then the USMA at West Point would secure the necessary permit from the NYSDEC.

7.5 CONCLUSION

Implementation of the mitigation measures identified would reduce the potential impacts of the Project, resulting in no significant adverse impacts to the environment. An Environmental Impact Statement is, therefore, not required.

8.0 LIST OF PREPARERS

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9.0 PUBLIC AND AGENCY PARTICIPATION

A comprehensive listing of agencies and persons who received the Draft EA for review and comment is provided in Appendix A. In addition, a Notice of Availability of the Draft EA was published in three local newspapers: the Times Herald Record, the Cornwall Local, and the News of the Highlands. Affidavits of publication of these legal notices are provided in Appendix B. The USMA at West Point received one comment letter during the public review period, as provided in Appendix C. In addition, the USMA at West Point made changes to minor details of the proposed action, resulting in minor changes to the text of this Final EA, compared to the Draft EA. All of the public comments raised, as identified in Appendix C, and internal changes, have been addressed in various sections of this Final EA, and are noted by vertical/sidebar margin lines alongside the text.

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APPENDIX A

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Mr. Greg Donofrio
Office of Parks, Recreation and Historic Preservation
New York State Office of Historic Preservation
Field Services Bureau
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189
(518) 237-8643

Ms. Margaret Duke
New York State Department of Environmental
Conservation, Region III
21 South Putt Corners Road
New Paltz, New York 12561
(914) 256-3050

New York State Department of State
Division of Coastal Resources
Attn: Consistency Review
41 State Street
Albany, New York 12231-0001
(518) 474-6000

Mr. Nicholas B. Conrad
Information Services
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757
(518) 402-8935

LOCAL AGENCIES

Mr. Joseph Rampe
Orange County Executive
Orange County Government Center
255-275 Main Street
Goshen, New York 10924
(914) 291-2318

INTERESTED PARTIES

Mr. Ned Sullivan, Director
Scenic Hudson, Inc.
1 Civic Center Plaza #200
Poughkeepsie, NY 12601-3157
(845) 473-4440

Ms. Carmella Mantello, Executive Director
Hudson River Valley Greenway Communities Council
Capitol Building, Capitol Station, Room 254
Albany, New York 12224
(518) 473-3835

Mr. Douglas Banker
Hudson Highlands Land Trust
Castle Rock Unique Area
Garrison, New York 10524
(845) 424-3358

Dr. William Schuster, Forest Director
The Black Rock Forest Consortium
129 Continental Road
Cornwall, New York 12518
(845) 534-4517

PUBLIC VENUES

Town Clerk
Town of Highlands
254 Main Street
Highland Falls, New York 10928
(845) 446-3398

Director
Highland Falls Public Library
298 Main Street
Highland Falls, New York 10928
(845) 446-3113

Village Clerk
Village of Highland Falls
303 Main Street
Highland Falls, New York 10928
(845) 446-3400

Mrs. Suzanne Moskala
Community Library
Building 622
United States Military Academy
West Point, New York 10996
(845) 938-2974

APPENDIX B

**AFFIDAVITS OF PUBLICATION OF THE NOTICE OF AVAILABILITY
IN LOCAL NEWSPAPERS**

Affidavit of Publication

STATE OF NEW YORK
COUNTY OF ORANGE

} ss:

Marion Winkler being duly sworn, deposes and says that she is the Corp. Office Mgr. of The News of the Highlands, Inc., publisher of The Cornwall Local and The News of The Highlands, weekly newspapers published at Cornwall, in the Town of Cornwall and at Highland Falls in the Town of Highlands, County of Orange, State of New York, and that a notice, a true copy of which is hereto annexed was published in said newspapers (once in each week for 1 successive week(s)) on the following date(s): October 24, 2003

Marion Winkler

Sworn to before me this

27th day of October, 2003

Notary Public

Robert J. Turner

ROBERT J. TURNER
Notary Public - State of New York
Reg. No. Of USG 3061
Qualified in Orange County
Commission Expires July 22, 2006

**LEGAL
ALIGNMENT
CAMP BUCKNER AND
CAMP NATURAL
BRIDGE UPGRADES
PROJECT
UNITED STATES
MILITARY ACADEMY
WEST POINT,
NEW YORK**

A Draft Environmental Assessment (EA) was prepared for the Camp Buckner and Camp Natural Bridge Upgrades Project at the United States Military Academy (USMA) at West Point, New York. The following is a summary of the findings included in EA.

1. NAME OF ACTION

Camp Buckner and Camp Natural Bridge Upgrades Project by the USMA at West Point, Town of Highland, Orange County, New York

2. DESCRIPTION OF THE ACTION

2.1 PROPOSED ACTION

The Proposed Action consists of upgrades, expansion, and new construction to improve aging buildings at the USMA at West Point's Camp Buckner and Camp Natural Bridge. The Proposed Action will be implemented in a phased development approach over several years, based on available funding. Elements of the upgrades include: demolition of 18 barracks and the construction of 29 new barracks, upgrades to 12 existing barracks, construction of 100 new rooms, construction of a new day-room, increasing the seating and dining capacity of the Mess Hall at Camp Natural Bridge, demolition of the existing Demolition headquarters building, and construction of a new Demolition headquarters building. The upgrades will be implemented in a phased development approach over several years with annual funding and priority determining which elements would be implemented each year.

2.2 ALTERNATIVES

Alternatives to the Proposed Action that were considered in the EA, but not selected, include: (1) no action; (2) incorporating units to existing training facilities located at other military installations; and (3) constructing a new state-of-the-art training facility. The no action alternative would not address the current severe inadequacy of the existing barracks training facilities, and therefore was rejected. The alternative of incorporating cadets in other existing training facilities was eliminated because of high transportation expenses and logistical difficulties with scheduling training within the cadets' limited summer training timeframe. In conjunction with the limited availability of training facilities at other installations, the alternative of constructing a new state-of-the-art training facility was eliminated from consideration because the USMA at West Point determined that it was not economically warranted; although they are in need of repair, the existing

facilities at Camp Buckner and Camp Natural Bridge still remain useful.

3. ANTICIPATED ENVIRONMENTAL IMPACTS

The principal environmental issues related to the implementation of the Proposed Action are:

Potential soil erosion and/or sedimentation to Popolopos Lake as a result of soil disturbance during construction phases, and similar cumulative effects when combined with other USMA at West Point-sponsored Reasonably Foreseeable Future Actions (RFFAAs):

Potential disturbances to uncommon invertebrate taxa in construction areas during construction;

Physical disturbances to bird species that use existing buildings as nesting habitats, as a result of demolition of some of the older barracks buildings;

Temporary increase in solid waste generation during the periods of construction and similar cumulative effects when combined with other USMA at West Point-sponsored activities involving demolition/construction/renovation and selective timber harvesting; Potential visual and cultural resources impacts;

Potential inconvenience to non-USMA at West Point-associated camp users (i.e., other than the USMA at West Point's Cadet summer training) as a result of the timing of construction activities;

Temporary noise, dust, and vibration as a result of construction equipment and vehicle use; and

Temporary noise, dust, and vibration as a result of road traffic during construction if it occurs during periods of camp use.

Careful design, placement, and use of materials, and the use of good management practices and engineering controls would mitigate several of these potential impacts. Mitigation measures may be addressed to diminish any potential significant adverse effects.

4. MITIGATION MEASURES

Mitigation measures are proposed and would be employed to address reduce impacts from implementation of the Proposed Action, including:

Review and educational materials would be used in conjunction with USMA at West Point and NYSDEC inspectors and specifications. The USMA at West Point would require its contractor to prepare and implement an Erosion Control Plan in compliance with NYSDEC's current stormwater management regulations, and this plan would be approved by the USMA at West Point before any demolition activities.

Wherever practicable, buffer zones of undisturbed soils and vegetation measuring 100 feet wide would be maintained adjacent to all waterbodies and wetlands.

Hazardous materials used

during construction would be identified and controlled and any accidental spills would be contained and cleaned up in accordance with the United States Military Academy Installation Spill Contingency Plan.

USMA at West Point would require construction areas for timber harvesting activity when demolition or construction activities are scheduled outside of the September through May time period. In the event a timber disturbance is in an area where it is at risk of being damaged, the USMA at West Point's NRB would be notified to have timber fall-tolerances to a suitable, off-site roadway, dirt, or logging habitat. Additionally, USMA at West Point would provide pre-construction training to construction personnel to recognize and avoid road-killing, occasional invertebrate taxa decreases that may involve sensitive construction areas.

To mitigate for negative impacts to necessary food uses, the USMA at West Point would construct and erect bird houses capable of holding up to 100 birds in the Project area, and install a sufficient number of these bird houses to approximate increments to serve as replacement nest sites prior to the start of demolition.

The impacts of Project construction and maintenance on visual and cultural resources (including historic resources and archaeological resources on-site, as well as off-site viewshed areas) would be mitigated by following the provisions of the USMA at West Point's Integrated Cultural Resources Management Plan and Historic Landscape Management Plan, using design, color, and materials that are consistent with the historic and visual context of Camp Buckner and Camp Natural Bridge, by performing Phase I cultural resources investigations for undisturbed portions of the Project, by initiating the preparation of a Historic Building and Structures Inventory for the portion of the Project at Camp Natural Bridge in October 2004, and by adopting related recommendations resulting from the analysis of view sheds, and from the NYSO-FREP;

Prior to demolition and/or upgrade of each building and infrastructure element, each building and infrastructure element would be examined by USBA certified inspectors. Following this examination, the USMA at West Point would identify, remove, and store or properly dispose of any hazardous materials, explosives (such as weapons in the armory building and rockets), or regulated flammable materials (such as asbestos insulation material) that may be contained in each building and infrastructure element prior to demolition or upgrade.

The USMA at West Point would develop a Construction and Demolition Waste Management Plan addressing the temporary disposal of demolition and construction debris generated by the Project.

The USMA at West Point would schedule the major demolition and construction work to occur outside of the mid-May through mid-August period of most intensive use of Camp Buckner and Camp Natural Bridge, to avoid conflicts with USMA at West Point Cadet training activities. The USMA at West Point would minimize disturbances to other camp users during active construction periods through close coordination of construction work with the specific responsibilities of these users. Efforts would be made to reduce the noise and off-site traffic would be reduced by routing the construction materials and equipment on-site as much as possible during the construction period. The USMA at West Point would make every effort to prevent the generation of dust from the construction activities, the nearby public roads and highways, including NYS Routes 292 and 108, and

to ensure that these roads and highways are

USMA at West Point would determine the direct and indirect air pollution emissions associated with the Proposed Action, considering long-term emissions in its evaluation and calculations, to assess conformity with established State Implementation Plan emission thresholds. The USMA at West Point would propose and implement air emissions control measures during construction and/or operation of the Project, as necessary, to ensure that no adverse effects result. If an air emissions permit is determined to be required pursuant to a NYCSR Part 237, then the USMA at West Point would secure the necessary permit from the NYCSR.

5. CONCLUSION

Implementation of the mitigation measures identified would reduce the potential impacts of the Project resulting in no significant adverse impacts to the environment. An Environmental Impact Statement is, therefore, not required.

6. DOCUMENT AVAILABILITY

The Draft EA and FONSI are available for public review at the following locations:

- High Point Community Library
Building 622
U.S. Military Academy
West Point, New York 10996
- State of Highland Falls Village Clerk
302 Main Street
Highland Falls, New York 10922
- Town of Highland
254 Main Street
Highland Falls, New York 10922
- Library
291 Main Street
Highland Falls, New York 10922

The USMA at West Point would develop a Construction and Demolition Waste Management Plan addressing the temporary disposal of demolition and construction debris generated by the Project.

The deadline for public comment on this proposed action is November 30, 2003. Responses to any comments made during the comment period will be incorporated into the Final EA. The point-of-contact for further information is Mr. Douglas K. Campbell, U.S. Military Academy, Director of Housing and Public Works (DHSO Bldg. 667, Rigger Road, West Point, New York 10996). 845-938-3522, 845-938-2529 FAX, dkc5777@etm.mil.usma.ny.mil, ANN L. HURNER, COL, FA, Garrison Commander, Dated: October 7,

TIMES HERALD-RECORD

40 Mulberry Street, Middletown, NY 10940

State of New York
County of Orange } ss:

Patricia Foddrill

being duly sworn deposes and says that ORANGE COUNTY PUBLICATIONS Division of Otway Newspapers-Radio, Inc. is a corporation organized under the laws of the State of New York and is, at all the times hereinafter mentioned, was the printer and publisher of The Times Herald-Record, a daily newspaper distributed in the Orange, Ulster, Rockland, Dutchess, Pike, Pa., Delaware and Sullivan Counties, published in the English language in the City of Middletown, County of Orange, State of New York, that deponent to the

Principal Clerk

of said The Times Herald-Record acquainted with the facts hereinafter stated, and duly authorized by said Corporation to make this affidavit, that

Legal Notice

a true printed copy of which is hereto annexed, has been duly and regularly published in the manner required by law in said The Times Herald-Record in each of its issues published upon each of the following dates, to wit in its issues of

10/24/2003

Principal Clerk

Sworn in before me this

24th

day of

October 2003

Notary Public, Orange County

AVIS L. NORTON
Notary Public, State of New York
Qualified in Orange County
#4700803
Term Expires 1/31/06

www.recordonline.com

Times Herald-Record Friday, October 24, 2003

LEGAL ANNOUNCEMENT CAMP BUCKNER AND CAMP NATURAL BRIDGE UPGRADES PROJECT UNITED STATES MILITARY ACADEMY WEST POINT, NEW YORK

A Draft Environmental Assessment (EA) was prepared for the Camp Buckner and Camp Natural Bridge Upgrades Project at the United States Military Academy (USMA) at West Point, New York. The following is a summary of the findings included in the EA:

1. NAME OF ACTION

Camp Buckner and Camp Natural Bridge Upgrades Project by the USMA at West Point, Town of Highland, Orange County, New York.

2. DESCRIPTION OF THE ACTION

2.1 PROPOSED ACTION

The Proposed Action consists of upgrades, repairs, and new construction to improve aging buildings at the USMA at West Point's Camp Buckner and Camp Natural Bridges. The Proposed Action will be implemented in a phased development approach over several years, based on available funding. Elements of the upgrades include demolition of 38 barracks and the construction of 20 new barracks, upgrades to 12 existing barracks, construction of arms rooms, construction of a new dayroom, increasing the seating and serving capacity of the Mess Hall at Camp Natural Bridge, demolition of the existing Battalion headquarters building, and construction of a new Battalion headquarters building.

2.2 ALTERNATIVES

Alternatives to the Proposed Action that were considered in the EA, but not selected, include: (1) no action, (2) improving access to existing training facilities located at other military installations, and (3) constructing a new summer training facility.

3. ANTICIPATED ENVIRONMENTAL EFFECTS

The principal environmental issues related to the implementation of the Proposed Action include construction-related soil erosion, disturbance to certain wildlife species, construction schedule conflicts with other camp uses, road maintenance and traffic control issues, potential visual and cultural resource impacts, and solid waste generation and hazardous materials handling.

Careful design, placement, and use of materials, and the use of good management practices and engineering controls would mitigate several of these potential impacts.

4. MITIGATION MEASURES

Mitigation measures are proposed and would be employed to reduce impacts from implementation of the Proposed Action, including: implementing erosion and sedimentation controls, maintaining vegetated buffer zones adjacent to water resources where practicable, employing special measures to protect two species of wildlife, coordinating construction work to minimize conflicts with the needs of camp users, following the provisions of the USMA at West Point's Integrated Cultural Resources Management Plan and Historic Landmarks Management Plan, minimizing public and private roads affected by construction, obtaining air emissions permits if required, and properly handling and disposing of soil, hazardous, or explosive materials and wastes.

5. CONCLUSION

Implementation of the mitigation measures identified would reduce the potential impacts of the Project, resulting in no significant adverse impacts to the environment. An Environmental Impact Statement is, therefore, not required.

6. DOCUMENT AVAILABILITY

The Draft EA and FONSI are available for public review at the following locations:

West Point Community Library
Building 6E2
600 Military Academy
West Point, New York

Milling Clerk
305 Main Street
Highland Falls, New York

Town Clerk
Town of Highland
254 Main Street
Highland Falls, New York

Highland Falls Public Library
206 Main Street
Highland Falls, New York

The deadline for public comment on this proposed action is November 10, 2003. Responses to any comments made during the comment period will be incorporated into the Final EA.

The point-of-contact for further information is:

Mr. Douglas R. Chubbion
U.S. Military Academy
Directorate of Housing and Public Works EP&SA
Bldg. 467, Riggs Road
West Point, New York 10996
845-938-1522
845-938-2829 FAX
y45777@comail.usma.army.mil

ANN L. HORNBER
COL. FA
Garrison Commander

APPENDIX C

PUBLIC COMMENTS ON THE DRAFT EA



Black Rock Forest Consortium

William S. F. Schuster, Ph.D., Executive Director
129 Continental Road, Cornwall, New York 12518
TEL (845) 534-4517 • FAX (845) 534-6975
email: blackroc@ldeo.columbia.edu • www.blackrockforest.org

Consortium Institutions:

American Museum of Natural History

Barnard College

Brooklyn Botanic Garden

Browning School

The Calhoun School

Columbia University

Cornwall Central School District

The Dalton School

Friends Seminary

Marine Biological Laboratory
-The Ecosystems Center-

New York-New Jersey
Trail Conference

New York City
Public School 176

New York City
Public School 220

New York University

Newburgh Enlarged
City School District

The School at
Columbia University

Storm King School

Consortium Officers:

William T. Golden, *Chairman*
American Museum of Natural History
Chairman Emeritus of the Board

Frank Moretti, *President*
Columbia University
Center for New Media
Teaching and Learning

Christie Van Kehrberg, *Secretary*
500 Fifth Avenue, 50th Floor
New York, New York 10110

William M. Kelly, *Treasurer*
500 Fifth Avenue, 50th Floor
New York, New York 10110

November 3, 2003

NEA
Northern Ecological Associates Inc.
Village Square
33 Church St
Fredonia, NY 14063

To: Stephen A. Compton,

In response to your request for public comment on the DEIS for Camp Buckner and Camp Natural Bridge Upgrades, USMA, West Point, Orange Co., New York we would like to make the following statements:

- 1-Figure 1 on page 2 identifies our property as "Harvard Black Rock Forest"; this entire area north of the USMA boundary line is actually owned (since 1989) by the Black Rock Forest Preserve.
- 2-We operate, under contract with the U.S. Geologic Survey, an acid rain monitoring station at Camp Buckner. The USMA Natural Resource Branch also operates a fire danger and meteorological facility here. We request that these be specifically mentioned in the text with a statement to the effect that they will not be disturbed.

Sincerely,

William Schuster
Executive Director

Comment C1-1. See revised Figure 1 on page 2 of the EA.

Comment C1-2. See revised text in Sections 3.9.1 and 3.17.