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ENVIRONMENTAL ASSESSMENT

CONSTRUCTION OF AN ARMED FORCES RESERVE CENTER AND IMPLEMENTATION OF BRAC 05 REALIGNMENT ACTIONS AT FORT TOTTEN, NEW YORK



June 2007

prepared for
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, AL 36628

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FINDING OF NO SIGNIFICANT IMPACT BRAC05 REALIGNMENT ACTIONS AT FORT TOTTEN, NEW YORK

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur at Fort Totten, New York. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) which identifies, documents, and evaluates environmental effects of the BRAC Commission’s recommended realignment of Fort Totten in Queens County, New York. The EA has been developed in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and implementing regulations issued by the President’s Council on Environmental Quality (CEQ)¹. The 2006 Base Realignment Closure Manual for Compliance with the National Environmental Policy Act was used for guidance in preparing the EA. The purpose of the EA is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives.

1.0 PROPOSED ACTION

The Proposed Action is to implement the BRAC Commission’s recommendation, as mandated by BRAC law, Public Law 101-510, by constructing new facilities to accommodate the personnel and functions of organizations realigning and relocating to Fort Totten, located in Queens, NY.

Specific BRAC Commission recommendations include:

- Realign Fort Totten, NY by disestablishing the HQ 77th Regional Readiness Command [RRC]. Close Carpenter USARC [United States Army Reserve Center], Poughkeepsie, NY, close McDonald USARC, Jamaica, NY, close Fort Tilden USARC, Far Rockaway, NY, close Muller USARC, Bronx, NY, and relocate units to a new Armed Forces Reserve Center [AFRC] at Fort Totten, NY.

To implement these recommendations, the following new facilities are proposed for construction:

Armed Forces Reserve Center and supporting facilities. - The AFRC will be an approximately 75,000 square feet (ft²) structure located at Fort Totten on existing U.S. Army-owned land. The AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, heating, ventilation, and air-conditioning (HVAC) systems, plumbing, mechanical, electrical, and security systems.

In addition, new privately-owned vehicle (POV) parking lots, approximately 39,000 ft² in size, would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of storm water run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. The existing Military Equipment Parking (MEP) area would be expanded to use parts of current adjacent parking areas that are now used for POV parking and other equipment storage.

¹ Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR Parts 1500–1508; and Environmental Analysis of Army Actions, 32 CFR Part 651.

2.0 ALTERNATIVES CONSIDERED

Under the No Action Alternative, the U.S. Army Reserve would not implement the proposed action at Fort Totten. Although the President's Council on Environmental Quality (CEQ) regulations require consideration of the No Action Alternative, implementation of the No Action Alternative is not viable under BRAC law. Therefore, the No Action Alternative was included in the analysis to serve as a baseline for comparison.

The Army considered and analyzed one other alternative, the realignment, or "preferred," alternative. Under the preferred alternative, the facilities will be constructed as described in the Proposed Action. All facilities will be located on U.S. Army Fort Totten property.

Other alternatives were considered, but not analyzed. These included (1) use of existing facilities at Fort Totten, (2) acquisition of new property; (3) leasing of existing space off-post; and (4) new construction in locations other than those identified in the preferred alternative. These other alternatives were considered not feasible to implement the Proposed Action and were therefore dismissed from further analysis.

3.0 FACTORS CONSIDERED IN DETERMINING THAT ENVIRONMENTAL IMPACT STATEMENT IS NOT REQUIRED

The EA, which is incorporated by reference into this Finding of No Significant Impact (FNSI), identified and examined potential effects of the Proposed Action and the No Action Alternative. The EA evaluated 12 resource areas and areas of environmental and socioeconomic concern: land use, aesthetic and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice), transportation, utilities, and hazardous and toxic substances.

The EA determined that implementation of the proposed realignment actions would not have any significant effects or impacts on any of the environmental or related resource areas at Fort Totten or on areas surrounding the property. Potential effects associated with the realignment (preferred) alternative are expected to be minor. These impacts would be experienced in the following areas: cultural resources, transportation, and utilities.

The Army and the New York State Historic Preservation Officer (NYSHPO) identified potential adverse impacts that could occur on historic and archaeological resources at or near to the proposed site. The proposed site is adjacent to the Fort Totten Historic District that is eligible for listing in the National Register of Historic Places (NRHP). A Memorandum of Agreement (MOA) to be signed by the Army and the NYSHPO will detail mitigation measures required to be undertaken in regards to facility design and materials to mitigate potential effects on the adjacent historic district. Once all of the mitigation measures detailed in the MOA are met, the site would be cleared by the NYSHPO.

The Army and the NYSHPO identified potential adverse impacts that could occur at a prehistoric archaeological site (Little Bay Site A08101.011172) documented by the Army during a Phase I survey. The Army and the NYSHPO concluded that the site is eligible for listing in the NRHP. Appropriate mitigation measures will be detailed in the MOA to reduce potential adverse effects on archaeological resources. These measures must be implemented prior to and during site clearing and construction (as applicable), to ensure that project effects will not be significant.

Based on the findings of the EA and implementation of the mitigation measures detailed in the MOA, none of the predicted effects of the proposed realignment actions would result in significant impacts; therefore, mitigation is not needed, and implementation of the proposed action will not require the preparation of an Environmental Impact Statement. Therefore, the preparation of a FNSI is appropriate.

4.0 CONCLUSION

Based on the EA, it has been determined that implementation of the Proposed Action will have no significant direct, indirect, or cumulative adverse effects on the quality of the natural or human environment. Because no significant environmental impacts will result from implementation of the proposed action, an Environmental Impact Statement is not required and will not be prepared.

5.0 PUBLIC COMMENT

Interested parties were invited to review and comment on the EA and Draft FNSI during the 30 day public comment period from May 3, 2007 to June 1, 2007. The Notice of Availability was published on May 3, 2007 in the Bayside, NY *The Bayside Times* newspaper. The EA was made available during the public comment period on the World Wide Web at:

http://www.hqda.army.mil/acsim/brac/env_ea_review.htm

The EA was also available for review during the public comment period at the following libraries:

Bay Terrace Library
18-36 Bell Boulevard
Bayside, NY 11360

Whitestone Library
151-10 14 Road
Whitestone, NY 11357

Bayside Library
214-20 Northern Boulevard
Bayside, NY 11361

Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via Email to joseph.hand1@us.army.mil and via mail or fax to:

77th Regional Readiness Command
ATTN: AFRC-CNY-EN, Bldg 200
Ft. Totten, NY 11359-1016
Fax: (718) 352-5674

No comments were received on the EA or the Draft FNSI during the 30-day public comment period.

Date: _____

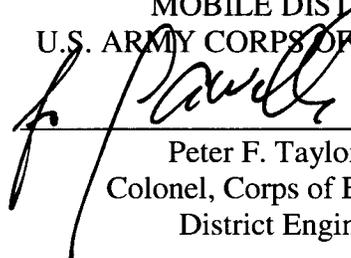
Kirk D. Lamb
Colonel, US Army Reserve
77th Regional Readiness Command, ARIM

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ENVIRONMENTAL ASSESSMENT
CONSTRUCTION OF AN ARMED FORCES RESERVE CENTER
AND IMPLEMENTATION OF BRAC 05 ACTIONS
AT FORT TOTTEN, NY

Prepared by:

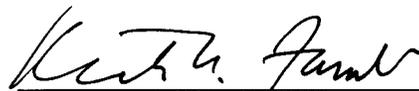
MOBILE DISTRICT
U.S. ARMY CORPS OF ENGINEERS



Peter F. Taylor, Jr.
Colonel, Corps of Engineers
District Engineer

Approved by:

77TH REGIONAL READINESS COMMAND



Kirk D. Lamb
Colonel, US Army Reserve
77th Regional Readiness Command, ARIM

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ENVIRONMENTAL ASSESSMENT

LEAD AGENCY: Mobile District, U.S. Army Corps of Engineers

TITLE OF PROPOSED ACTION: Environmental Assessment for Construction of an Armed Forces Reserve Center and Implementation of BRAC 05 Realignment Actions at Fort Totten, New York

AFFECTED JURISDICTIONS: Queens and Nassau Counties, New York

PREPARED BY: Peter F. Taylor, Jr., Colonel, U.S. Army Corps of Engineers, Mobile District, Commanding

APPROVED BY: Kirk D. Lamb, Colonel, U.S. Army Reserve, 77th Regional Readiness Command, ARIM

ABSTRACT: On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur at Fort Totten, New York. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission’s recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

To enable implementation of the BRAC recommendations, the U.S. Army proposes to provide necessary facilities to support the changes in force structure at Fort Totten. This Environmental Assessment (EA) analyzes and documents environmental impacts associated with the U.S. Army’s Proposed Action at Fort Totten—an installation receiving realigned U.S. Army Reserve (USAR) units.

None of the predicted effects of the Proposed Action would result in significant impacts at Fort Totten. Moreover, mitigation would not be necessary to offset impacts. Therefore, preparation of an Environmental Impact Statement is not required and a Finding of No Significant Impact (FNSI) will be published in accordance with the National Environmental Policy Act.

REVIEW PERIOD:

A Notice of Availability (NOA) of the EA was published in the Bayside, NY *The Bayside Times* newspaper on May 3, 2007. In the NOA, interested parties were invited to review and comment on the EA and Draft FNSI during the 30-day comment period from May 3, 2007 to June 1, 2007. The EA and Draft FNSI were accessible on the World Wide Web at:

http://www.hqda.army.mil/acsim/brac/env_ea_review.htm

Copies of the EA and draft FNSI were also made available during the review period at the following local libraries:

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Whitestone, NY 11357

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214-20 Northern Boulevard
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Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day comment period to:

77th Regional Readiness Command
ATTN: AFRC-CNY-EN
Building 200
Fort Totten, NY 11359-1016
Fax: (718) 352-5674

Comments could also be submitted via electronic mail to: joseph.hand1@us.army.mil

AFFIDAVIT OF PUBLICATION

STATE OF NEW YORK
(SS COUNTY OF QUEENS)

Steven Blank, being duly sworn,
says that he is the publisher of
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BAYSIDE, NEW YORK
Borough of Queens, City and State of
New York, County of Queens, and that
the notice of which the annexed is a
true copy, has been published in said newspaper
MAY 3, 2007

Sworn to before me this
MAY 3, 2007

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State of New York

LISA INCIARDI
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City of New York - No. 4-6210
Certificate Filed in Queens
Commission Expires in July 01, 2007

PUBLIC NOTICE OF AVAILABILITY
ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF
NO SIGNIFICANT IMPACT FOR THE BRAC-05 REALIGNMENT ACTIONS
AT FORT TOTTEN, NEW YORK

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 CFR 1500), and 32 CFR 651 Environmental Analysis of Army Actions, the U.S. Army conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with implementing the Defense Base Closure and Realignment (BRAC) Commission's recommendations at Fort Totten in Queens, New York. The new facilities included in the Proposed Action implementing the BRAC Commission's recommendations analyzed in the EA include:

- Armed Forces Reserve Center (AFRC) to accommodate five U.S. Army Reserve units that are relocating to Fort Totten, or that have already relocated to Fort Totten.
- New privately-owned vehicle (POV) parking lots to provide parking for reserve personnel.
- An expansion of the existing Military Equipment Parking (MEP) area to accommodate vehicles and equipment associated with incoming reserve units.

The EA and Draft Finding of No Significant Impact (FNSI) will undergo a 30-day public comment period, from the date of this publication. This is in accordance with requirements specified in 32 CFR Part 651.14 Environmental Analysis of Army Actions. Throughout this process, the public may submit written comments on the Proposed Action, the EA, and the Draft FNSI through the 77th Regional Readiness Command, at the following address or fax number:

77th Regional Readiness Command
ATTN: AFRC-CNY-EN, Bldg 200
Ft. Totten, NY 11359-1016
Fax: (718) 352-5674

Comments may also be submitted by electronic mail to: joseph.hand1@us.army.mil
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Bayside, NY 113161

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur at Fort Totten, New York. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission’s recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The following highlights the BRAC Commission’s recommendations for Fort Totten:

Realign Fort Totten, NY by disestablishing the HQ [Headquarters] 77th Regional Readiness Command [RRC]. Close Carpenter USARC [United States Army Reserve Center], Poughkeepsie, NY, close McDonald USARC, Jamaica, NY, close Fort Tilden USARC, Far Rockaway, NY, close Muller USARC, Bronx, NY, and relocate units to a new Armed Forces Reserve Center [AFRC] at Fort Totten, NY.

To enable implementation of this recommendation, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten. This Environmental Assessment (EA) analyzes and documents the environmental impacts associated with the U.S. Army’s Proposed Action at Fort Totten—an installation receiving realigned missions.

The BRAC law exempts consideration of the need for the action or alternative installations in preparing environmental documentation pursuant to the National Environmental Policy Act (NEPA). However, an appropriate level of NEPA analysis and documentation is required to analyze how the BRAC actions will be implemented for concurrent actions, both BRAC-directed and discretionary, at each installation that is receiving realigned missions. A NEPA document is not required for those installations that are only losing activities. Table ES-1 lists major environmental statutes, regulations, and Executive Orders applicable to federal projects.

Table ES-1: Major Environmental Statutes, Regulations, and Executive Orders Applicable to Federal Projects

Environmental Resources	Statute, Regulation, or Executive Order
Air	Clean Air Act (CAA) of 1970 (PL 95-95), as amended in 1977 and 1990 (PL 91-604); U.S. Environmental Protection Agency (USEPA), Subchapter C-Air Programs (40 CFR 52-99)
Noise	Noise Control Act of 1972 (PL 92-574) and Amendments of 1978 (PL 95-609); USEPA, Subchapter G-Noise Abatement Programs (40 CFR 201-211)
Water	Federal Water Pollution Control Act (FWPCA) of 1972 (PL 92-500) and Amendments; Clean Water Act (CWA) of 1977 (PL 95-217); USEPA, Subchapter D-Water Programs (40 CFR 100-145); Water Quality Act of 1987 (PL 100-4); USEPA, Subchapter N-Effluent Guidelines and Standards (40 CFR 401-471); Safe Drinking Water Act (SDWA) of 1972 (PL 95-923) and Amendments of 1986 (PL 99-339); USEPA, National Drinking Water Regulations and Underground Injection Control Program (40 CFR 141-149)
Biological Resources	Migratory Bird Treaty Act of 1918; Fish and Wildlife Coordination Act of 1958 (PL 85-654); Sikes Act of 1960 (PL 86-97) and Amendments of 1986 (PL 99-561) and 1997 (PL 105-85 Title XXIX); Endangered Species Act of 1973 (PL 93-205) and Amendments of 1988 (PL 100-478); Fish and Wildlife Conservation Act of 1980 (PL 96-366); Lacey Act Amendments of 1981 (PL 97-79); Responsibilities of Federal Agencies to Protect Migratory Birds (EO 13186)
Wetlands and Floodplains	Section 401 and 404 of the Federal Water Pollution Control Act of 1972 (PL 92-500); USEPA, Subchapter D-Water Programs 40 CFR 100-149 (105 ref); Floodplain Management-1977 (EO 11988); Protection of Wetlands-1977 (EO 11990); Emergency Wetlands Resources Act of 1986 (PL 99-645); North American Wetlands Conservation Act of 1989 (PL 101-233)
Cultural Resources	NHPA (16 USC 470 et seq.) (PL 89-865) and Amendments of 1980 (PL 96-515) and 1992 (PL 102-575); Protection and Enhancement of the Cultural Environment-1971 (EO 11593); Indian Sacred Sites-1966 (EO 13007); American Indian Religious Freedom Act (AIRFA) of 1978 (PL 94-341); Antiquities Act of 1906; Archaeological Resources Protection Act (ARPA) of 1979 (PL 96-95); Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601); Protection of Historic and Cultural Properties (36 CFR 800)
Solid/Hazardous Materials and Waste and Health and Safety	Resource Conservation and Recovery Act (RCRA) of 1976 (PL 94-5800), as Amended by PL 100-582; USEPA, subchapter I-Solid Wastes (40 CFR 240-280); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 USC 9601) (PL 96-510); Toxic Substances Control Act (TSCA) (PL 94-496); USEPA, Subchapter R-Toxic Substances Control Act (40 CFR 702-799); Federal Insecticide, Fungicide, and Rodenticide Control Act (40 CFR 162-180); Emergency Planning and Community Right-to-Know Act (40 CFR 300-399); Federal Compliance with Pollution Control Standards-1978 (EO 12088), Superfund Implementation (EO 12580); Strengthening Federal Environmental, Energy, and Transportation Mangement (EO 13423); Occupational Safety and Health Act of 1970 (29 CFR 1926)
Environmental Justice	Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898); Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)

ES.2 BACKGROUND AND SETTING

Fort Totten is located 15 miles east of Manhattan on Long Island in northeast Queens County in the New York City Borough of Queens, New York. Fort Totten is on a peninsula known as Willet's Point. Willet's Point is bordered by water on three sides: on the north by Long Island Sound, on the west by Little Bay, and on the east by Little Neck Bay. Fort Totten is located in a highly developed region that contains a mix of industrial, commercial, and residential areas.

ES.3 PROPOSED ACTION

The purpose of the Proposed Action is to implement the BRAC Commission's recommendations pertaining to Fort Totten, NY. The AFRC is needed to ensure that adequate training and administrative space is available to support reserve units realigned from area USARCs.

The Proposed Action is to relocate units from closing USARCs to a new AFRC to be constructed at Fort Totten, NY. The closure of USARCs will include the realignment of reserve units from the closing facilities to Fort Totten, including a Military Police (MP) company and associated vehicles, the 320th Chemical Company (most vehicles already stored at Fort Totten), a Quartermaster Company, a Transportation Company, and a Brigade Headquarters command. Details on implementation of the Proposed Action follow.

Facilities - The AFRC would be an approximately 75,000 square feet (ft²) 2-story structure located at Fort Totten on existing U.S. Army-owned land. The AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, heating, ventilation, and air-conditioning (HVAC) systems, plumbing, mechanical, electrical, and security systems.

In addition, a new privately-owned vehicle (POV) parking lot, approximately 39,000 ft² in size, would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of storm water run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. The existing Military Equipment Parking (MEP) area would be expanded to use parts of current adjacent parking areas that are now used for POV parking and other equipment storage.

Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Equipment - The realignment of reserve units from the closing USARCs to the proposed Fort Totten AFRC will also bring associated unit vehicles, equipment, and materials. The bulk of the vehicles for some of the incoming

units are already stored at Fort Totten, and hence no change would occur for those units. For example, the incoming MP unit already stores the majority of their vehicles (primarily HUMVEEs) at Fort Totten. The existing MEP area would be expanded to use parts of current adjacent parking areas that are now used for POV parking and other equipment storage. The existing vehicle repair and maintenance areas are expected to be adequate to support arriving vehicles, without major modifications or expansion.

Personnel - The BRAC actions at Fort Totten would likely increase the total number of personnel at the Post, however, the arrival of incoming personnel from closing USARCs will be partially offset by the disestablishment of the 77th RRC. The actual number of both incoming and outgoing personnel is unsure at this time, due to a variety of USAR unit changes, including changes to unit functions and personnel levels. In addition, many of the units are regularly staffed below authorized levels. Accordingly, this EA presents data based on current unit authorized personnel strength and best estimates on numbers of incoming and outgoing personnel (Ajodah, 2006a). The current workforce at Fort Totten includes approximately 506 full-time staff and 3,094 reservists, including soldiers from the McDonald USARC (a formerly leased facility located at St. John's University) which have already been relocated to Fort Totten due to the expiration of the lease. The estimated number of incoming personnel as a result of the Proposed Action is 934, most of which are reservists. An estimated 504 personnel are expected to leave Fort Totten under the Proposed Action as a result of the disestablishment of the 77th RRC; thus an estimated total increase of 430 personnel at Fort Totten would occur as a result of the Proposed Action.

ES.4 REALIGNMENT PROCESS

The timeline for implementing the action at Fort Totten began in late 2005 with Congressional and Presidential approval of the BRAC law followed by the initiation of this NEPA process and related planning activities at Fort Totten. New BRAC facilities at Fort Totten are programmed through fiscal year 2010 with realignment moves scheduled to occur by 2011. Under the BRAC law, the U.S. Army must initiate all realignments not later than September 15, 2007, and complete all realignments not later than September 15, 2011.¹ This BRAC EA examines the environmental impact from efforts that will take place within the 6-year BRAC implementation window.

ES.5 ALTERNATIVES

No Action Alternative - Under the No Action Alternative, Fort Totten would not implement the Proposed Action. Organizations presently assigned to Fort Totten would continue to train at and operate from the post. No units would relocate from other locations. No new units would be established. Fort Totten would use its current inventory of facilities, though routine replacement or renovations actions could occur through normal military

¹ Section 2904(a), Public Law 101-510, as amended, provides that the Army must "... initiate all closures and realignments no later than 2 years after the date on which the President transmits a report [by the BRAC Commission] to the Congress ... containing the recommendations for such closures or realignments; and ... complete all such closures and realignments no later than the end of the 6-year period beginning on the date on which the President transmits the report ..." The President took the specified action on September 15, 2005.

maintenance and construction procedures, as circumstances independently warrant. Implementation of this alternative is not possible due to the BRAC Commission's realignment recommendations having the force of law. CEQ regulations require inclusion of the No Action Alternative, which serves as a baseline against which the impacts of the Proposed Action and alternatives can be evaluated. Accordingly, the No Action Alternative is evaluated in this EA.

Realignment (Preferred) Alternative - The Preferred Alternative site is located immediately northwest of the storm water retention pond, as illustrated in Figure 2-3 (Section 2.3.1). This site can support the size and footprint of the proposed AFRC and associated parking and facilities. The site can meet AT/FP stand-off buffer requirements. In addition, the site is located in proximity to Building 200 and provides for easy ingress/egress through the existing main gate. Figure 3-1 (Section 3.3.4) identifies the Preferred Alternative site and Alternative Sites that were evaluated for the Fort Totten AFRC.

ES.6 ENVIRONMENTAL CONSEQUENCES

Under the No Action Alternative, the proposed new BRAC facilities would not be constructed, and no environmental impacts would occur.

The Proposed Action would not have any significant adverse impacts on any of the environmental or related resource areas at Fort Totten or to areas surrounding the post.

The potential impacts associated with the realignment (preferred) alternative are anticipated to be minor and would not be significant. These impacts would be primarily experienced in the following resource areas:

- Cultural Resources
- Installation Transportation
- Utilities

A summary of impacts by resource area for the No Action Alternative and the realignment (preferred) alternative is provided in Table ES-2.

ES.7 MITIGATION RESPONSIBILITY AND PERMIT REQUIREMENTS

None of the predicted effects of the Proposed Action would result in significant impacts; therefore, mitigation is not needed, although the U.S. Army may consider the use of Best Management Practices (BMPs) in the construction and operation of these facilities. The following permits would be required in implementing the projects identified in this analysis:

- A NY State Pollutant Discharge Elimination System (NYSPDES) permit for construction of the AFRC will be required. A supporting storm water, soil erosion and sediment control plan for the construction phase of the project would be necessary under Clean Water Act (CWA) Section 402 requirements.
- A NYSPDES permit for operation of the AFRC may need to be acquired.

- A Phase IA/IB field investigation survey of archaeological resources was conducted in August and September 2006. National Historic Preservation Act (NHPA) Section 106 consultations with the New York State Historic Preservation Officer (NYSHPO) are on-going. A Memorandum of Agreement (MOA) between the Army and the NYSHPO will be finalized and signed, detailing required mitigation measures that are required to be undertaken to reduce potential adverse impacts at the proposed action site.

**Table ES-2: Summary of Impacts of the No Action Alternative
and the Realignment (Preferred) Alternative**

Resource	No Action Alternative	Realignment (Preferred) Alternative
Land Use		
<i>Regional Geographic Setting and Location</i>	None. No significant impact.	None. No significant impact.
<i>Installation Land Use</i>	None. No significant impact.	Negligible to Minor – consistent with Fort Totten Area Development Plan. No significant impact.
<i>State Coastal Management Program</i>	None. No significant impact.	None. Concurrence from NYS Department of State pending. No significant impact.
<i>Current and Future Development in the Region of Influence</i>	None. No significant impact.	None. No significant impact.
Aesthetic and Visual Resources	None. No significant impact.	Negligible. No significant impact.
Air Quality		
<i>Ambient Air Quality Conditions</i>	None. No significant impact.	Negligible. No significant impact.
<i>Air Pollutant Emissions at Installation</i>	None. No significant impact.	Negligible. No significant impact.
<i>Regional Air Pollutant Emissions Summary</i>	None. No significant impact.	Negligible. No significant impact.
Noise	None. No significant impact.	Negligible short-term impacts due to construction activities. No significant impact.
Geology and Soils		
<i>Geologic and Topographic Conditions</i>	None. No significant impact.	None. No significant impact.
<i>Soils</i>	None. No significant impact.	Minor due to site disturbance. No significant impact.
Water Resources		
<i>Surface Water</i>	None. No significant impact.	Minor beneficial due to storm water conveyance improvements. No significant impact.
<i>Hydrogeology/Groundwater</i>	None. No significant impact.	None. No significant impact.
<i>Floodplains</i>	None. No significant impact.	None. No significant impact.
<i>Coastal Zone</i>	None. No significant impact.	None. NYS Department of State concurrence with Coastal Zone Consistency Determination is pending. No significant impact.
Biological Resources		
<i>Vegetation</i>	None. No significant impact.	Minor due to vegetation removal at site. No significant impact.
<i>Wildlife</i>	None. No significant impact.	None. No significant impact.
<i>Sensitive Species</i>	None. No significant impact.	None. No significant impact.
<i>Wetlands</i>	None. No significant impact.	None. No significant impact.

Resource	No Action Alternative	Realignment (Preferred) Alternative
Cultural Resources		
<i>Prehistoric and Historic Background</i>	None. No significant impact.	Expected minor impacts on viewshed of designated Fort Totten Historic District. MOA between Army and NYSHPO will include mitigation measures to reduce potential impacts. No significant impact.
<i>Status of Cultural Resource Inventories and Section 106 Consultations</i>	None. No significant impact.	Potential for adverse impacts. Phase IA/IB investigations completed in November 2006 and report submitted to NYSHPO. MOA between Army and NYSHPO will include mitigation measures to reduce mitigation measures to below adverse levels. No significant impact.
<i>Native American Resources</i>	None. No significant impact.	Phase IA/IB investigations completed in November 2006 and report submitted to NYSHPO. MOA between Army and NYSHPO will include mitigation measures to reduce mitigation measures to below adverse levels. No significant impact.
Socioeconomics		
<i>Economic Development</i>	None. No significant impact.	Minor beneficial impacts as a result of temporary construction jobs. No significant impact.
<i>Environmental Justice</i>	None. No significant impact.	None. No significant impact.
Transportation		
<i>Roadways and Traffic</i>	None. No significant impact.	Negligible. No significant impact.
<i>Installation Transportation</i>	None. No significant impact.	Minor beneficial due to improved vehicle flow and POV parking capacity. No significant impact.
<i>Public Transportation</i>	None. No significant impact.	None. No significant impact.
Utilities		
<i>Potable Water Supply</i>	None. No significant impact.	None. No significant impact.
<i>Wastewater System</i>	None. No significant impact.	Potential minor impacts if lift station improvements are necessary. No significant impact.
<i>Storm water System</i>	None. No significant impact.	Likely minor beneficial impacts with rehabilitation of failed clay storm water conveyances. No significant impact.
<i>Energy Sources</i>	None. No significant impact.	Minor if new transformer is required. No significant impact.
<i>Communications</i>	None. No significant impact.	None. No significant impact.
<i>Solid Waste</i>	None. No significant impact.	None. No significant impact.
Hazardous and Toxic Substances		
<i>Uses of Hazardous Materials</i>	None. No significant impact.	None. No significant impact.
<i>Storage and Handling Areas</i>	None. No significant impact.	None. No significant impact.

Resource	No Action Alternative	Realignment (Preferred)Alternative
<i>Hazardous Waste Disposal</i>	None. No significant impact.	None. No significant impact.
<i>Site Contamination and Cleanup</i>	None. No significant impact.	None. No significant impact.

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TABLE OF CONTENTS

1.0	PURPOSE, NEED, AND SCOPE	1-1
1.1	INTRODUCTION	1-1
1.2	PURPOSE AND NEED	1-2
1.2.1	<i>Purpose of the Proposed Action</i>	1-2
1.2.2	<i>Need for the Proposed Action</i>	1-2
1.3	SCOPE.....	1-4
1.4	PUBLIC INVOLVEMENT	1-5
1.5	REGULATORY FRAMEWORK	1-6
1.6	IMPACT ANALYSIS PERFORMED.....	1-6
2.0	DESCRIPTION OF THE PROPOSED ACTION	2-1
2.1	INTRODUCTION	2-1
2.2	PROPOSED ACTION / IMPLEMENTATION PROPOSED	2-1
2.2.1	<i>Criteria for Identification of Proposed BRAC Actions</i>	2-1
2.3	BRAC ACTIONS AT FORT TOTTEN, NY	2-2
2.3.1	<i>Facilities</i>	2-4
2.3.2	<i>Equipment</i>	2-7
2.3.3	<i>Personnel</i>	2-7
2.4	SCHEDULE	2-8
3.0	ALTERNATIVES	3-1
3.1	INTRODUCTION	3-1
3.2	DEVELOPMENT OF ALTERNATIVES	3-1
3.3	ALTERNATIVES TO THE PROPOSED ACTION	3-2
3.3.1	<i>Use of Off-Post Leased Space</i>	3-2
3.3.2	<i>Acquisition of New Property</i>	3-2
3.3.3	<i>Existing Fort Totten Facilities</i>	3-2
3.3.4	<i>New Construction Alternative Sites</i>	3-3
3.3.5	<i>Scheduling Alternatives</i>	3-4
3.4	NO ACTION ALTERNATIVE.....	3-6

4.0	AFFECTED ENVIRONMENT AND CONSEQUENCES	4-1
4.1	INTRODUCTION	4-1
4.2	LAND USE	4-1
4.2.1	<i>Affected Environment</i>	4-1
4.2.2	<i>Environmental Consequences</i>	4-5
4.3	AESTHETICS AND VISUAL RESOURCES	4-6
4.3.1	<i>Affected Environment</i>	4-6
4.3.2	<i>Environmental Consequences</i>	4-7
4.4	AIR QUALITY	4-7
4.4.1	<i>Affected Environment</i>	4-8
4.4.2	<i>Environmental Consequences</i>	4-10
4.5	NOISE	4-12
4.5.1	<i>Affected Environment</i>	4-12
4.5.2	<i>Environmental Consequences</i>	4-12
4.6	GEOLOGY AND SOILS	4-13
4.6.1	<i>Affected Environment</i>	4-13
4.6.2	<i>Environmental Consequences</i>	4-14
4.7	WATER RESOURCES	4-14
4.7.1	<i>Affected Environment</i>	4-14
4.7.2	<i>Environmental Consequences</i>	4-18
4.8	BIOLOGICAL RESOURCES	4-19
4.8.1	<i>Affected Environment</i>	4-19
4.8.2	<i>Environmental Consequences</i>	4-21
4.9	CULTURAL RESOURCES	4-21
4.9.1	<i>Affected Environment</i>	4-22
4.9.2	<i>Environmental Consequences</i>	4-26
4.10	SOCIOECONOMICS	4-27
4.10.1	<i>Affected Environment</i>	4-27
4.10.2	<i>Environmental Consequences</i>	4-29

4.11	TRANSPORTATION	4-30
4.11.1	<i>Affected Environment</i>	4-30
4.11.2	<i>Environmental Consequences</i>	4-31
4.12	UTILITIES	4-31
4.12.1	<i>Affected Environment</i>	4-31
4.12.2	<i>Environmental Consequences</i>	4-33
4.13	HAZARDOUS AND TOXIC SUBSTANCES	4-33
4.13.1	<i>Affected Environment</i>	4-33
4.13.2	<i>Environmental Consequences</i>	4-34
4.14	CUMULATIVE EFFECTS SUMMARY.....	4-35
4.14.1	<i>No Action Alternative</i>	4-35
4.14.2	<i>Realignment (Preferred) Alternative</i>	4-36
4.15	MITIGATION SUMMARY.....	4-36
5.0	FINDING AND CONCLUSIONS	5-1
5.1	FINDINGS	5-1
5.1.1	<i>Consequences of No Action Alternative</i>	5-1
5.1.2	<i>Consequences of Realignment (Preferred) Alternative</i>	5-1
5.2	CONCLUSIONS	5-1
6.0	LIST OF PREPARERS	6-1
7.0	AGENCIES CONTACTED	7-1
8.0	REFERENCES	8-1
9.0	LIST OF ACRONYMS	9-1

LIST OF TABLES

Table 2-1: Fort Totten, NY 2005 BRAC Actions: Personnel Changes	2-7
Table 4-1: Ambient Air Quality Standards for Ozone and Particulate Matter (PM _{2.5}).....	4-8
Table 4-2: Existing 8-hour Ozone and 24-hour Particulate Matter Monitoring Data for Queens County, NY	4-9
Table 4-3: Summary of Annual Emissions and Comparison to <i>de minimis</i> Values – Proposed Action.....	4-11
Table 5-1: Summary of Effects of the Proposed Action and the No Action Alternative	5-2

LIST OF FIGURES

Figure 2-1: Area Map	2-3
Figure 2-2: Fort Totten Facility Map.....	2-5
Figure 2-3: Preferred AFRC Site.....	2-6
Figure 3-1: Alternative Sites.....	3-5
Figure 4-1: Area Map	4-2
Figure 4-2: Fort Totten Facility Map.....	4-4
Figure 4-3: Fort Totten National Wetlands Inventory Map.....	4-17
Figure 4-4: Fort Totten Enclave Flood Hazard Map	4-18
Figure 4-5: Fort Totten Historic District	4-25

LIST OF APPENDICES

FEDERAL AND STATE COORDINATION LETTERS.....	Appendix A
ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL.....	Appendix B
AIR QUALITY APPLICABILITY ANALYSIS	Appendix C
PHASE I ARCHAEOLOGICAL SURVEY.....	Appendix D

1.0 PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

The U.S. Army's mission is to defend the United States and territories, support national policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the U.S. To carry out these tasks, the U.S. Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. A key part of this adaptation is to realign and reorganize U.S. Army organizational structures and properly align facilities and infrastructure to support the changing conditions and threats that the U.S. Army must respond to worldwide. This Environmental Assessment (EA) addresses proposed actions at Fort Totten, NY as part of the overall U.S. Army restructuring and realignment.

On September 8, 2005, the Base Realignment and Closure (BRAC) Commission recommended that certain realignment actions occur at Fort Totten, New York. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission's recommendations must now be implemented as provided for in the Defense Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC law exempts consideration of the need for the action or alternative installations in preparing environmental documentation pursuant to the National Environmental Policy Act (NEPA). However, an appropriate level of NEPA analysis and documentation is required to analyze how the BRAC actions will be implemented for concurrent actions, both BRAC-directed and discretionary, at each installation that is receiving realigned missions.

The following highlights the BRAC Commission's recommendations for Fort Totten:

Realign Fort Totten, NY by disestablishing the HQ [Headquarters] 77th Regional Readiness Command [RRC]. Close Carpenter USARC [United States Army Reserve Center], Poughkeepsie, NY, close McDonald USARC, Jamaica, NY, close Fort Tilden USARC, Far Rockaway, NY, close Muller USARC, Bronx, NY, and relocate units to a new Armed Forces Reserve Center [AFRC] at Fort Totten, NY.

To enable implementation of this recommendation, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten. This EA analyzes and documents potential environmental impacts associated with the U.S. Army's Proposed Action at Fort Totten.

Details on the Proposed Action are provided in Section 2.0.

1.2 PURPOSE AND NEED

1.2.1 Purpose of the Proposed Action

The purpose of the Proposed Action is to implement the BRAC Commission's recommendations pertaining to Fort Totten, NY. The AFRC is needed to ensure that adequate training and administrative space is available to support reserve units realigned from area USARCs.

The related BRAC actions, the closure of designated USARCs in the greater New York area and relocation of these units to Fort Totten, will significantly enhance training, mobilization, equipment readiness, and deployment. At the same time, these actions will reduce manpower and associated costs for maintaining existing, aging facilities at the closing USARCs (BRAC, 2005). The new AFRC would provide adequate space to receive units from closing USARCs and alleviate overcrowded and substandard space at facilities within the greater New York area. The Carpenter USARC and the McDonald USARC were both constructed in 1955. The Fort Tilden USARC was constructed in the late 1950s, and the Muller USARC was constructed in 1959. None of these facilities have had substantial improvements since their original construction. The new AFRC will provide adequate spaces for classrooms, training areas, assembly areas, library, fitness areas, and administrative support spaces (U.S. Army, 2005a).

1.2.2 Need for the Proposed Action

The need for the Proposed Action is to improve the ability of the Nation to respond rapidly to challenges of the 21st century. The U.S. Army is legally bound to defend the United States and its territories, support national policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the United States. To carry out these tasks, the U.S. Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. The following discusses three major initiatives that contribute to the U.S. Army's need for the Proposed Action.

Base Realignment and Closure. In previous rounds of BRAC, the explicit goal was to save money and downsize the military to reap a "peace dividend." In the 2005 BRAC round, the Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness and facilitate new ways of doing business. Thus, BRAC represents more than cost savings. It supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The U.S. Army needs to carry out the BRAC recommendations at Fort Totten to achieve the objectives for which Congress established the BRAC process.

The following provides excerpts from the Secretary of Defense's justification for the BRAC recommendations in the Northeast overall, and at Fort Totten in particular (**bold** emphasis added):

This recommendation transforms Reserve Component facilities and command and control structure throughout the Northeast Region of the United States. The implementation of this recommendation will enhance military

value, improve homeland defense capability, greatly improve training and deployment capability, create significant efficiencies and cost savings, and is consistent with the Army's force structure plans and Army transformational objectives.

*This recommendation transforms Army Reserve command and control by consolidating four major headquarters onto Fort Dix, NJ; this recommendation supports the Army Reserve's nationwide Command and Control restructuring initiative to reduce Regional Readiness Commands from ten to four. The realignment of Pitt USARC, Coraopolis, PA, by the disestablishment of the 99th Regional Readiness Command allows for the establishment of the Northeast Regional Readiness Command Headquarters at Fort Dix, NJ, which will further support the re-engineering and streamlining of the Command and Control structure of the Army Reserves throughout the United States. This restructuring will allow for the closure of Camp Kilmer, NJ, and the relocation of the HQ 78th Division to Fort Dix and establishment of one of the new Army Reserve Sustainment Units of Action, which establishes a new capability for the Army Reserve while increasing the support capabilities of the Army Reserve to the Active Army. **To further support restructuring; the realignment of Fort Totten and the disestablishment of the HQ 77th RRC will enable the establishment of a Maneuver Enhancement Brigade [Sustainment Brigade] at Fort Dix, resulting in a new operational capability for the Army Reserve.** The realignment of Fort Sheridan, IL, by relocating the 244th Aviation Brigade to Fort Dix coupled with the Department of the Navy recommendation to close NAS Willow Grove, PA, and relocate Co A/228th Aviation to Fort Dix consolidates Army aviation assets in one location. **Other actions supporting restructuring include...the closure of five US Army Reserve Centers in the greater New York City area with relocation of those units to Fort Totten. These actions will significantly enhance training, mobilization, equipment readiness and deployment.***

This recommendation reduces military manpower and associated costs for maintaining existing facilities by closing one Camp, five Army Reserve Centers, realigning five facilities and relocating forces to multiple installations throughout the Northeast Region of the United States. These actions will also improve business processes. The implementation of this recommendation and creation of these new command structures will enhance military value, improve homeland defense capability, greatly improve training and deployment capability, create significant efficiencies and cost savings, and is consistent with the Army's force structure plans and Army transformational objectives.

This recommendation provides the opportunity for other Local, State, or Federal organizations to partner with the Reserve Components to enhance homeland security and homeland defense at a reduced cost to those agencies. This recommendation considered feasible locations within the demographic and geographic areas of the closing facilities and affected units. The sites selected were determined as the best locations because they optimize the Reserve Components' ability to recruit and retain Reserve Component soldiers and to train and mobilize units affected by this recommendation.

This recommendation avoids an estimated \$168.3M in mission facility renovation costs and procurement avoidance associated with meeting Anti Terror / Force Protection construction standards and altering existing facilities to meet unit training and communication requirements. Consideration of these avoided costs would reduce costs and increase the net savings to the Department of Defense in the 6-year BRAC implementation period, and in the 20-year period used to calculate NPV [net present value].

U.S. Army Transformation and the U.S. Army Modular Force. On October 12, 1999, the Secretary of the Army and the Chief of Staff articulated a vision about people, readiness, and transformation of the U.S. Army to meet challenges emerging in the 21st century, and the need to be able to respond more rapidly to different types of operations requiring military action. The strategic significance of land forces continues to lie in their ability to fight and win the Nation's wars and in their providing options to shape the global environment to the benefit of the United States and its allies. Transformation responds to the U.S. Army's need to become more strategically responsive and dominant at every point on the spectrum of operations. In March 2002, the U.S. Army published its *Programmatic Environmental Impact Statement for Army Transformation* for its proposal to conduct a multiyear, phased, and synchronized program of transformation. Over a 30-year period, the U.S. Army will conduct a series of transformation activities affecting virtually all aspects of U.S. Army doctrine, training, leader development, organizations, installations, materiel, and Soldiers. On April 11, 2002, the U.S. Army issued a Record of Decision reflecting its intent to transform the U.S. Army. This EA evaluates a Proposed Action that comports with the transformation process, which is designed to provide the Nation with combat forces that are more responsive, deployable, agile, versatile, lethal, survivable, and sustainable.

Installation Sustainability. On October 1, 2004, the Secretary of the Army and the Chief of Staff issued *The Army Strategy for the Environment*. The strategy focuses on the interrelationships of mission, environment, and community. A sustainable installation simultaneously meets current and future mission requirements, safeguards human health, improves quality of life, and enhances the natural environment. A sustained natural environment is necessary to allow the U.S. Army to train and maintain military readiness.

1.3 SCOPE

This EA identifies, documents, and evaluates the potential environmental impacts of the proposed realignment actions at Fort Totten, New York. The EA has been developed in accordance with NEPA and implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the U.S. Army.² The *2006 Base Realignment Closure Manual for Compliance with the National Environmental Policy Act* (U.S. Army, 2006a) was used for guidance in preparing the EA. The purpose of the EA is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and alternatives.

² Council on Environmental Quality *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, 40 Code of Federal Regulations (CFR) Parts 1500-1508, and *environmental analysis of army Actions*, 32 CFR Part 651.

The Defense Base Closure and Realignment Act of 1990 specifies that NEPA does not apply to actions of the President, the Commission, or the DoD, except “(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected, but before the functions are relocated” (Sec. 2905(c)(2)(A), Public Law 101-510, as amended). The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected” (Sec. 2905(c)(2)(B)). The Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for realignment.

1.4 PUBLIC INVOLVEMENT

The U.S. Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision making process.

Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by 32 Code of Federal Regulations (CFR) Part 651. Upon completion of a draft, the EA will be made available to the public for 30 days, along with a draft Finding of No Significant Impact (FNSI) or a draft Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), whichever is appropriate depending on the level of impacts. At the end of the 30-day public review period, the U.S. Army will consider any comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, or draft FNSI/NOI. If no significant impacts are expected, the U.S. Army may then execute the FNSI and proceed with implementation of the Proposed Action. If it is determined prior to issuance of a final FNSI that implementation of the Proposed Action would result in significant impacts, the U.S. Army will publish in the *Federal Register* a NOI to prepare an EIS or commit to mitigation actions sufficient to reduce impacts below significance levels.

Throughout this process, the public may obtain information on the status and progress of the Proposed Action and the EA by contacting the 77th RRC Public Affairs Office at (718) 352-5072 or by sending a fax request to (718) 352-5674.

The EA is available via the World Wide Web at: http://www.hqda.army.mil/acsim/brac/env_ea_review.htm

1.5 REGULATORY FRAMEWORK

A decision on how to implement the Proposed Action rests on numerous factors such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, Fort Totten is guided by relevant statutes (and their implementing regulations) and Executive Orders that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act (CAA), Clean Water Act (CWA), Noise Control Act, Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), Resource Conservation and Recovery Act (RCRA), and Toxic Substances Control Act (TSCA). Executive Orders bearing on the Proposed Action include Executive Order (EO) 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*), and EO 13423 (*Strengthening Federal Environmental, Energy, and Transportation Management*). These authorities are addressed in various sections throughout this EA when relevant to environmental resources and conditions. The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange Web site at <http://www.denix.osd.mil>.

1.6 IMPACT ANALYSIS PERFORMED

An interdisciplinary team of ecologists, planners, economists, engineers, archeologists, historians, scientists, and military technicians analyzed the Proposed Action against existing conditions and identified the relevant beneficial and adverse impacts associated with the action. Section 1.0 of the EA provides the purpose, need and scope. The Proposed Action is described in Section 2.0, and alternatives, including the no action alternative, are described in Section 3.0. The existing conditions at Fort Totten as of 2006 are described in Section 4.0, Affected Environment and Consequences, and with information presented in the No Action Alternative, constitutes the baseline for the analysis of the impacts of realignment. Conditions in 2006 reflect the operating status of the facility prior to the BRAC Commission's decision. The expected impacts of the Proposed Action, also described in Section 4.0, are presented immediately following the description of the baseline conditions for each environmental resource addressed in the EA. Section 4.0 also addresses the potential for cumulative effects, and mitigation measures are identified where appropriate. Section 5.0 presents the findings and conclusions.

The impacts of the Proposed Action on socioeconomics were assessed using the Economic Impact Forecast System (EIFS) model developed by the U.S. Army Construction Engineering Research Laboratory (CERL). This model allows all base closure and realignment actions to be evaluated in the same way.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 INTRODUCTION

This section describes the U.S. Army's preferred alternative for carrying out the BRAC Commission's recommendations for Fort Totten. The following highlights the BRAC Commission's recommendations for Fort Totten:

Realign Fort Totten, NY by disestablishing the HQ 77th Regional Readiness Command. Close Carpenter USARC, Poughkeepsie, NY, close McDonald USARC, Jamaica, NY, close Fort Tilden USARC, Far Rockaway, NY, close Muller USARC, Bronx, NY, and relocate units to a new Armed Forces Reserve Center at Fort Totten, NY.

2.2 PROPOSED ACTION / IMPLEMENTATION PROPOSED

2.2.1 Criteria for Identification of Proposed BRAC Actions

The DoD applied 8 major criteria when evaluating individual facility BRAC actions.

MILITARY VALUE (HIGHER PRIORITY):

1. The current and future mission capabilities and the impact on operational readiness of the total force of the Department of Defense, including the impact on joint war-fighting, training, and readiness.
2. The availability and condition of land, facilities, and associated airspace (including training areas suitable for maneuver by ground, naval, or air forces throughout a diversity of climate and terrain areas and staging areas for the use of the Armed Forces in homeland defense missions) at both existing and potential receiving locations.
3. The ability to accommodate contingency, mobilization, surge, and future total force requirements at both existing and potential receiving locations to support operations and training.
4. The cost of operations and the manpower implications.

OTHER CONSIDERATIONS:

5. The extent and timing of potential costs and savings, including the number of years, beginning with the date of completion of the closure or realignment, for the savings to exceed the costs.
6. The economic impact on existing communities in the vicinity of military installations.
7. The ability of the infrastructure of both the existing and potential receiving communities to support forces, missions, and personnel.
8. The environmental impact, including the impact of cost related to potential environmental restoration, waste management, and environmental compliance.

The application of these criteria to the need to realign and restructure reserve forces and facilities in the Northeast and New York State yielded a number of proposed facility changes, among them the proposed actions at Fort Totten.

This BRAC EA will examine the environmental impact from efforts that will take place within the BRAC implementation window. The site-specific BRAC related projects are defined by existing Defense Department (DD) Form 1391s. The DD Form 1391 is used by the Department of Defense to submit requirements and justifications in support of funding requests for military construction to Congress.

2.3 BRAC ACTIONS AT FORT TOTTEN, NY

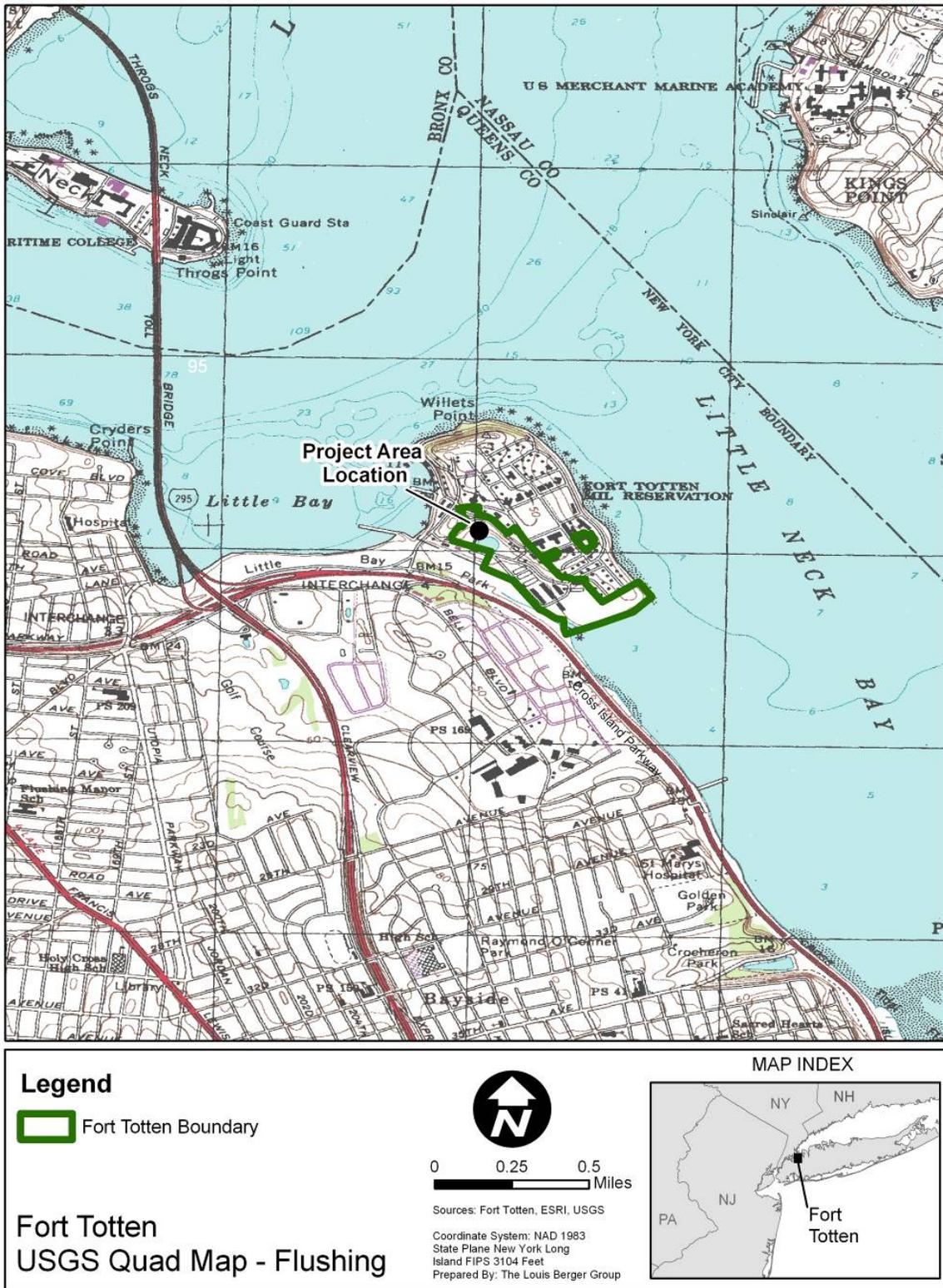
The Proposed Action is to construct a new AFRC at Fort Totten, NY. The new AFRC will accommodate reserve units from the closing facilities, including a Military Police (MP) company and associated vehicles, the 320th Chemical Company (most vehicles already stored at Fort Totten), a Quartermaster Company, a Transportation Company, and a Brigade Headquarters command.

Figure 2-1 is a general area map indicating the location of Fort Totten, with the enclave area outlined in bold.³ Figure 2-2 is a map of the Fort Totten facility, with the enclave area outlined. The remainder of the Fort Totten area was transferred to the City of New York as part of a 1995 BRAC action. Figure 2-3 is an aerial photo of the preferred AFRC site with basic development elements indicated.

The Proposed Action is further detailed below, in the *Facilities* (Section 2.3.1), *Equipment* (Section 2.3.2), and *Personnel* (Section 2.3.3) sub-sections.

³ Fort Totten underwent a previous BRAC action in 1995 during which the U.S. Army Reserve Enclave was established. Under the 1995 BRAC action the majority of the previous Fort Totten property was excessed to the City of New York, and the property that was retained by the Army became known as the Fort Totten Enclave. The Enclave was designated the Ernie Pyle USARC/AMSA and since 1996 has been the responsibility of the 77th RRC.

Figure 2-1. Area Map



2.3.1 Facilities

The AFRC would be an approximately 75,000 square feet (ft²) 2-story structure located at Fort Totten on existing U.S. Army-owned land. The AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems.

In addition, a new privately-owned vehicle (POV) parking lot approximately 39,000 ft² in size would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. The existing Military Equipment Parking (MEP) area would be expanded to use parts of current adjacent parking areas that are now used for POV parking and other equipment storage. The existing vehicle repair and maintenance areas are expected to be adequate to support arriving vehicles, without major modifications or expansion. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Figure 2-2. Fort Totten Facility Map



Little Neck Bay

Legend

-  Fort Totten Enclave Boundary
-  Building

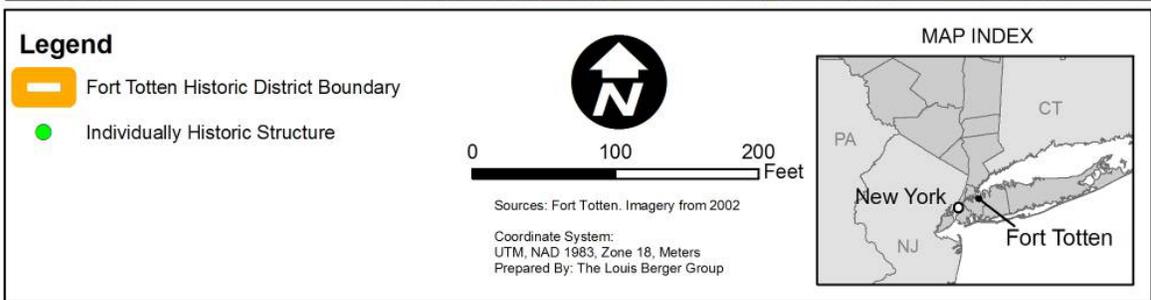
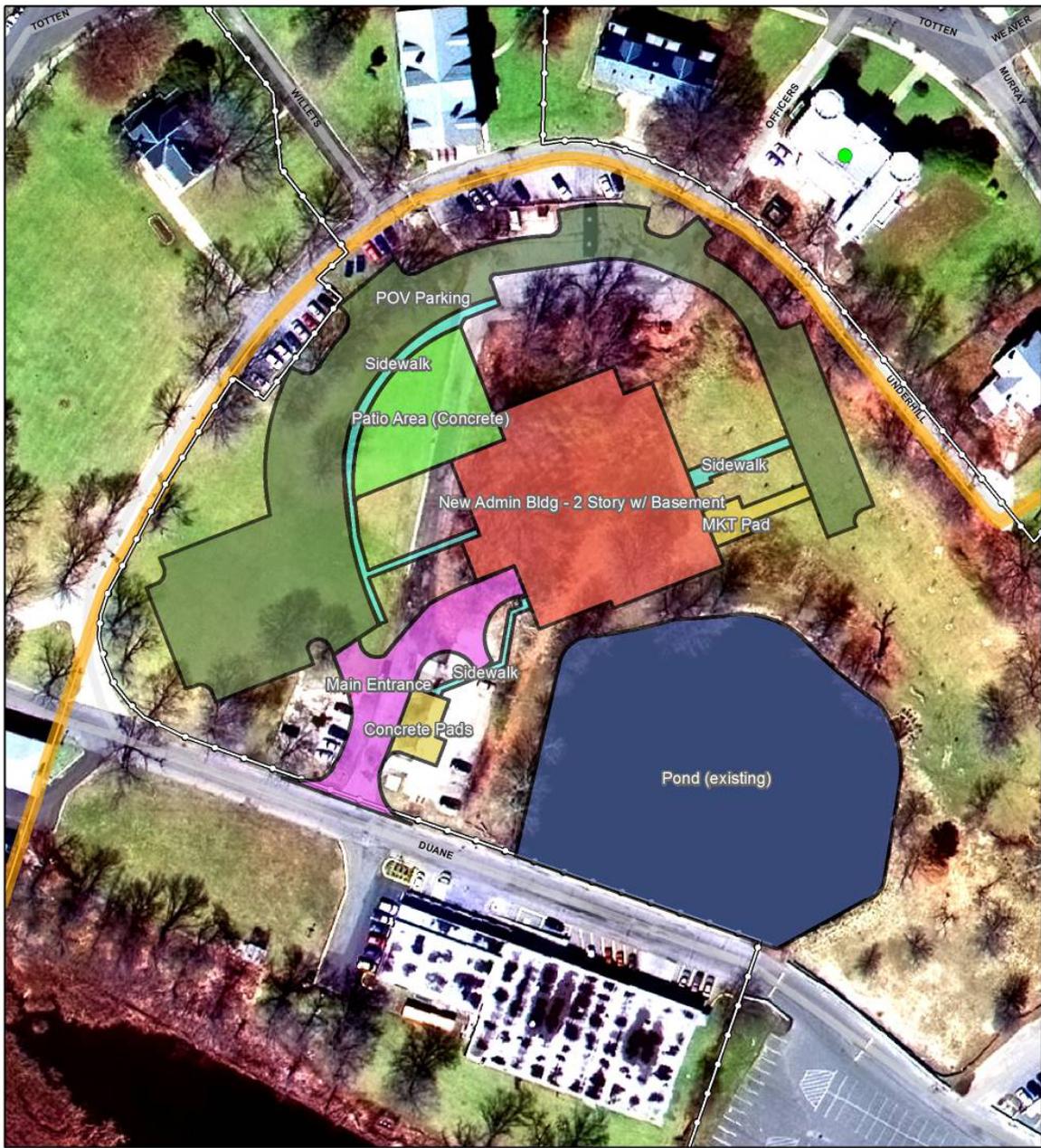

 0 500 1,000
 Feet

Sources: Fort Totten. Imagery from 2002
 Coordinate System:
 UTM, NAD 1983, Zone 18, Meters
 Prepared By: The Louis Berger Group

MAP INDEX



Figure 2-3. Preferred AFRC Site



2.3.2 Equipment

The realignment of reserve units from the closing USARCs to the proposed Fort Totten AFRC will also bring associated unit vehicles, equipment, and materials. The bulk of the vehicles for some of the incoming units are already stored at Fort Totten, and hence no change would occur for those units. For example, the incoming MP unit already stores the majority of their vehicles (primarily HUMVEEs) at Fort Totten. The existing MEP area would be expanded to use parts of current adjacent parking areas that are now used for POV parking and other equipment storage. The existing vehicle repair and maintenance areas are expected to be adequate to support arriving vehicles, without major modifications or expansion.

2.3.3 Personnel

The BRAC actions at Fort Totten would likely increase the total number of personnel at the Post. However, the arrival of incoming personnel from closed USARCs will be partially offset by the disestablishment of the 77th RRC. The actual number of both incoming and outgoing personnel is unsure at this time, due to a variety of USAR unit changes, including changes to unit functions and personnel levels. In addition, many of the units are regularly staffed below authorized levels. Accordingly, this EA presents data based on current unit authorized personnel strength and best estimates on numbers of incoming and outgoing personnel (Ajodah, 2006a). The current workforce at Fort Totten includes approximately 506 full-time staff and 3,094 reservists, including soldiers from the McDonald USARC (a formerly leased facility located at St. John’s University) which have already been relocated to Fort Totten due to expiration of the lease at that site. The estimated number of incoming personnel as a result of the Proposed Action is 934, many of which are reservists. An estimated 504 personnel are expected to leave Fort Totten under the Proposed Action as a result of the disestablishment of the 77th RRC; thus an estimated total increase of 430 personnel at Fort Totten would occur as a result of the Proposed Action.

Table 2-1 details the total anticipated personnel changes:

Table 2-1. Fort Totten, NY 2005 BRAC Actions : Personnel Changes

Action	Organization	From	Total Estimated Change in Personnel
Incoming	Muller USARC	Bronx, NY	+ 421
Incoming	Fort Tilden USARC	Far Rockaway, NY	+ 470
Incoming	McDonald USARC	Jamaica, NY	-
Incoming	Carpenter USARC, Poughkeepsie, NY	Poughkeepsie, NY	+ 43
Incoming	Establish a new Armed Forces Reserve Center		
Outgoing	Disestablish the HQ 77th Regional Readiness Command	Fort Totten, NY	- 504
TOTAL			+ 430

2.4 SCHEDULE

Under the BRAC law, the U.S. Army must initiate all realignments not later than September 15, 2007, and complete all realignments not later than September 15, 2011.⁴

Implementation of the Proposed Action would occur over a span of approximately 5 years. Facilities construction would be synchronized to meet the needs, on a priority basis, of units being relocated in the near-term, and to address priority space needs for reserve units. Establishment of new units would occur as facilities for their operations and support become available.

⁴ Section 2904(a), Public Law 101-510, as amended, provides that the Army must "... initiate all closures and realignments no later than 2 years after the date on which the President transmits a report [by the BRAC Commission] to the Congress ... containing the recommendations for such closures or realignments; and ... complete all such closures and realignments no later than the end of the 6-year period beginning on the date on which the President transmits the report ... " The President took the specified action on September 15, 2005.

3.0 ALTERNATIVES

3.1 INTRODUCTION

A key principle of NEPA is that an agency should consider reasonable alternatives to a Proposed Action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be affordable, capable of implementation, and satisfactory with respect to meeting the purpose of and need for the action. The following discussion identifies alternatives considered by the U.S. Army and identifies whether they are feasible and, hence, subject to detailed evaluation in this EA.

Alternatives to the Proposed Action have been examined according to three variables: means to physically accommodate realigned units, siting of new construction, and schedule. This section presents the U.S. Army's development of alternatives and addresses alternatives available for the Proposed Action. This section also describes the No Action Alternative, in which neither the Proposed Action nor an alternative is undertaken.

3.2 DEVELOPMENT OF ALTERNATIVES

Means to Accommodate Realigned Units. Relocation of units and establishment of new units involves ensuring that the installation has adequate physical accommodations for personnel and their operational requirements. The U.S. Army considers four means of meeting increased space requirements:

- Use of existing facilities
- Modernization or renovation of existing facilities
- Leasing of off-post facilities
- Construction of new facilities

U.S. Army Regulation 210-20, *Master Planning for Army Installations*, establishes U.S. Army policy to maximize use of existing facilities. The regulation directs that new construction will not be authorized to meet a mission that can be supported by existing underutilized adequate facilities, provided that the use of such facilities does not degrade operational efficiency. Under this policy, selection and use of facilities to support mission requirements adheres to the foregoing four choices in the order that they are listed. That is, if there are adequate existing facilities to accommodate requirements, and absent other overriding considerations, further examination of renovation, leasing, or construction alternatives is not required. Similarly, if a combination of use of existing facilities and renovation satisfies the U.S. Army's needs, leasing or new construction need not be addressed. New construction may proceed only when use of existing facilities, renovation, leasing, or a combination of such measures are inadequate to meet mission requirements.

Siting of New Construction. The U.S. Army considers new construction of facilities when use of existing facilities, renovation, or leasing would fail to provide for adequate accommodations of realigned functions. The U.S. Army considers both general and specific siting criteria for construction of new facilities.

General siting criteria include consideration of compatibility between the functions to be performed and the installation land use designation for the site, adequacy of the site for the function required, proximity to related activities, distance from incompatible activities, availability and capacity of roads, efficient use of property, development density, potential future mission requirements, and special site characteristics, including environmental incompatibilities.

Specific siting criteria include consideration of location of the workforce and efficient, streamlined management of functions. Collocation of similar types of functions, as opposed to dispersion, permits more efficient use of equipment, vehicle, and other assets.

Schedule. Alternatives for scheduling of proposed realignment actions are principally affected by three factors: the availability of facilities to house realigned personnel and functions, efforts to minimize potential disruption of mission activities based on the number of personnel involved in the relocation or the amount of work to be performed, and early realization of benefits to be gained by completion of the realignments. In most cases, minor shifts in schedule would not produce different environmental results.

3.3 ALTERNATIVES TO THE PROPOSED ACTION

3.3.1 Use of Off-Post Leased Space

Use of off-post leased space to meet Fort Totten's requirements is not permitted under the BRAC action as authorized by the U.S. Congress and the President and would involve several major drawbacks. Force protection policies specify certain facilities characteristics, such as physical security features, set-back from roadways, and "hardened" construction. Use of leased space in the private sector – having personnel and equipment both on-post and off-post – would adversely affect command and control functions, result in higher operational costs, and impair efficient use of resources. For these reasons, use of leased space is not feasible and is not further evaluated in this EA.

3.3.2 Acquisition of New Property

This alternative is not permitted under the BRAC action as authorized by the U.S. Congress and the President, and would likely substantially undermine the cost savings realized through the closure of multiple USARCs.

3.3.3 Existing Fort Totten Facilities

Fort Totten's existing facilities are fully utilized for current mission requirements. Building 200 (77th RRC HQ) is currently at its capacity for personnel and utilities. Prior to the passage of the BRAC law disestablishing the 77th RRC, the location of the proposed AFRC was planned to be developed as the site of a new 77th RRC HQ building

to more adequately accommodate the 77th RRC HQ. Some space in Building 200 may become available through the disestablishment of the U.S. Army HQ 77th RRC, but this space would not be adequate to accommodate all of the incoming personnel, and would require an addition to be built onto the building (which was evaluated and ruled out as a viable alternative (see Section 3.3.4 – Site 5). Additionally, a number of the current facilities at Fort Totten do not meet AT/FP stand-off buffer requirements. Accordingly, new construction is required.

3.3.4 New Construction Alternative Sites

The U.S. Army identified and evaluated five potential sites within the Fort Totten Enclave at which the proposed AFRC might be constructed. Each is briefly discussed below and its location is indicated in Figure 3-1.

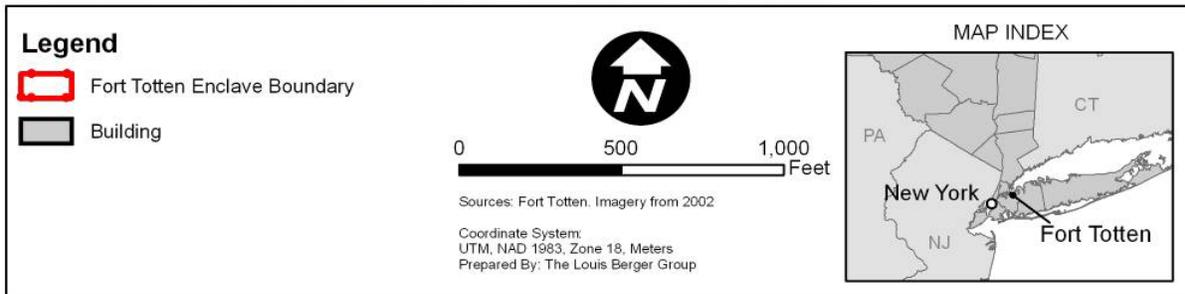
- *Site 1:* Preferred Alternative site, immediately northwest of the storm water retention pond, as illustrated in Figure 3-1. This site can support the size and footprint of the proposed AFRC, associated parking and facilities. The site can meet AT/FP stand-off buffer requirements. In addition, the site is located in proximity to Building 200 and provides for easy ingress/egress through the existing main gate.
- *Site 2:* In the southeast corner of the enclave. This site was evaluated and considered to have extensive physical and environmental limitations. The site was previously the location of a landfill and was remediated for groundwater contamination. The very shallow ground water level (approximately 3-4 feet) also makes this site inadequate from a geotechnical and cost perspective. In addition, Site 2 does not have adequate space to meet AT/FP stand-off buffer requirements. This site is not a viable alternative to the preferred AFRC site.
- *Site 3:* Immediately southwest of Building 128. This site would require construction within or immediately abutting the designated Historic District, and does not provide adequate space to accommodate the proposed footprint of the proposed AFRC. Additionally, this site would create a number of traffic flow problems, and would likely require a costly and space-consuming post-wide restructuring of vehicular traffic flow. This site is not a viable alternative to the preferred AFRC site.
- *Site 4:* Within the current MEP area. The proposed AFRC and associated AT/FP buffer requirements would leave little remaining space for the MEP itself, and would therefore require the current functions of vehicle storage, maintenance, and repair to be split into smaller segments, decreasing efficiency and creating the need for additional security measures. This site would also require AFRC unit personnel to transit much of the Enclave to reach the AFRC, thereby requiring additional traffic planning, direction, and control measures. This site is not a viable alternative to the preferred AFRC site.
- *Site 5:* Addition to current Building 200. This site was evaluated but found to be costly, likely to have greater impacts on environmental and historic resources, would be unable to provide adequate parking, and would have difficulty meeting the AT/FP standoff requirements. A potential addition onto Building 200 would require site preparation and construction on a very steep slope. Current utilities at the

building are at capacity and would require costly upgrades. Building 200 is within the viewshed of the historic district, and does not provide for ideal compatibility with nearby historic architectural styles, materials, and design. Therefore, adding on to this building would worsen this current situation. This site is not a viable alternative to the preferred AFRC site.

3.3.5 Scheduling Alternatives

The schedule for implementation of the Proposed Action must balance facilities construction timeframes and planned arrival dates of inbound units and stand-up dates of newly-established units, all within the 6-year limitation of the BRAC law. Realignment earlier than that shown in the schedule in Section 2.4 is not feasible in light of the time required to build facilities. Shifting of schedules to accomplish realignment at a later date would unnecessarily delay realization of benefits to be gained. Since earlier implementation is not possible, and since delay is avoidable and unnecessary, alternative schedules are not further evaluated in this EA.

Figure 3-1 Alternative Sites



3.4 NO ACTION ALTERNATIVE

Under the No Action Alternative reserve units presently assigned to Fort Totten would continue to train at and operate from the post. No units would relocate from other locations and they would continue to operate in facilities that are outdated, inadequate, and improperly configured to allow the most effective training to meet mission requirements. Implementation of this alternative is not possible, however, due to the BRAC Commission's realignment recommendations having the force of law. Inclusion of the No Action Alternative is prescribed by CEQ regulations and serves as a baseline against which the impacts of the Proposed Action and alternatives can be evaluated. Accordingly, the No Action Alternative is evaluated in this EA.

4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

4.1 INTRODUCTION

This section contains a description of the current environmental conditions of the areas that would be affected should the Proposed Action be implemented. It also includes analysis of potential impacts arising from the implementation of the Proposed Action. Descriptions of environmental conditions represent baseline conditions, or the “as is” or “before the action” conditions at the installation. Where appropriate and definable, a specific Region of Influence (ROI) is indicated for a given resource area. The baseline is further defined as the level of operations and environmental conditions at the time of the BRAC Commission’s fall 2005 decision. The baseline facilitates subsequent identification of changes in conditions that would result from realignment. The environmental consequences portion represents the culmination of scientific and analytic analysis of potential impacts arising from the implementation of the Proposed Action. Direct, indirect, and cumulative effects of the Proposed Action are also addressed.

Baseline existing environmental conditions are presented first for each environmental resource or condition, followed immediately thereafter by evaluation of the potential impacts of the No Action and the Proposed Action, or realignment (preferred) alternative.

4.2 LAND USE

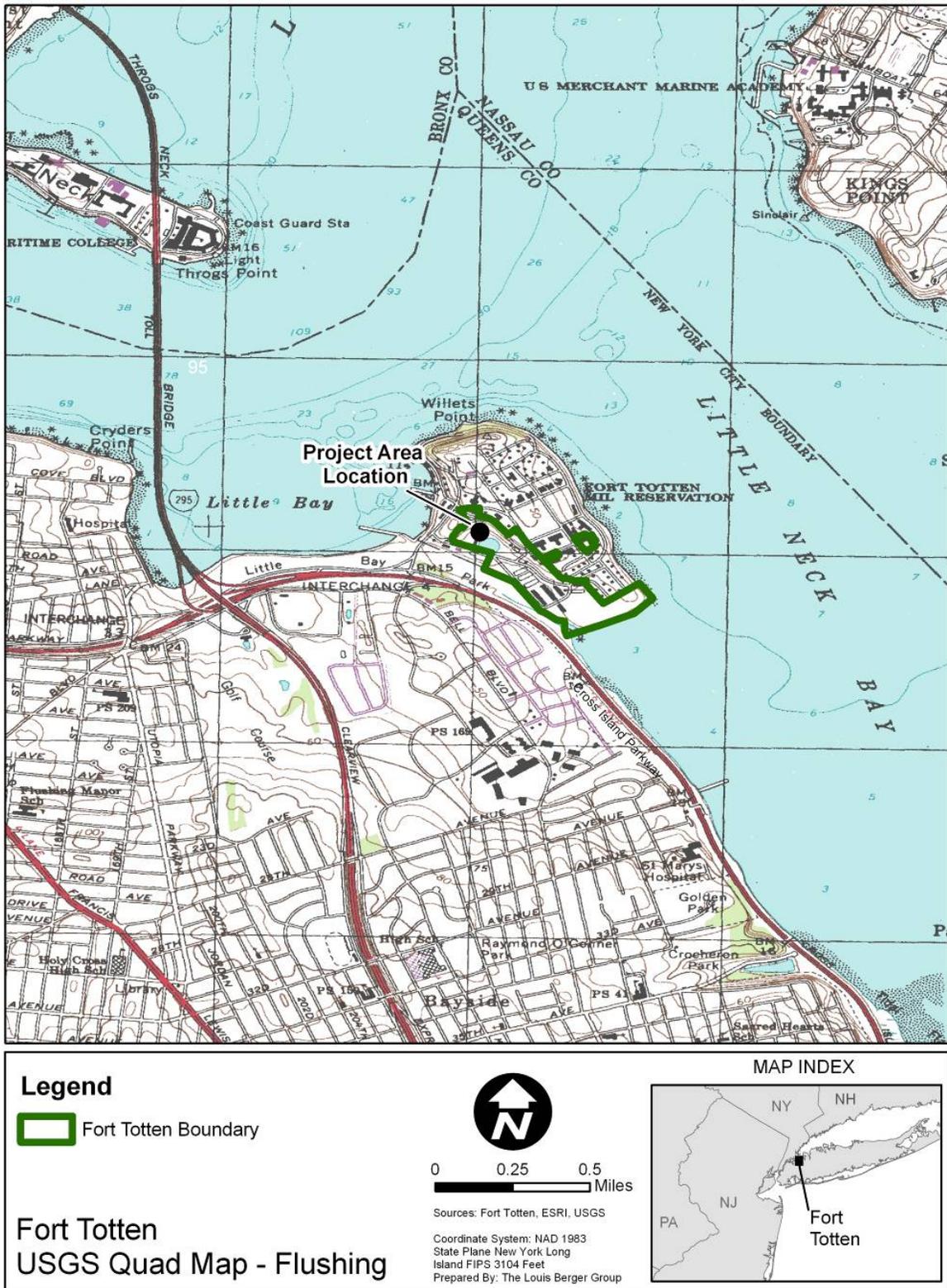
4.2.1 Affected Environment

The ROI for land use is defined as the Borough of Queens, Queens County, New York.

4.2.1.1 Regional Geographic Setting and Location

Fort Totten is located 15 miles east of Manhattan on Long Island in northeast Queens County in the New York City Borough of Queens, New York (Figure 4-1). Fort Totten is on a peninsula known as Willet’s Point, which is bordered by water on three sides: on the north by Long Island Sound, on the west by Little Bay, and on the east by Little Neck bay. Fort Totten is located in a highly developed region that contains a mix of industrial, commercial, and residential areas. The Borough of Queens is a densely populated (2,229,379 residents, according to the 2000 Census) urban area with residential, commercial, industrial, and institutional facilities. The Bayside area of Queens is immediately adjacent to Fort Totten, and the Flushing area of Queens is in close proximity (U.S. Army, 2006c).

Figure 4-1. Area Map



Climate. Fort Totten has a climate typical of the mid-Atlantic seaboard with hot, humid summers and cold, snowy winters, with mild spring and fall seasons. The local climate is largely affected by the abundance of open water nearby. Moderating effects of the waters reduce temperature extremes, while the open exposure allows good wind circulation to and within Fort Totten. The amount of precipitation in the Fort Totten area is fairly consistent throughout the year with slightly more occurring in July. Average annual precipitation is approximately 42 inches. The mean winter temperature, November through February, is approximately 37°F; the average low temperature is approximately 31°F. The lowest recorded temperature of -3°F occurred in 1994. During summer, June through August, the mean temperature is approximately 74°F, and the average high temperature is approximately 81°F. The highest recorded temperature of 107°F occurred in 1966 (U.S. Army, 2006c).

4.2.1.2 Installation Land Use

The lands of Fort Totten have been the responsibility of the U.S. Army since 1857. The Fort Totten Enclave consists of approximately 36 acres, which were formerly part of the larger Fort Totten installation. Fort Totten underwent a previous BRAC action in 1995 during which the majority of the previous Fort Totten property was exceded to the City of New York. The property that was retained by the U.S. Army became known as the Fort Totten enclave. The enclave was designated the Ernie Pyle USARC/Area Maintenance Support Activity (AMSA), and since 1996 has been the responsibility of the 77th RRC. The enclave is delineated in Figure 4-2, below. The enclave is bordered to the east and south by Little Neck Bay and on the west by the Cross Island Parkway and a wetland area owned by New York City. Neighbors immediately to the north and east of the enclave include the New York City Fire Department, the eastern Paralyzed Veterans Association, the Bayside Historical Society, and the New York City Police Department Robotics Squad. These entities, and several others, became tenants following 1995 BRAC action at Fort Totten. Within the current, approximately 36-acre enclave are 10 buildings, landscaped and mowed areas, hard surfaced parking areas, sidewalks, and approximately 5.4 acres of natural areas.

4.2.1.3 State Coastal Management Program

Fort Totten is located within New York's designated coastal zone. As a Federal undertaking, the project is subject to the Federal Coastal Zone Management Act (CZMA) of 1972, which states that Federal agency activities must be consistent with a state's Federally approved Coastal Management Program.

The Federal regulations that implement the consistency provisions of the CZMA are found at 15 CFR Part 930. These regulations establish the procedures to be followed in order to assure that a federal agency's activities are consistent with the enforceable policies of the New York State Coastal Management Program (CMP). The types of activities that are covered by these regulations are:

- Activities directly undertaken by, or on behalf of, federal agencies;
- Activities requiring authorizations or other forms of approval from federal agencies;
- Activities involving financial assistance from federal agencies; and
- Outer continental shelf activities.

Federal consistency provisions apply to activities both in the State's coastal area and outside of the coastal area when the activities would affect coastal resources or coastal land and water uses (see 15 CFR 930.11(b) and 15 CFR 930.11(g)).

Fort Totten is also located within the area covered by New York City's state approved Local Waterfront Revitalization Program (LWRP). The *New York City Waterfront Revitalization Program* (WRP) was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and subsequently approved by the New York State Department of State (NYS DOS) with the concurrence of the U. S. Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies, and the city must be given the opportunity to comment on all federal projects within its coastal zone.

4.2.1.4 Current and Future Development in the Region of Influence

Fort Totten is located in a densely developed region that contains a mix of industrial, commercial, and residential areas. The area of the Borough of Queens, NY that borders on Fort Totten, Bayside, is a mix of one- and two-family residences, high-rise apartments, parks, and is a major retail and transportation hub for Queens. It is located near one of the largest industrial areas in the borough, and combined with the residential and transportation infrastructure, is an area of intense development.

4.2.2 Environmental Consequences

4.2.2.1 No Action Alternative

Under the No Action Alternative, there would be no changes in land use at the Proposed Action site. However a number of other ongoing and planned site improvements would likely continue to impact land use. Such

improvements may include changes to meet AT/FP requirements, improve parking and traffic flow, and improve overall efficiency within the Enclave. Ongoing or planned renovations of older structures and facilities would also continue as planned, with negligible impacts on land use.

4.2.2.2 *Realignment (Preferred) Alternative*

Under the Preferred Alternative, minor changes to existing land use would occur at Fort Totten. The proposed site for the new AFRC would be consistent with the 2005 Area Development Plan, which identified the proposed site as an area for future development (U.S. Army, 2005b). The proposed AFRC site was planned to be developed as the site of a new 77th RRC HQ building, prior to the passage of the BRAC law that directed the disestablishment of the 77th RRC.

The proposed AFRC and related facilities are subject to the CZMA, which states that Federal agency activities must be consistent with a state's Federal approved CMP. They are also in an area subject to the New York City WRP. The proposed AFRC and related facilities project has been sited and designed and would be constructed and operated in a manner consistent to the maximum extent practicable with the applicable NYS DOS CMP and the New York City WRP policies.

The Department of the Army submitted a Federal Consistency Assessment Form to the NYS DOS and a Consistency Assessment Form to the New York City Department of City Planning requesting concurrence with the U.S. Army's determination that the construction and operation of the proposed AFRC and related facilities would be consistent to the maximum extent practicable with the NYS DOS CMP policies and the New York City WRP policies and would not have any reasonably foreseeable effects on coastal resources. By letter dated 2 November 2006, the NYS DOS concurred with the Army's determination (see Appendix A).

No direct or indirect impacts are expected on local and regional land use as a result of the Proposed Action. Impacts on land use within the Fort Totten enclave are expected to be minor and limited in scope to the Enclave itself. The construction of the AFRC would remove the site area from availability for potential future development, and would result in a minor overall reduction in open, undeveloped space within the enclave. Minor beneficial impacts are also anticipated, in terms of improved and more efficient transportation flow, parking facilities, access for reservists, and the integration of reserve activities into a single, integrated AFRC.

4.3 AESTHETICS AND VISUAL RESOURCES

4.3.1 Affected Environment

The ROI is defined as the immediate Fort Totten area within viewing distance ("viewshed") of the Enclave and the proposed AFRC site.

Fort Totten's unique architecture, long history, and location at the confluence of Long Island and the East River give the installation and surrounding area high aesthetic values. Buildings at Fort Totten range from contemporary institution design to frame Victorian and Greek-Revival structures, with muted red brick exteriors.

Trees and vegetation on the installation screen these buildings from areas outside of Fort Totten (U.S. Army, 1999).

4.3.2 Environmental Consequences

Impacts of the proposed AFRC on nearby properties that are eligible for listing on the National Register of Historic Properties are evaluated in Section 4.9, Cultural Resources, and are being addressed via ongoing consultation with the New York State Historic Preservation Officer (NYSHPO).



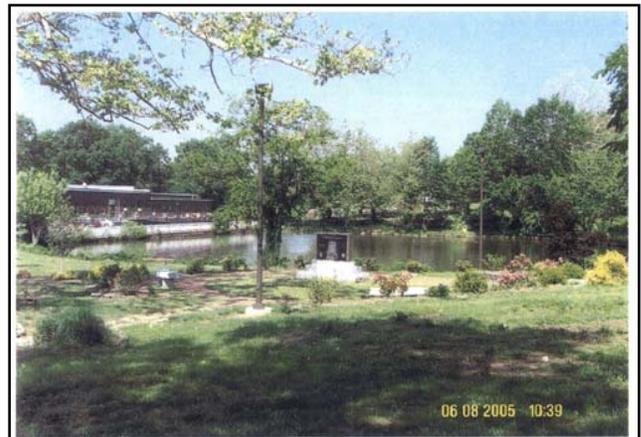
Building 200

4.3.2.1 No Action Alternative

Under the No Action Alternative, there would be no new impacts on the viewshed or on the aesthetic values of the region.

4.3.2.2 Realignment (Preferred) Alternative

Visual resource quality is affected by the size of key objects, such as height, similarity to surroundings, and visual “fit.” In addition, the value of a viewshed is affected by the number and type of viewers and viewer expectations. These visual elements help to determine the potential impacts of the Proposed Action on existing visual resources. For example, the introduction of a man-made structure into an entirely natural environment could significantly impact visual resources, while the same structure introduced into a developed area might go largely unnoticed by viewers.



Pond and landscaping

The addition of the proposed AFRC facility would have negligible impacts on the area viewshed due to the existing military functions and context of the site, and the existence of a number of institutional buildings in the vicinity.

4.4 AIR QUALITY

The U.S. Environmental Protection Agency (EPA) defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 CAA and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated ambient air quality standards

and regulations. The National Ambient Air Quality Standards (NAAQS) were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM) (the EPA breaks PM down into particles with a diameter less than or equal to a nominal 10 micrometers (PM₁₀) and particles with a diameter less than or equal to a nominal 2.5 micrometers (PM_{2.5})), ozone (O₃), nitrogen oxide (NO_x), and lead (Pb). Areas that do not meet NAAQS are called non-attainment areas.

4.4.1 Affected Environment

The ROI for the Proposed Action is defined as Queens County. The EPA has classified the New York – Northern New Jersey – Long Island area, including the area of the Proposed Action (Queens County, New York), as being in non-attainment for the criteria pollutant PM_{2.5}, and in moderate non-attainment for the criteria pollutant ozone. The NAAQS for both pollutants are presented in Table 4-1. Due to its proximate location to densely populated and industrialized areas, Fort Totten’s air quality is highly subject to the air quality of the surrounding region.

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). Since the Proposed Action is located within a PM_{2.5} non-attainment area and a moderate ozone non-attainment area, a General Conformity Rule applicability analysis is required.

Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual emissions of criteria pollutant. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule.

Table 4-1. Ambient Air Quality Standards for Ozone and Particulate Matter (PM_{2.5})

Pollutant	Federal Standard	New York Standard ²
Ozone (O ₃) ¹ 8-Hour Average	0.08 ppm	0.08 ppm
Particulate Matter (PM _{2.5}) ¹ 24-Hour Average	65 µg/m ³	250 µg/m ³
Annual Arithmetic Mean	15 µg/m ³	45 µg/m ³

ppm = parts per million; µg/m³ = micrograms per cubic meter

¹ Federal primary and secondary standards for this pollutant are identical.

² New York standards are for suspended particulates, including PM₁₀
Source: EPA, 2002; NYSDEC 2004

Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

To determine the applicability of the Rule to the Proposed Action, emissions were estimated for PM_{2.5} and the ozone precursor pollutants NO_x and volatile organic compounds (VOC). Annual emissions for these compounds were estimated for each of the project actions (construction and operation) to determine if they would be below or above the *de minimis* levels established in the Rule. The *de minimis* levels for moderate ozone non-attainment areas are 100 tons per year (TPY) for NO_x and 50 TPY for VOCs. Sources of NO_x and VOC associated with the Proposed Action include emissions from construction equipment, vehicles used by construction crew commuting to and from the site, the painting of interior building surfaces and parking spaces (VOC only), daily commuting vehicles, and emissions from stationary heating units (boilers and water heaters).

The EPA is in the process of promulgating the *de minimis* levels and the rules governing an applicability analysis for PM_{2.5}. During the interim, the EPA believes it is appropriate for Federal agencies to use the PM₁₀ *de minimis* level of 100 TPY as a surrogate for PM_{2.5} *de minimis* levels in their General Conformity applicability analysis. Since PM_{2.5} emissions are a subset of PM₁₀ emissions, PM_{2.5} emissions will always be less than PM₁₀. Under the EPA's guidance, if an action may cause direct or indirect emissions of PM_{2.5}, a General Conformity determination would be required if annual emissions exceed the 100 TPY threshold.

In addition to the evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a General Conformity determination if the direct and indirect emissions from the action exceed 10% of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10% threshold, the federal action is considered to be a "regionally significant" activity, and the general conformity rules apply.

4.4.1.1 Ambient Air Quality Conditions

Ambient air quality is monitored in Queens County by three monitoring sites. One site monitors ozone, one PM_{2.5} and the third monitors both pollutants. The ozone monitors are located at the 120-07 15th Ave and 14439 Gravett Road. The PM_{2.5} monitor is also located at 14439 Gravett Road as well as at 3115 140th. The 15th Avenue monitor averages one day above the standard annually while the Gravett Road monitor averages about four exceedences annually. Neither of the PM_{2.5} monitors was above the standard because until 2005, no formal regulatory standard existed. Table 4-2 shows the existing 8-hour ozone monitoring data within Queens County, NY.

Table 4-2. Existing 8-hour Ozone and 24-hour Particulate Matter Monitoring Data for Queens County, NY

Monitoring Station	Year				
	2001	2002	2003	2004	2005
# 360810096 – 3115 140 th Street (PM)	43/39	79/36	33/25	ND	ND
# 360810124 - 14439 Gravett Road (PM)	48/44	76/51	56/53	48/44	40/40
# 360810124 - 14439 Gravett Road (Ozone)	0.101/0.093	0.098/0.097	0.104/0.093	0.083/0.082	0.092/0.091
# 360810098 - 120-07 15th Ave (Ozone)	0.093/0.081	0.085/0.084	0.093/0.083	0.069/0.068	0.084/0.078

Values are in ppm; 1st/2nd highest data

NAAQS: Eight-hour average = 0.08 ppm (0.085 is an exceedance)

PM values are in µg/m³ 1st/2nd highest data

ND= No Data Available

Source: U.S. EPA, AIRS Data, April, 2006

Meteorology/Climate - Temperature is a parameter used in calculations of emissions for air quality applicability. Climate at Fort Totten can be characterized as typical of the mid-Atlantic seaboard with hot, humid summers and cold, snowy winters. The local climate is largely affected by the abundance of open water nearby, reducing temperature extremes and allowing for good wind circulation. Fort Totten experiences an annual precipitation of about 42 inches. The mean winter temperature is around 37°F with an average low of 31°F. Throughout the summer, the mean temperature is around 74°F with a high averaging at about 81°F (U.S. Army, 2004).

4.4.1.2 Regional Air Pollutant Emissions Summary

The EPA calculates the Air Quality Index (AQI) for five major air pollutants regulated by the CAA: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. Data collected for Queens County, NY are released in the form of the AQI, which ranges from zero to 300, with zero indicating no air pollution and 300 representing severely unhealthy air pollution levels. An AQI value between 101 and 150 indicates that air quality is unhealthy for sensitive groups who may be subject to negative health effects. Sensitive groups may include those with lung or heart disease who will be negatively affected by lower levels of ground level ozone and particulate matter than the rest of the general public. An AQI value between 151 and 200 is considered to be unhealthy, and may result in negative health effects for the general public, with more severe effects possible for those in sensitive groups. AQI values above 200 are considered to be very unhealthy (Air Watch, 2006).

According to the EPA's AQI Report for 2000 – 2005, generated using the AirData website (EPA, 2006), Queens County, NY experienced three days where air quality was considered unhealthy for sensitive groups, and one day where it was considered unhealthy for the general public. In 2001, the county experienced 13 days considered unhealthy for sensitive groups. In 2002, it experienced 12 days considered unhealthy for sensitive groups, and one day considered unhealthy for the general public. In 2003, the area experienced 13 days considered unhealthy for sensitive groups and two days considered unhealthy for the general public. In 2004, air quality was considered unhealthy for sensitive groups for seven days, and in 2005, air quality was considered unhealthy for sensitive groups for 11 days. Air quality trends in the area are inconsistent, and do not show any conclusive trends.

4.4.2 Environmental Consequences

4.4.2.1 No Action Alternative

Implementation of the No Action Alternative would not change current conditions and also is not expected to significantly impact the current air quality conditions in the region.

4.4.2.2 Realignment (Preferred) Alternative

A project construction and operations-related General Conformity Applicability Analysis was performed for the proposed construction and operational activities. The General Conformity applicability analysis estimated the level of potential air emissions (PM₁₀, VOC, and NO_x) for the Proposed Action. The No-Action Alternative would not impact air quality beyond existing conditions; therefore, it was not included in the analysis. Appendix C contains a detailed description of the assumptions and methodology used to estimate potential emissions for the construction and operational activities of the Proposed Action at Fort Totten.

Table 4-3 summarizes the total emissions associated with the construction and operation phases of the Proposed Action at Fort Totten. Construction related emissions would be temporary and only occur during the 24-month construction period for all buildings. A conservative approach was employed in the applicability analysis to ensure that construction scheduling would not result in more severe results than predicted. The analysis first assumed that all construction emissions would occur over the same one-year period. These results were then added to a year of operations, bounding the potential emissions that might result for any overlap between construction and operations emissions.

The data in Table 4-3 shows that the emissions associated with constructing and operating the new AFRC building at Fort Totten, when compared to the *de minimis* values for this ozone and PM_{2.5} non-attainment area, fall well below the *de minimis* levels of 50 TPY for VOC and 100 TPY for NO_x and PM₁₀, even under the conservative assumptions that were employed. As a result, further analysis employing less severe assumptions was not needed nor performed. The Proposed Action is not subject to the General Conformity Rule requirements.

Air emissions were also evaluated to determine regional significance. The *Transportation Conformity Determination for Federal Fiscal Years 2006-2010 Transportation Improvement Program and Federal Fiscal Years 2005-2030 Regional Transportation Plan* (New York Metropolitan Transportation Council, 2005) sets forth daily budgets for emissions under the State Implementation Plan (SIP) of 176.30 tons per day of VOC and 227.80 tons per day of NO_x for the New York Metropolitan area. The increase in annual emissions from the construction and operational activities under the Proposed Action would not make up 10% or more of the available SIP budget, and would therefore not be regionally significant. Air quality impacts are therefore not considered to be significant.

Table 4-3: Summary of Annual Emissions - Proposed Action

Activity	Construction Emissions (TPY)			Operation Emissions (TPY)			Combined Emissions (TPY)		
	NO _x	VOC	PM10	NO _x	VOC	PM10	NO _x	VOC	PM10
Heavy Equipment (building/parking)	11.37	1.49	1.77				11.37	1.49	1.77
Construction Crew Commuting Vehicles*	0.70	0.76	0.01				0.70	0.76	0.01

Activity	Construction Emissions (TPY)			Operation Emissions (TPY)			Combined Emissions (TPY)		
	NO _x	VOC	PM10	NO _x	VOC	PM10	NO _x	VOC	PM10
Painting	NA	0.44	NA				NA	0.44	NA
Stationary Heating Unit (boiler and water heater)				0.21	0.011	0.015	0.21	0.011	0.015
Commuter Traffic				1.58	1.71	0.029	1.58	1.71	0.029
Totals							13.86	4.41	1.82
*Construction Crew Commuting Vehicles and Daily Commuter Traffic represent only the emissions increase associated with the implementation of the Proposed Action									

4.5 NOISE

Noise is generally defined as unwanted sound. Sound is all around us - it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-post. In addition, noise can emanate from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles, trucks, trains, and airplanes; and stationary sources such as construction sites, machinery, or industrial operations. Often “background” noise sources can contribute substantially to an ambient noise environment. Background noise sources can include birds chirping, vehicles passing by, “white noise” generated by waves lapping at a shoreline, wind, and other background noise sources. These background sources can determine the ambient noise environment in areas not dominated by a single major noise source.

4.5.1 Affected Environment

On-site sources of noise are negligible, and are largely limited to minor traffic noise from personnel entering and exiting the area, and routine installation and maintenance activities. No weapons firing occurs within the Fort Totten Enclave. On-site sources are negligible in comparison to off-site sources from the heavily urbanized Bayside area of Queens and air traffic associated with La Guardia Airport, which is located about 4.5 miles west of Fort Totten. Off-site noise sources in the immediate area are dominated by major transportation arterials, principally vehicle noise from the Cross Island Expressway to the west, and marine vessel noise from Little Neck Bay.

4.5.2 Environmental Consequences

The ROI is defined as the immediate area within a one-mile radius of the Fort Totten Enclave.

4.5.2.1 No Action Alternative

No impacts would be expected. Implementation of the no action alternative would not alter existing noise levels at the sites being considered under the Proposed Action, nor at any additional locations.

4.5.2.2 Realignment (Preferred) Alternative

Construction activities would result in minor adverse, but temporary and short-duration noise impacts. These impacts could be mitigated by confining construction activities to normal working hours and employing noise-controlled construction equipment to the extent possible. Additionally, the arrival and staging of heavy equipment and materials would be scheduled to occur during normal work hours to the greatest extent possible to avoid disturbing personnel on post and the surrounding communities.

Day-to-day operations after construction of the new AFRC and associated facilities are not expected to increase by more than negligible levels over current operations and vehicle traffic. Therefore, negligible long-term or cumulative noise impacts are anticipated. Upon completion of construction, noise levels would be expected to return to normal, ambient levels for the area.

4.6 GEOLOGY AND SOILS.

4.6.1 Affected Environment

The ROI is defined as the Fort Totten Enclave.

Geological resources consist of all bedrock and soil materials within an area. Geologic factors such as soil stability and seismic properties influence the stability of structures. Soil, in general, refers to unconsolidated earthen materials overlying bedrock and other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodability all determine the ability for the ground to support structures and facilities. Soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use. Topography consists of the physiographic, or surface, features of an area and is usually described with respect to elevation, slope, aspect, and landforms. Long-term geological, erosional, and depositional processes typically influence topographic relief of an area.

4.6.1.1 Geologic and Topographic Conditions

Fort Totten is situated within the Coastal Plain Province of the mid-Atlantic region, in an area underlain by Cretaceous to Recent sediments deposited on the eroded surface of older igneous and metamorphic rock. Bedrock within the Fort Totten Enclave area is igneous and metamorphic rock (U.S. Army, 2006c). Fort Totten occupies a small ridge that forms a peninsula in Long Island Sound, known historically as Willet's Point. This ridge is surrounded by wetlands and water, specifically Little Bay, Little Neck Bay, and the East River Channel. The original connection between the Fort Totten ridge and the mainland now consists of marshes and mudflats. Much

of this wetland area has been filled. On-post elevations range from 0 to 68 feet above mean sea level (MSL), with an average elevation of 39 feet above MSL (U.S. Army, 1999).

4.6.1.2 Soils

Covering the bedrock that underlies the Fort Totten area is a sequence of continental and marine sediments consisting of interlayered clay, sand, and gravel that reflect multiple cycles of rising and falling sea levels on a predominantly shallow marine environment. At Fort Totten, the thickness of these sediments varies from approximately 250 to 300 feet. Extensive disturbance of surface soils have left a mixture relatively impermeable surfaces and compacted surface soils. Undisturbed soils are composed of brown sandy and silty organic clays that are rapidly permeable and have a moderate water capacity (U.S. Army, 2006c).

4.6.2 Environmental Consequences

4.6.2.1 No Action Alternative

No impacts would be expected. Implementation of the no action alternative would not alter the existing soils or geologic conditions at the sites being considered under the Proposed Action,

4.6.2.2 Realignment (Preferred) Alternative

Under the Proposed Action, minor adverse impacts would be expected at the proposed building site of the AFRC. Due to the sloping nature of the proposed AFRC site, a moderate amount of site earthworks, including leveling, grading, excavation, and compaction of soils would be expected. Existing vegetative cover (primarily grass) would be removed and soil layer structure would be disturbed and modified. These impacts would be considered minor, given that the majority of soils at Fort Totten have been previously disturbed or modified. Disturbed areas outside of the building and parking area footprints would be reseeded following construction activities, to minimize potential erosion. Soil erosion and sediment production would be minimized for all construction operations as a result of following an approved sediment and erosion control plan. The proposed sites would be regraded and revegetated (as necessary) following construction activities, and soil erosion and sediment control measures would be included in site plans to minimize long term erosion and sediment production.

4.7 WATER RESOURCES

4.7.1 Affected Environment

The ROI is defined as the Fort Totten area and nearby coastal waters and wetlands.

4.7.1.1 Surface Water

Willet's Point is surrounded by the estuarine waters of Little Bay at the mouth of the East River and the Little Neck Bay extension of Long Island Sound. The waters are tidal with a high and low tide difference of 7 ft. Surface estuarine waters adjacent to Fort Totten are classified by the State of New York as Class SB, saline surface waters. The best uses for Class SB waters are primary and secondary contact recreation, fishing, and fish

propagation and survival. Most surface drainage at Fort Totten is artificially controlled and the runoff is disposed of through storm drains that discharge into the adjacent estuarine waters of Little Bay. An approximately 100-ft diameter man-made storm water retention pond is west of the Ernie Pyle USARC building (Building 200) (U.S. Army, 2004; and U.S. Army, 2006c).

Wetlands – The estuarine habitat in and around Fort Totten is an intertidal subsystem in which the substrate is exposed and flooded by tides. This particular system is of the emergent/persistent class and is characterized by erect, rooted, herbaceous, hydrophytic vegetation that remains standing at least until the beginning of the next growing season. Some plants that may inhabit this area include cordgrass, needlebrush, and narrow-leaved cattails. Tidal water generally floods the land surface less often than twice daily (U.S. Army, 2006c).

The National Wetlands Inventory (NWI) map shows one wetland within the boundaries of the Fort Totten Enclave (Figure 4-3). This 1-acre wetland located in the southwestern corner of the Enclave is designated as E2USN (Estuarine, Intertidal, Unconsolidated Shore, Regularly Exposed) under the Cowardin et al classification codes. The NWI map also indicates that three additional wetlands, totaling 9.4 acres, are adjacent to or very close to the Enclave boundaries. One 3.7-acre wetland is classified as E2EM1P (Estuarine, Intertidal, Emergent, Persistent, Irregularly Flooded); one 3.9-acre wetland is classified as PEM1F (Palustrine, Emergent, Persistent, Semi-permanently flooded); and one 1.8-acre wetland on the western shore is classified as E2USN (Estuarine, Intertidal, Unconsolidated Shore, Regularly Exposed). The man-made storm water retention pond is listed as PUBHh (Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded), and as open water under the New York State wetland inventory classification system.

4.7.1.2 Hydrogeology/Groundwater

Two major aquifers have been identified under Willet's Point. The lower aquifer is the Lloyd aquifer, found 200-300 feet below the surface. The other aquifer is the Magothy aquifer, found 50-150 feet below the surface. The area also has shallow groundwater located in the Upper Water-Bearing Zone (U.S. Army, 2006c). Groundwater levels in the area of Building 200 are reportedly shallow (3.8 to 4.0 feet). In the immediate area of the proposed AFRC building site, groundwater levels are 10 to 15 feet. More detailed, site-specific geotechnical investigations to characterize the site will be conducted prior to any site excavation or earthworks (Ajodah, 2006c).

4.7.1.3 Floodplains

The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to establish actuarial rates for structures, based upon the risk of flooding. The maps are divided into zones which are determined by elevation and engineering analysis. Most of Fort Totten has a flood-zone designation of C (areas of minimal flooding). However, there are three other flood designations within Fort Totten boundaries. The eastern end has a flood-zone designation of B (areas between the 100-year and 500-year flood). There are also various flood zones that surround the Enclave, including A7 (areas of 100-year shallow flooding) and V10 (areas

of 100-year coastal flooding). The V10 coastal flood zones extend along the shoreline of the island along with the A7 flood designation (U.S. Army, 2004; and U.S. Army, 2006c). See Figure 4-4.

4.7.1.4 Coastal Zone

The Affected Environment and Environmental Consequences sections addressing the coastal zone of New York can be found in sections 4.2.1.3 and 4.2.2.2, respectively.

Figure 4-3. Fort Totten National Wetlands Inventory Map (Cowardin, 1979)

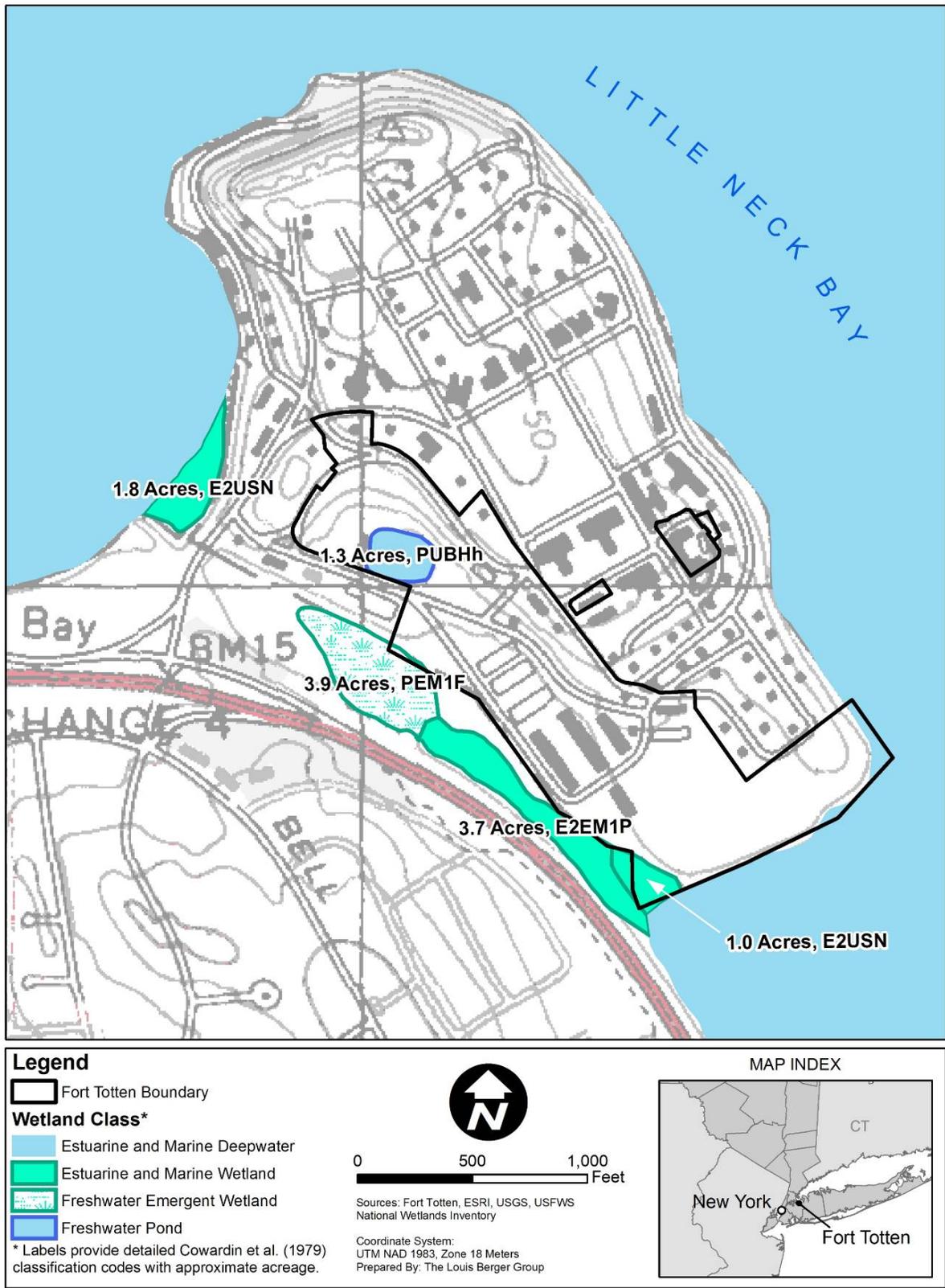
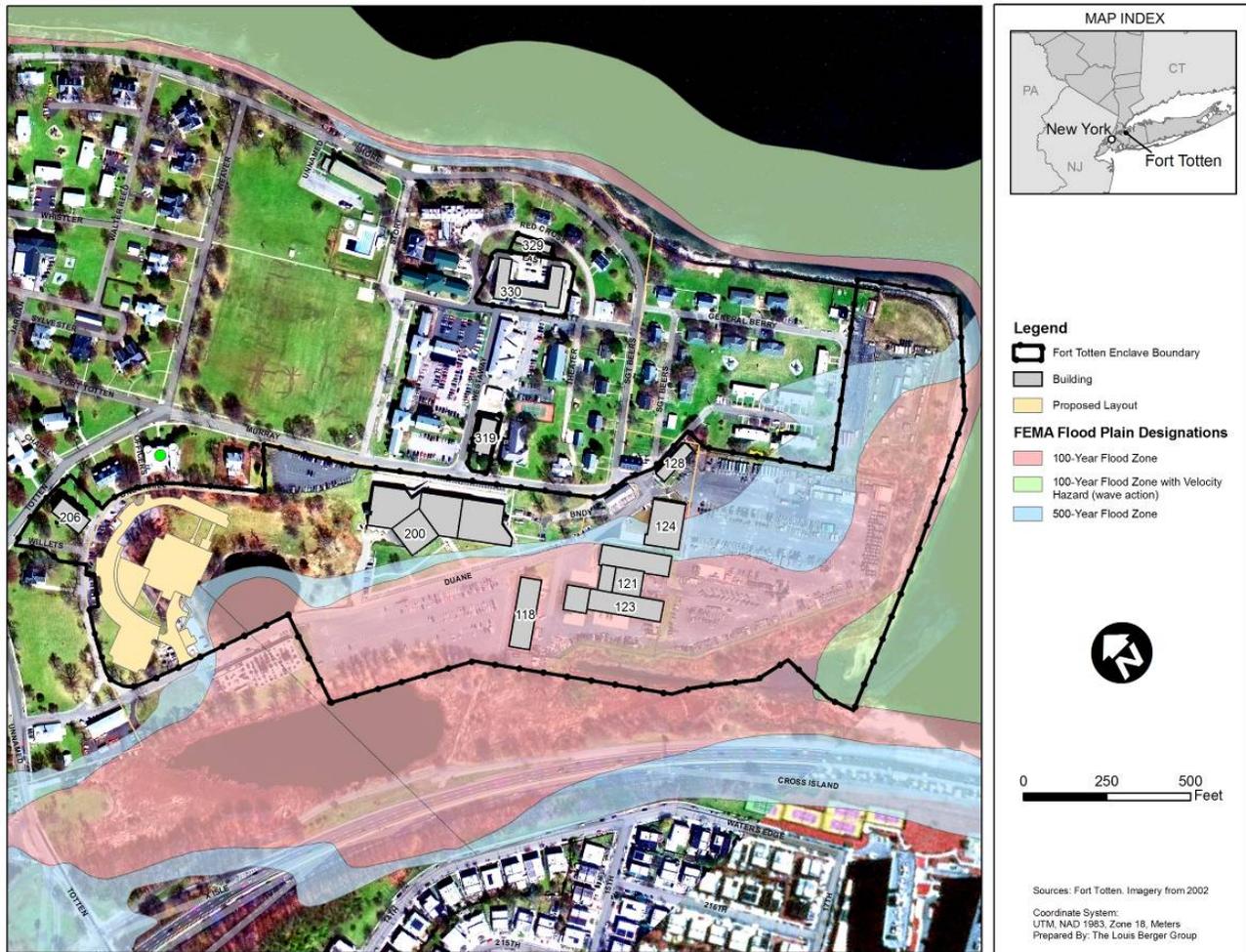


Figure 4-4. Fort Totten Enclave Flood Hazard Map



4.7.2 Environmental Consequences

4.7.2.1 No Action Alternative

Under the No Action Alternative, there would be no impacts on area water resources.

4.7.2.2 Realignment (Preferred) Alternative

Under the Preferred Alternative, no impacts on area water resources are anticipated. During site preparation, earthworks, and construction activities at the AFRC site, the appropriate use of best management practices (BMPs) would ensure that storm water runoff would not cause or exacerbate erosion or cause sediments to be deposited into nearby water bodies. Renovations to storm water conveyances would result in a minor beneficial impact by more effectively collecting and directing existing storm water runoff to the man-made storm water retention pond.

Wetlands – No impacts on wetlands are expected. Wetlands on or near the Fort Totten Enclave are located away from the Preferred Alternative site, and are not expected to be impacted by site construction or operations. As a result, a permit under Section 404 of the CWA is not required.

4.8 BIOLOGICAL RESOURCES

4.8.1 Affected Environment

The vast majority (greater than 75%) of the Fort Totten Enclave is developed with buildings, parking areas, roads, and other infrastructure. Areas surrounding buildings and parking areas are primarily mowed grassy and landscaped areas. A Biological Assessment of the area was conducted in 2005, and this resource section draws substantially upon the findings of that study (Terrestrial Environmental Specialists, 2005).

4.8.1.1 Vegetation

Most of the Fort Totten Enclave is extensively landscaped with ornamental trees and bushes and maintained grassy areas. Common trees at Fort Totten include oak (*Quercas* sp.), maple (*Acer* sp.), pine (*Pinus* sp.), magnolia (*Magnolia* sp.), spruce (*Picea* sp.), yew (*Taxus* sp.), holly (*Ilex* sp.), Atlantic white cedar (*Chamaecyparis thyoides*), larch (*Larix* sp.), cherry (*Prunus* sp.), dogwood (*Cornus* sp.), willow (*Salix* sp.), sassafras (*Sassafras* sp.), apple (*Malus* sp.), and hawthorn (*Crataegus* sp.). Boxwood (*Buxus* sp.) and privet (*Ligustrum* sp.) are interspersed among these trees. In undeveloped areas, species such as grape (*Vitis* sp.), poison ivy (*Toxicodendron radicans*), Japanese honeysuckle (*Lonicera japonica*), and green brier (*Smilax* sp.) occur. Salt marsh vegetation (*Spartina alterniflora* and *Spartina patens*) and rock weed (*Fucus* sp.) occur along the coastal water's edge. An area to the immediate northwest and west of the storm water detention pond has been allowed to grow wild, and those species listed above are likely to occur in this area (U.S. Army, 2006c; and Terrestrial Environmental Specialists, 2005).

4.8.1.2 Wildlife

Areas not landscaped and/or maintained at Fort Totten provide habitat for small mammals, migratory and resident birds, and a few species of reptiles and amphibians. Mammals occurring at Fort Totten include the eastern cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), rodents, and feral cats and dogs. Bird species include resident upland species and numerous migratory shorebirds and waterfowl. Large numbers of shorebirds, gulls, terns, geese, and ducks are found during fall and spring migrations on and along the bays and channel surrounding Fort Totten. Numerous resident Canada Geese (*Branta Canadensis*) use the area around the storm water detention pond. Developing marshes around the edge of the peninsula contain ribbed mussels (*Modiolus demissus*), and barnacles are growing along retaining walls and other areas where currents and wave action create suitable conditions. Species such as tidewater silversides (*Menidia beryllina*), tautog (*Tautoga onitis*), northern pipe fish (*Syngnathus fuscus*), nine-spined stickleback (*Pungitius pingitius*), bluefish (*Pomatomus saltrix*), Atlantic menhaden (*Brevoortia tyrannus*) and mackerel (*Scomberomorus* sp.) likely occur in the vicinity of Fort Totten (U.S. Army, 2006c).

Resident Canada Geese have populated the Fort Totten Enclave area and use the storm water pond to such a degree that they have become a nuisance and have caused habitat degradation. A fence has been installed along the water's edge on southern portions of the pond to hinder geese from walking to and from the water, forcing them to fly in and out. This protects the shoreline from being denuded of vegetation, which could potentially result in sloughing and erosion. The 77th RRC has also experimented with various techniques to discourage geese from using grassed areas that are also used by military personnel.

4.8.1.3 Sensitive Species

The U.S. Fish and Wildlife Service (USFWS) have responsibility for the listing of threatened and endangered species, and they make determinations as to whether formal Section 7 consultations under the ESA are necessary in regards to a Proposed Action.

A biological assessment of the Ernie Pyle USARC and the Adjacent Fort Totten Grounds was conducted in 2005. As part of that assessment and in response to a request for information on state listed animals and plants, the NY State Department of Environmental Conservation (NYS DEC) indicated by letter dated June 28, 2005 that there were no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of the site. Additionally, no state-listed plants or animals were found during the surveys conducted for the biological assessment (Terrestrial Environmental Specialists, Inc, 2005).

Vegetation – Special status species are listed as threatened or endangered, are proposed for listing, or are candidates for listing by the state and/or federal government. The New York Natural Heritage Program lists one federally threatened plant species in the overall Queens County area, seabeach amaranth (*Amaranthus pumilus*). There are 7 state-endangered, 13 state-threatened, and 29 state-declared rare plant species in Queens County. No federal- or state-listed plant species are known to occur at Fort Totten (U.S. Army, 2001).

Wildlife - Special status faunal species are listed as threatened or endangered, are proposed for listing, or are candidates for listing by the state and/or federal government. Three federally listed endangered animal species are listed in Queens County. These include the piping plover (*Charadrius melodus*), fin whale (*Balaenoptera physalus*), and Indiana bat (*Myotis sodalists*). There are three federally protected animals in the county, including seaside sparrow (*Ammodramus maritimus*), least tern (*Sterna antillarum*), and roseate tern (*S. dogallii*). Five state-endangered, 25 state-protected, and 6 state-threatened animal species occur in Queens County. No federal- or state-listed animal species are known to occur at Fort Totten (U.S. Army, 2006c).

4.8.1.4 Wetlands

The estuarine habitat in and around Fort Totten is an intertidal subsystem in which the substrate is exposed and flooded by tides. This particular system is of the emergent/persistent class and is characterized by erect, rooted, herbaceous, hydrophytic vegetation that remains standing at least until the beginning of the next growing season.

Some plants that may inhabit this area include cordgrass, needlebrush, and narrow-leaved cattails. Tidal water generally floods the land surface less often than twice daily (U.S. Army, 2006c).

The NWI map shows one wetland within the boundaries of the Fort Totten Enclave (Figure 4-3). See Section 4.7.1.1 for details on wetlands.

4.8.2 Environmental Consequences

4.8.2.1 No Action Alternative

Under the No Action Alternative, no impacts on biological resources would occur.

4.8.2.2 Realignment (Preferred) Alternative

Under the Preferred Alternative, negligible adverse impacts on biological resources are anticipated. No federal- or state-listed threatened or endangered species are known to occur at Fort Totten and the Proposed Action is expected to have no adverse impacts on any listed Federal or state threatened or endangered species. The USFWS was contacted by letter dated July 31, 2006 to obtain confirmation that the Proposed Action would not adversely affect any listed species, and that no additional or formal consultation are required under Section 7 of the ESA. By letter dated 30 October 2006, the USFWS concurred that the Proposed Action would have “no effect” on any listed species (see Appendix A). The NYS DEC was contacted by letter dated July 31, 2006 to obtain confirmation that the Proposed Action would not adversely affect any listed species, and that no additional or formal consultations are required. A response from the NYS DEC has not yet been received.

The footprint of the AFRC and POV parking areas at the Preferred Alternative site would require the removal of an existing small stand of trees to the immediate west and southwest of the storm water retention pond. A few scattered mature trees may also need to be removed. Efforts will be made to preserve a few of the particularly large trees, if site preparation and construction can occur without causing potential damage to root systems.

4.9 CULTURAL RESOURCES

Fort Totten was occupied first by Native Americans and later by Euro-Americans prior to the U.S. Army’s occupation of this point of land on Long Island Sound. During the Civil War it was a strategic fort; however, much of its current appearance is associated with a major building campaign that began in the late 19th century and continued through the early 20th century, which formed a cohesive assembly of brick buildings from the period. Since the late 20th century, the historical significance of Fort Totten has been studied in various cultural resource investigations, resulting in the designation of the Fort Totten Historic District, and the identification of significant archaeological sites. A Programmatic Agreement was executed as a result of the Base Realignment and Closure action initiated in 1995. A second Programmatic Agreement is underway for proposed actions associated with the Fort Totten Area Development Plan of 2005. Section 106 consultations are ongoing for the current proposed BRAC action, and are detailed in subsequent sections.

4.9.1 Affected Environment

4.9.1.1 Prehistoric and Historic Background

Prehistoric occupation of New York covers ca. 15,000 B.C. to ca. A.D. 1600 and is divided into three major periods: the Paleo-Indian Period (ca. 15,000 B.C. to ca. 8,000 B.C.), the Archaic Period (ca. 8,000 B.C. to 1,000 B.C.), and the Woodland Period (ca. 1,000 B.C. to A.D. 1600). The Paleo-Indian Period is characterized by small groups of nomadic hunters and gatherers who resided in seasonal or base camps in a cold, dry environment and who subsisted on wild plants and animals. Diagnostic fluted projectile points and the exploitation of Pleistocene megafauna are other notable aspects of the period. The Archaic Period was warmer and wetter than the previous period, which resulted in an increasingly forested environment. In response to these climatic changes, stone axes and fishing paraphernalia were used. Late Archaic sites are more common, which indicates an increase in population towards the end of the period. During the Woodland Period there was a shift from nomadic life to one that was more settled. Large villages were settled and sometimes fortified with wood palisades. Domesticated plants, including corn and bean species, and true fired ceramics are found at Woodland archaeological sites. The Woodland marked the last period before European occupation of the area.

Munsee-speaking Canarsee and Rockaway Indians, members of the Delaware cultural group, historically inhabited the Fort Totten region. By the 19th century very few remained because they were devastated by disease and warfare as a result of European contact.

The Dutch and English were among the first European settlers in the Fort Totten region. The area was first visited by Giovanni de Verrazano in 1524 and Henry Hudson in 1609. In 1639 the property in the project area was taken from the Matinecoc Indians (a subgroup of the Canarsee) by the Dutch. William Thorne, an Englishman, was the first European settlers of the area around 1645. In the 18th century the point of land on Long Island Sound became known as Wilkins or Wilkins Neck Point, named for its owner. Early in the 19th century the point of land was purchased by Thomas Willet, who operated a nursery with tenant houses and since then has been known as Willet's Point. In 1857, the U.S. Government purchased the point and established Camp Morgan on 1 May 1861.

The point was chosen for its strategic location in an effort to provide coastal defense for New York City. It was party of the Third System of Coastal Defense, an innovative, nationally standardized system of military construction. Between 1862 and 1864 a stone fortification was built, and the fort was used both as a depot for recruits and as a campground for volunteers on their way to Civil War battle fronts. During the Civil War a general hospital complex was built and other buildings were added around the parade ground. During the late 19th century, the post served as a mines development site and was designated the official Engineering Depot for the eastern portion of the country, and in 1885, the Engineer School of Application opened there. The engineering school served as the training center for Army engineers until the 1920s.

In 1898 the installation was renamed Fort Totten for Brigadier General Joseph G. Totten, Army Chief of Engineers, and early in the 20th century a major building campaign was undertaken. The new construction plan

for Fort Totten included the replacement of many wood frame buildings with ones of brick and a more formal landscape plan. From 1898 until 1907, Fort Totten served as a submarine defense school. During World War I soldiers embarked from Fort Totten, and during the Second World War it became a regional Air Defense Command Center. It continued its responsibility for air security throughout the Northeast during the Cold War, until the post was deactivated in 1967. During that time it oversaw the NIKE/Ajax and NIKE/Hercules missile system throughout the region. Since 1967, Fort Totten has been a sub-installation of Fort Hamilton in New York.

In 1995, Fort Totten underwent Base Realignment and Closure action, during which the U.S. Army Reserve enclave was established. The enclave was designated the Ernie Pyle USARC/Area Maintenance Support Activity, and since 1996 has been the responsibility of the 77th RRC.

4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

The first New York City Landmark designated at Fort Totten was in 1973 with the listing of the Officers' Club. In 1974 the historic batteries at the fort were also designated city landmarks, and the batteries, including the cut and fitted granite V-shaped battery constructed from 1862-1864, was determined eligible for listing in the National Register in 1978. In 1981, the parade ground and barracks designated Buildings 322 and 323 were also determined eligible for listing in the National Register.

In 1986 a cultural resources overview and management plan was completed for Fort Hamilton and Fort Totten. The report concluded that Fort Totten constituted a potential historic district associated with the Civil War/Reconstruction and Endicott/Taft periods of military history. That same year the Fort Totten Officers' Club was listed in the National Register. A Historic Preservation Plan was completed for Fort Totten in 1989 and included a database of buildings and features as well as outlined procedures for managing historic resources.

As part of the 1995 Base Realignment and Closure action at Fort Totten a historic architectural survey was completed for the excess property. The 1997 survey concluded that 71 buildings, the majority of which are late 19th and early 20th century brick buildings representative of the Queen Anne and Colonial Revival styles, constituted an eligible historic district (Figure 4-5). The district includes Building 124, a former blacksmith shop as a contributing resource. The Willet Summer Farmhouse, a contributing resource in the district, is also individually eligible for the National Register. As a result of the Base Realignment and Closure in 1995, the majority of the buildings in the Fort Totten Historic District were transferred to New York City. The 77th RRC retained ownership of some buildings which are in or are contributing elements in the Historic District.

An archaeological investigation at Fort Totten in the 1980s identified the Glacis Site, a historic site on a parcel occupied by the U.S. Coast Guard, which consists of Civil War period earthworks. A Phase IA/IB study of the 135-acre Base Realignment and Closure excess parcel was conducted in 1996. During the study 1,377 artifacts of historic or modern origin were recovered from shovel test pits. Historic artifacts included 19th century ceramic and glass fragments, cut and wire nails, munitions, uniform buttons, and dog tags. Some significant structural remains and trash pits were also identified. Prehistoric artifacts included nine pieces of chipped stone debitage. A

Phase II study was conducted in 1998 that concentrated on the areas where prehistoric materials were found during the first phase; however, seven artifacts dated from the historic or modern periods. Historic deposits included features and artifacts dating from the 1860s to the 1930s. The Phase II study suggests a high probability of finding similar materials at the Fort Totten enclave.

A Programmatic Agreement was made between the Army, the NYSHPO, and the Advisory Council on Historic Preservation for the closure and disposal of Army property at Fort Totten in association with the Base Realignment and Closure action initiated in 1995. In 2005, a second Programmatic Agreement was drafted between the same parties in association with the Fort Totten Area Development Plan and has not yet been finalized.

The NYSHPO was initially contacted in regards to the Proposed Action by letter July 31, 2006 and with subsequent phone conversations. By letter dated August 30, 2006, the SHPO responded with questions related to the design and materials for the proposed AFRC, and recommended that a Phase I archaeological survey be undertaken. A Phase IA/IB archaeological investigation of the preferred AFRC site was completed in November, 2006, and was formally submitted to the SHPO on December 4, 2006 for review. The report identified one prehistoric archaeological site (Little Bay Site A08101.011172) and concluded that the site is eligible for listing in the National Register of Historic Places (U.S. Army, 2006d). On December 7, 2006 a review of the proposed project was held at the site, with representatives of the Army, the NYSHPO, and contractor support in attendance. At the meeting, the NYSHPO representative stated that the agency believes the site to be NRHP eligible. This determination was formally conveyed by letter dated December 8, 2006. The SHPO stated that the site could be cleared for construction if proper mitigation were performed. Such mitigation would serve to study and document the site, and would practically eliminate the risk of work stoppage at the site. Details of the mitigation measures to be undertaken by the Army would be documented in the form of a Memorandum of Agreement (MOA) to be signed by the Army and the NYSHPO. The MOA would also address measures to be undertaken in regards to facility design and materials to mitigate potential effects on the adjacent historic district. Once all of the mitigation measures detailed in the MOA are met, the site would be cleared by the NYSHPO. The Phase I Archaeological Survey report is included in its entirety as Appendix D. Copies of all correspondence between the Army and the NYSHPO are contained in Appendix A.

4.9.1.3 Native American Resources

Fort Totten is located within the historic territory of the Delaware Indians. As part of the current BRAC action at Fort Totten a Phase IA/IB archaeological investigation of the preferred AFRC site was completed in November, 2006. Consultation with the Stockbridge-Munsee Band of the Mohican Nation and the Delaware Nation is in progress.

Figure 4-5. Fort Totten Historic District



4.9.2 Environmental Consequences

4.9.2.1 No Action Alternative

There would be no impacts on cultural resources under the No Action Alternative.

4.9.2.2 Realignment (Preferred) Alternative

The Preferred Alternative has the potential to affect cultural resources. The location and construction of the proposed AFRC would be within the viewshed of the Fort Totten Historic District, and would be in close proximity to Building 206, a U.S. Army-owned building within the Historic District. The park-like setting of the proposed building site, together with the landscaping and topography provide some screening from the historic district. While the proposed new AFRC would generally be visible from the historic district, the nearby register-listed properties face away from the Proposed Action site, so that only the rear of the historic buildings face the Proposed Action site. Preservation of the significant cultural resources at Fort Totten and its historic character is a priority for the USARC, therefore design and material considerations that are economically feasible and that will minimize any potentially adverse impacts on the Historic District will be contemplated. Examples of potential design elements that may be incorporated to minimize impacts on historic

properties include the inclusion or “echoing” of key architectural elements of the historic buildings, including, but



View of proposed AFRC site, looking northwest. Fort Totten Historic District and Buildings 203 and 206 are located beyond and to the right of the trees in the background.



View of Bldg. 206 rear from Proposed AFRC site

not limited to: a pitched roof; the use of red brick that echoes the size, texture and finish of the nearby buildings; the use of multi-light windows and decorative elements such as arched openings, contrasting window sills, and pilasters to break up the elevations of the new building to create the same exterior rhythm found in the historic buildings. The new building would be designed and constructed, to the extent feasible given cost and other considerations, to be compatible with buildings within the designated historic district. A MOA to be signed by the Army and the NYSHPO will detail mitigation measures required to be undertaken in regards to facility design and materials to mitigate potential effects on the adjacent historic district. Once all of the mitigation measures detailed in the MOA are met, the site would be cleared by the NYSHPO.

A Phase IA/IB archaeological investigation of the preferred AFRC site was completed in November, 2006, and was submitted to the SHPO on December 4, 2006 for review. The report identified one prehistoric archaeological site (Little Bay Site A08101.011172) and concluded that the site is eligible for listing in the National Register of Historic Places (U.S. Army, 2006d). By letter dated December 8, 2006 the NYSHPO concurred with this finding. A Draft Recovery Plan for the Little Bay Site is under development at this time. An MOA to be signed by the Army and the NYSHPO will detail mitigation measures that are required to allow the site to be cleared for construction. Such mitigation measures would serve to study and document the site, and would practically eliminate the risk of work stoppage at the site. The Phase I Archaeological Survey report is included in its entirety as Appendix D. Copies of all correspondence between the Army and the NYSHPO are contained in Appendix A.

4.10 SOCIOECONOMICS

The Affected Environment and Environmental Consequences sections for the Socioeconomics resource area of this EA are presented in limited detail. This is due to the fact that the majority of the estimated incoming personnel are reservists that will only report to the new AFRC periodically, and that most incoming personnel are relocating from nearby facilities within the ROI. Topics which are normally addressed under a Socioeconomics resource area, but which are not being discussed in this EA include *Demographics, Housing, Quality of Life, and Protection of Children*. The Fort Totten Enclave does not provide for housing or temporary billeting of personnel or their dependents.

4.10.1 Affected Environment

The socioeconomic ROI for Fort Totten encompasses Queens and Nassau Counties in New York, and comprises the area in which the predominant socioeconomic impacts of the Proposed Action would take place. The geographical extent of the ROI is based on residential distribution of the installation's military, civilian, and contracting personnel and the location of businesses that provide goods and services to the installation and its employees. The baseline year for the socioeconomic analysis is 2006, although much of the economic and demographic data for the ROI are only available through the years 2004 and 2005. The descriptions of affected environment are based on the most recent data available to accurately reflect the current economic and social conditions of the ROI.

4.10.1.1 Economic Development

4.10.1.1.1 Regional Economic Activity

Fort Totten is situated in a highly developed regional economy, dominated by the services sector, with the health care, social assistance, professional, technical, financial, and other services sectors accounting for most of the ROI employment. Government enterprises and retail trade together provide an additional 20 percent of the ROI jobs. Manufacturing generated about 4.5 percent of the employment, while farm jobs in this highly urbanized environment contributed only 85 out of the 1,467,903 jobs recorded in 2004 (U.S. BEA, 2004a).

The unemployment rate for the ROI is similar to that of the national unemployment rate of 5.1 percent. Unemployment in the ROI averaged 4.7 percent in 2005, compared to 5.0 percent for the State of New York. The ROI annual unemployment rate has dropped from a high of 6.2 percent in 2000 with improving regional economic conditions during the past 6 years. The unemployment rate of 5.2 percent for Queens remains a bit higher than that for Nassau County, which was 4.1 percent in 2005 (U.S. BLS, 2005).

4.10.1.2 Environmental Justice

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. The Executive Order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. Environmental justice analyses are performed to identify potential disproportionately high and adverse impacts from proposed actions and to identify alternatives that might mitigate these impacts. Data from the U.S. Department of Commerce 2000 Census of Population and Housing were used for this environmental justice analysis. Minority populations included in the census are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, of two or more races, and other. Poverty status, used in this EA to define low-income status, is reported as the number of persons with income below poverty level. The 2000 Census defines the poverty level as \$8,794 of annual income, or less, for an individual, and \$17,603 of annual income, or less, for a family of four.

The two counties in the ROI have widely differing income and population make-ups. In 2004, the median household income was \$31,125 for Queens County and \$52,899 for Nassau County. The poverty rate in 2003 was 5.9 percent for Nassau County and 15.4 percent for Queens County - nearly 2.7 times that of Nassau County (U.S. BEA, 2004b). In 2000, the populations of Queens and Nassau counties totaled 2,229,379 and 1,334,544, respectively (Stats Indiana, 2006a). According to the 2004 Census Bureau estimate, Nassau County's population was 81.2 percent white, 11.4 percent Hispanic, 11.3 percent black and 6.1 percent other. Queens County's population was 55.2 percent white, 25.9 percent Hispanic, 21.3 percent black, and only a minor representation of other groups. The elderly accounted for 13 percent of the Queens County population and 14.8 percent of Nassau County's population (Stats Indiana, 2006a).

4.10.2 Environmental Consequences

EIFS Model Methodology. The economic impacts of implementing the Proposed Action are estimated using the EIFS model, a computer-based economic tool that calculates multipliers to estimate the direct and indirect impacts resulting from a given action. Changes in spending and employment associated with the renovation of housing represent the direct impacts of the action. Based on the input data and calculated multipliers, the model estimates changes in sales volume, income, employment, and population in the ROI, accounting for the direct and indirect impacts of the action.

For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine the historical range of economic variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and population patterns. The historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated impact of an action falls above the positive RTV or below the negative RTV, the impact is considered to be significant. Appendix B discusses this methodology in more detail and presents the model input and output tables developed for this analysis.

4.10.2.1 No Action Alternative

4.10.2.1.1 Economic Development

No direct or indirect impacts would be expected. Under the No Action Alternative, the installation working population and installation expenditures would remain unchanged from baseline levels. No new construction would take place. Therefore, economic activity levels would be the same as under the baseline conditions.

4.10.2.1.2 Environmental Justice

No impacts would be expected. The No Action Alternative would not result in significant adverse impacts to any demographic group residing or working in the economic ROI. Therefore, there would be no disproportionately high and adverse impacts to minority populations or low income populations. Hence, the No Action Alternative Action for Fort Totten would not result in any environmental justice impacts.

4.10.2.2 Realignment (Preferred) Alternative

4.10.2.2.1 Economic Development

Minor direct and indirect beneficial impacts would be expected. The construction of the new facilities on the installation will be the sole contributor to short term increased economic activity due to the associated increase in expenditures on labor and materials during the building period. Described below are the expected impacts that construction under the Proposed Action would generate.

The Proposed Action would generate an estimated 78 direct and 170 induced jobs which equals a net gain of 249 jobs in the Fort Totten economic ROI. This increase in employment would represent a 0.02 percent increase in

the region's employment levels and would fall far short of the positive RTV Value of 2.48 percent. It should be noted that the employment associated with construction would be only temporary. The Proposed Action would also generate positive changes in the other economic indicators estimated by the EIFS model, including a 0.05 percent increase in sales volume, and a 0.01 percent increase in regional personal income. However, once again, these increases are very minor, and do not exceed the positive RTV values for their respective categories.

4.10.2.2.2 Environmental Justice

No impacts would be expected. The Proposed Action would not result in significant adverse impacts to any demographic group residing or working in the economic ROI. Therefore, there would be no disproportionately high and adverse impacts to minority populations or low income populations. Hence, the Proposed Action for Fort Totten would not result in any environmental justice impacts.

4.11 TRANSPORTATION

4.11.1 Affected Environment

The ROI is defined as roadways and transportation systems located on Fort Totten, local secondary roads, and major arterial roads including Bell Boulevard and the Cross Island Parkway.

4.11.1.1 Roadways and Traffic

Fort Totten is accessed by Interstate 295, the Cross Island Parkway, and Bell Boulevard. The nearby Throgs Neck Bridge, just to the northwest of Fort Totten, is a prominent transportation feature in the area that links The Bronx to Queens. The Cross Island Parkway parallels Fort Totten's western boundary and connects to Totten Avenue, the entrance road to Fort Totten. Bell Boulevard is a major arterial road in the Bayside Area of Queens. There are no railway facilities, airfields, or helipads at Fort Totten. LaGuardia Airport is located approximately 4.5 miles west of the site. A Coast Guard pier is located on the southwestern shore of the Fort Totten area (Little Neck Pier).

The Totten Avenue access road reportedly experiences congested traffic conditions during drill weekends as reserve personnel are entering or exiting the Fort Totten Enclave (U.S. Army, 2005b). This condition is partly caused by the single entrance location, and inadequate POV parking which restricts more efficient access to the Enclave. The 77th RRC *Area Development Plan* includes plans for a revised entrance gate area and access road to Building 200 and associated POV lots. If implemented, these changes would be expected to reduce congestion at the gate and on Totten Avenue.

4.11.1.2 Installation Transportation

Current POV parking on-site is inadequate to meet existing requirements, especially during drill weekends. AT/FP requirements have recently reduced the number of available spaces by 110. This condition, and the current single gate access for all of Fort Totten (including the Enclave), contributes to current congested conditions at times during drill weekends.

4.11.1.3 Public Transportation

A number of local bus lines serve Queens, including service to the main gate at Fort Totten. Bus routes connect Fort Totten to the Long Island Railroad and the New York City subway systems Flushing Local line. The Long Island Railroad, approximately 2 miles south of Fort Totten, provides east-west commuter rail service. There is no public ferry or water taxi service available at Fort Totten.

4.11.2 Environmental Consequences

4.11.2.1 No Action Alternative

Under the No Action Alternative, no changes as a result of the Proposed Action would occur and current traffic levels and patterns would continue. The current inadequate POV parking situation would continue.

4.11.2.2 Realignment (Preferred) Alternative

Roadways and Traffic - Implementation of the Preferred Alternative is expected to result in negligible adverse impacts on traffic levels, due to likely negligible increases in personnel and vehicles at Fort Totten. Potential impacts on traffic flow and level of service on nearby roads are projected to be negligible. As a reserve facility, training personnel reporting for duty primarily access the site on drill weekends. This current pattern and tempo of usage would continue with only negligible changes under the Proposed Action.

Installation Transportation - The Preferred Alternative AFRC site would likely have minor beneficial impacts on vehicle traffic flow within the Enclave. Weekend drill traffic would be directed to the new AFRC area, which will have easier and closer access to the facility gate. This location would help to manage the amount of vehicle traffic that is directed through the Enclave along Duane Avenue, and reduce traffic and parking pressures in the Building 200 areas and beyond. The current inadequate on-site POV parking situation would be improved under the Proposed Action, with the addition of new POV parking in close proximity to the proposed AFRC site. When implemented, this would likely cause a minor to moderate beneficial impact, but may not by itself be adequate to fully address current Enclave parking shortages and congestion. The exact number of additional POV parking spaces that would be created under the Preferred Alternative site has not yet been finalized.

4.12 UTILITIES

4.12.1 Affected Environment

The ROI is defined as utility services on Fort Totten and any potential impacts on utility services outside of Fort Totten.

Local municipal and commercial utility companies provide all utilities for the Fort Totten Enclave. Neither the condition nor the capability of the utility infrastructure currently poses a constraint on the installation's operations.

Potable water at Fort Totten is purchased from New York City. The source of the water for the New York City distribution system is a watershed in the Catskill Mountains region of New York State. Locally, Fort Totten is served by an army-owned, central, potable water distribution system. Sanitary and approved industrial-type wastewaters are discharged into the municipal wastewater collection system of New York City. Two sewer lift stations are in operation in the immediate site area: one just outside the enclave boundary on the south side of Duane Street and one near Building 200. Electrical power is supplied to Fort Totten via a Consolidated Edison substation located just off the installation near the main gate.

4.12.1.1 Storm Water System

The Fort Totten Enclave has a current Storm Water Pollution Prevention Plan (SWPPP), updated in February 2006 (U.S. Army, 2006b). The current AMSA facilities are addressed under the U.S. Army Reserve Group Permit GP 98-03. There is an extensive storm water conveyance system on the site because of the large amount of paved areas and the shallow depth to water. The storm water drains adjacent to the current AMSA and USARC all lead to one of five outfalls located along the drainage ditch south of Building 121. The outfalls are affected by tidal action, and are equipped accordingly with tide-gate structures and backflow preventers where necessary. The outfalls drain into a tidal, vegetated, drainage ditch, which flows to Little Neck Bay, and then to Long Island Sound.

A man-made storm water retention pond approximately 100 feet in diameter is a central feature in the area between Building 200 and the Preferred Alternative site. Areas around the pond have been landscaped and are regularly mowed and maintained. A walking path, benches, and a September 11 Memorial site are also located within the park-like setting around the detention pond. Due to past problems with stagnation and mosquito breeding, efforts have been made to address these problems through the installation of a waterfall and fountain system, and the introduction of fish to the pond.

The retention pond collects storm water runoff through a system of pipes leading to it from various parts of the site, as well as receiving minor amounts of sheetflow. Some of the older, clay storm water conveyances have failed (collapsed and/or are dead-ended), and are likely contributing to a persistent wet area to the immediate north and northwest of the pond. The pond connects to a wetland area on the south side of the Enclave through a weir running under Duane Street. The weir was installed to direct overflow from the storm water retention pond, but no overflow situations have reportedly occurred (Ajodah, 2006c).

The EPA General Permit (Part IV.C) requires identification of areas having a high potential for significant soil erosion and selection of measures (BMPs) to remediate those sites. No such areas were noted at Ernie Pyle USARC during an April 2005 visit (U.S. Army, 2006b).

4.12.2 Environmental Consequences

4.12.2.1 No Action Alternative

Under the No Action Alternative, no impacts on utilities would be expected. The failed or dead-ended storm water conveyances near the retention pond would not be immediately renovated or replaced.

4.12.2.2 Realignment (Preferred) Alternative

Utilities – The Preferred Alternative AFRC site would require the extension of existing utility lines currently in place at the Fort Totten Enclave. The AFRC would be served by municipal utilities. Electrical service would likely be run from Building 206, and may require a new transformer to support the expected load of the AFRC. Telecommunications lines for the AFRC would likely be installed via tap-ins to existing fiber optic underground conduits that run from Building 200 to Building 206. Existing potable water systems are adequate to support the new AFRC. Existing sewer service is likely to be adequate to service the new AFRC, depending on the specifics of the linkage of the AFRC to the sanitary sewer system. If the lift station across Duane Street is used, upgrades to expand capacity may be necessary.

A back-up generator (likely diesel-powered) is expected to be installed at the new AFRC under the Preferred Alternative. An Above-Ground Storage Tank (AST) would be installed to service the back-up generator. Detailed specifications on the generator and AST are not yet available. Depending on the size of the back-up generator and AST, the existing Spill Prevention Control and Countermeasure plan (SPCC) may require updating.

Storm water – Storm water conveyances that are buried and have failed in the area of the retention pond are expected to be renovated or replaced during site preparation and construction activities. The existing retention pond is expected to be adequate to receive any additional storm water runoff generated by increased impervious surfaces as a result of implementation of the Preferred Alternative. A NY State Pollutant Discharge Elimination System (NYS PDES) permit for construction of the AFRC would be required. A supporting storm water, soil erosion and sediment control plan for the construction phase of the project would be necessary under CWA Section 402 requirements. A NYS PDES permit for operation of the AFRC may need to be acquired.

4.13 HAZARDOUS AND TOXIC SUBSTANCES

4.13.1 Affected Environment

4.13.1.1 Uses of Hazardous Materials

The current storage and use of hazardous and toxic materials on Fort Totten property, includes activities of a non-Army tenant organization, the Eastern Paralyzed Veterans Association located in Building 102, and activities carried out by the AMSA vehicle and equipment maintenance shops, which are currently located in Buildings 121, 123, 124, and 200. Hazardous and toxic materials include vehicle maintenance liquids, painting supplies, cleaning solvents, kerosene, gasoline, and acids. An SPCC plan and a Hazardous Waste Management Plan for

hazardous waste disposal discuss and provide guidance on the handling and disposal of hazardous wastes at the Fort Totten Enclave.

Activities at the AMSA generate negligible amounts of hazardous wastes (U.S. Army, 2005b; and U.S. Army, 2006c). There have been no significant spills or leaks during the last 3 years at the AMSA (U.S. Army, 2006b). The AMSA (designated AMSA 12(G)) is considered a RCRA small-quantity hazardous waste generator by the NYS DEC. The AMSA has been issued an EPA generator ID number of NY2213720897. Drainage from the four vehicle washrack pads at the AMSA is treated through an oil/water separator (U.S. Army, 2006b).

There are three ASTs and five underground storage tanks (USTs) at the facility. All tanks are used for heating oil. Two of the ASTs are located at building number 330 and one is located inside building number 319. The USTs are located at Buildings 118, 121/123, 128, 200 and 206.

4.13.1.2 Storage and Handling Areas

The February 2006 update of the SWPPP (U.S. Army, 2006b) included on-site evaluations of waste streams at the AMSA. Observed baseline BMPs included good housekeeping, preventive maintenance, visual inspections, spill prevention and response, updated material safety data sheets, a parts cleaner, and dry cleanup of floors. There are numerous socks, booms and cleanup pads available in close proximity to where hazardous materials are handled. Additionally, there are a limited number of areas where hazardous materials are stored in the shop, and activity areas are in close proximity to dry-sweep and spill kits. Many secondary containment devices (large heavy duty plastic trays with a grated insert) were observed in areas where waste oil or other petroleum, oil, and lubricants (POLs) were transferred from containers. Additionally, the outfall lines are fitted with units that collect grit and petroleum waste.

4.13.1.3 Hazardous Waste Disposal

Minor amounts of hazardous materials are disposed of as a result of routine vehicle maintenance activities at the AMSA. A licensed local hauler is used for transport and disposal of regulated hazardous waste.

4.13.1.4 Site Contamination Cleanup

The southeast corner of the Fort Totten Enclave includes a capped and remediated landfill. The site was a contaminated area with documented releases of naphthalene and other hazardous materials. An installation Restoration Advisory Board (RAB) was in operation during site investigation and remediation activities. The site has been fully remediated (Ajodah, 2006c). Other potential areas of concern within the Enclave have reportedly been investigated and either require no response, or were historically remediated (U.S. Army, 1999).

4.13.2 Environmental Consequences

4.13.2.1 No Action Alternative

No impacts are expected under the No Action Alternative.

4.13.2.2 Realignment (Preferred) Alternative

Under the Preferred Alternative, there would likely be no or negligible increases in the amounts of hazardous materials would be expected to be used, stored, and disposed of at the Fort Totten Enclave. This negligible increase would be due to routine operations of the new AFRC, and the existing AMSA and MEP. The small increases would be in operations and with materials that are currently in use at the Fort Totten Enclave. However, depending on operations at the AMSA, the number of waste streams and the amounts of hazardous materials used, stored, or disposed of could be reduced due to greater efficiencies and functional improvements that the AMSA could introduce for vehicle maintenance activities under the overall realignment of units to Fort Totten. No known contaminated areas are located in proximity to the Preferred Alternative site.

4.14 CUMULATIVE EFFECTS SUMMARY

A cumulative impact is defined as “the impacts on the environment that result from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertake such other actions” (40 CFR 1508.7). The section goes on to note: “such impacts can result from individually minor but collectively significant actions taking place over a period of time.” Cumulative impacts associated with implementation of the realignment (preferred) alternative would include any impacts from other on-going actions that would be incremental to the impacts of constructing the proposed AFRC and realigning units to the Fort Totten Enclave.

Only a few potential future projects have been identified within the Enclave. These projects are under consideration and their implementation would be subject to availability of funding, scheduling, and uncertainty related to the implementation of BRAC actions, in particular the disestablishment of the 77th RRC. The *Area Development Plan* (U.S. Army 2005b) identifies potential future projects that are in the preliminary planning stage. These projects include minor renovations to existing facilities, potential land acquisition along the southern portion of the Enclave near the main gate, and along Duane Street. These projects are somewhat speculative at this time. The *Area Development Plan* includes plans for a revised entrance gate area and access road to Building 200 and associated POV lots. If implemented, these changes would be expected to reduce congestion at the gate and on Totten Avenue.

4.14.1 No Action Alternative

Implementation of the No Action Alternative would avoid new impacts that could interact with the impacts of other past, present, or reasonably foreseeable actions. Therefore, there would be no cumulative impacts associated with the No Action Alternative.

4.14.2 Realignment (Preferred) Alternative

Implementation of projects under consideration in the Area Development Plan would be expected to have minor to moderate beneficial impacts on Enclave operations, including security, traffic flow, parking facilities, and overall Enclave functions and efficiency.

Under the Preferred Alternative, minor cumulative adverse impacts on the Fort Totten historic district would be expected, in combination with other potential future construction and renovation plans. A cumulative increase in the amount of impervious surfaces within the Enclave would be expected. However, the impacts of this increase would likely be reduced through the renovation of storm water conveyances, and through the use of BMPs, such as revised storm water management plans and erosion and sediment control plans.

4.15 MITIGATION SUMMARY

The Army and the NYSHPO identified potential adverse impacts that could occur on historic and archaeological resources at or near to the proposed site. An MOA to be signed by the Army and the NYSHPO will detail mitigation measures required to be undertaken in regards to facility design and materials to mitigate potential effects on the adjacent historic district. Once all of the mitigation measures detailed in the MOA are met, the site would be cleared by the NYSHPO.

The Army and the NYSHPO identified potential adverse impacts that could occur at a prehistoric archaeological site documented by the Army during a Phase I survey. The Army and the NYSHPO concluded that the site is eligible for listing in the NRHP. Appropriate mitigation measures will be detailed in the MOA to reduce potential adverse effects on archaeological resources. These measures will be implemented prior to and during site clearing and construction (as applicable), to ensure that project effects will not be significant.

Based on the findings of the EA and implementation of the mitigation measures detailed in the MOA, none of the predicted effects of the proposed realignment actions would result in significant impacts; therefore, additional mitigation is not needed. However, the Army may consider the use of BMPs in the construction and operation of the AFRC, including specific measures to reduce potential erosion, storm water runoff, and sediment transport during site preparation and construction activities. In summary, implementation of the proposed action will not require the preparation of an Environmental Impact Statement. Preparation of a FNSI is appropriate.

5.0 FINDING AND CONCLUSIONS

5.1 FINDINGS

5.1.1 Consequences of No Action Alternative

Under the No Action Alternative, the proposed new AFRC and associated facilities would not be constructed, and no environmental impacts would occur.

5.1.2 Consequences of Realignment (Preferred) Alternative

The Proposed Action would not have any significant adverse impacts on any of the environmental or related resource areas at Fort Totten or to areas surrounding the post.

The potential impacts associated with the realignment (preferred) alternative are anticipated to be minor and would not be significant. These impacts would be primarily experienced in the following resource areas:

- Cultural Resources
- Installation Transportation
- Utilities

A summary of impacts by resource area for the No Action Alternative and the realignment (preferred) alternative is provided in Table 5-1.

5.2 CONCLUSIONS

None of the predicted effects of the Proposed Action would result in significant impacts. Mitigation measures will be necessary to reduce potential impacts on cultural and historical resources. An MOA between the Army and the NYSHPO will detail the required mitigation measures. Therefore, the results of the analyses warrant issuance of a Finding of No Significant Impact (FNSI).

**Table 5-1: Summary of Impacts of the No Action Alternative
and the Realignment (Preferred) Alternative**

Resource	No Action Alternative	Realignment (Preferred) Alternative
Land Use		
<i>Regional Geographic Setting and Location</i>	None. No significant impact.	None. No significant impact.
<i>Installation Land Use</i>	None. No significant impact.	Negligible to Minor – consistent with Fort Totten Area Development Plan. No significant impact.
<i>State Coastal Management Program</i>	None. No significant impact.	None. Concurrence from NYS Department of State pending. No significant impact.
<i>Current and Future Development in the Region of Influence</i>	None. No significant impact.	None. No significant impact.
Aesthetic and Visual Resources	None. No significant impact.	Negligible. No significant impact.
Air Quality		
<i>Ambient Air Quality Conditions</i>	None. No significant impact.	Negligible. No significant impact.
<i>Air Pollutant Emissions at Installation</i>	None. No significant impact.	Negligible. No significant impact.
<i>Regional Air Pollutant Emissions Summary</i>	None. No significant impact.	Negligible. No significant impact.
Noise	None. No significant impact.	Negligible short-term impacts due to construction activities. No significant impact.
Geology and Soils		
<i>Geologic and Topographic Conditions</i>	None. No significant impact.	None. No significant impact.
<i>Soils</i>	None. No significant impact.	Minor due to site disturbance. No significant impact.
Water Resources		
<i>Surface Water</i>	None. No significant impact.	Minor beneficial due to storm water conveyance improvements. No significant impact.
<i>Hydrogeology/Groundwater</i>	None. No significant impact.	None. No significant impact.
<i>Floodplains</i>	None. No significant impact.	None. No significant impact.
<i>Coastal Zone</i>	None. No significant impact.	None. NYS Department of State concurrence with Coastal Zone Consistency Determination is pending. No significant impact.
Biological Resources		
<i>Vegetation</i>	None. No significant impact.	Minor due to vegetation removal at site. No significant impact.
<i>Wildlife</i>	None. No significant impact.	None. No significant impact.
<i>Sensitive Species</i>	None. No significant impact.	None. No significant impact.
<i>Wetlands</i>	None. No significant impact.	None. No significant impact.
Cultural Resources		

Resource	No Action Alternative	Realignment (Preferred) Alternative
<i>Prehistoric and Historic Background</i>	None. No significant impact.	Expected minor impacts on viewshed of designated Fort Totten Historic District. MOA between Army and NYSHPO will include mitigation measures to reduce potential impacts. No significant impact.
<i>Status of Cultural Resource Inventories and Section 106 Consultations</i>	None. No significant impact.	Potential for adverse impacts. Phase IA/IB investigations completed in November 2006 and report submitted to NYSHPO. MOA between Army and NYSHPO will include mitigation measures to reduce mitigation measures to below adverse levels. No significant impact.
<i>Native American Resources</i>	None. No significant impact.	Phase IA/IB investigations completed in November 2006 and report submitted to NYSHPO. MOA between Army and NYSHPO will include mitigation measures to reduce mitigation measures to below adverse levels. No significant impact.
Socioeconomics		
<i>Economic Development</i>	None. No significant impact.	Minor beneficial impacts as a result of temporary construction jobs. No significant impact.
<i>Environmental Justice</i>	None. No significant impact.	None. No significant impact.
Transportation		
<i>Roadways and Traffic</i>	None. No significant impact.	Negligible. No significant impact.
<i>Installation Transportation</i>	None. No significant impact.	Minor beneficial due to improved vehicle flow and POV parking capacity. No significant impact.
<i>Public Transportation</i>	None. No significant impact.	None. No significant impact.
Utilities		
<i>Potable Water Supply</i>	None. No significant impact.	None. No significant impact.
<i>Wastewater System</i>	None. No significant impact.	Potential minor impacts if lift station improvements are necessary. No significant impact.
<i>Storm water System</i>	None. No significant impact.	Likely minor beneficial impacts with rehabilitation of failed clay storm water conveyances. No significant impact.
<i>Energy Sources</i>	None. No significant impact.	Minor if new transformer is required. No significant impact.
<i>Communications</i>	None. No significant impact.	None. No significant impact.
<i>Solid Waste</i>	None. No significant impact.	None. No significant impact.
Hazardous and Toxic Substances		
<i>Uses of Hazardous Materials</i>	None. No significant impact.	None. No significant impact.
<i>Storage and Handling Areas</i>	None. No significant impact.	None. No significant impact.
<i>Hazardous Waste Disposal</i>	None. No significant impact.	None. No significant impact.
<i>Site Contamination and Cleanup</i>	None. No significant impact.	None. No significant impact.

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Name	Title	Education/Responsibility	Experience
Ravi Ajodah	Fort Totten Environmental Division	M.S. Environmental Technology B.S. Environmental Studies. Senior Environmental Scientist responsible for management of the BRAC NEPA document preparation.	8 years

The Louis Berger Group, Inc.

Name	Title	Education/Responsibility	Experience
Erin Andersen	Production Specialist	B.A. Sociology	7 years
Najja Bracey	Economist	M.A. International Relations and Economics. Responsible for Socioeconomic sections and EIFS modeling	4 years
Rebecca Byron	Environmental Scientist	B.S. Environmental Science and Policy. Responsible for Air Quality and Administrative Record.	1 year
Timothy Canan, AICP	Program Manager and Senior Planner	M.U.R.P. Urban and Regional Planning. Responsible for project management and all sections prepared by Louis Berger staff.	17 years
Edward J. Cherian	Project Manager and Senior Planner	M.P.A Public Administration B.A. Public Policy Responsible for project management and all sections prepared by Louis Berger staff.	19 years
Jess Commerford, AICP	Senior Vice President	B.G.S. Political Science. M.S. Urban and Regional Planning. Responsible for all sections prepared by Louis Berger staff.	17 years
Amy Dixon	Architectural Historian	M.A. Historic Preservation Planning B.A. Art History and English. Responsible for Historic Resources.	7 years
Tim Gaul	Senior Environmental Scientist/GIS Specialist	B.S. Environmental and Forest Biology, M.S. Biology. Responsible for all Geographic Information System analysis and mapping.	7 years
Amanda Goebel	Urban and Regional Planner	B.A. Environmental Science and Biology, M.S. Urban and Regional Planning. Responsible for Air Quality.	6 years

Name	Title	Education/Responsibility	Experience
Alan Karnovitz	Senior Economist	B.S. Natural Resource Science, M.P.P. Public Policy. Responsible for all sections prepared by Louis Berger staff.	24 years
Hope Luhman	Senior Archaeologist	PhD Anthropology M.A. Anthropology M.A. Social Relations. Responsible for Cultural Resources.	20 years
Spence Smith	Marine Scientist	M.A. Biology. B.S. Zoology. Responsible for task management and all sections prepared by Louis Berger staff.	9 years

7.0 AGENCIES CONTACTED

This section identifies local, state and federal agencies that were contacted or consulted during the EA process.

Federal Officials and Agencies

U.S. Fish and Wildlife Service, New York Field Office

State Officials and Agencies

New York State Department of Environmental Conservation, Division of Environmental Permits

New York State Natural Heritage Program

New York State Office of Parks, Recreation, and Historic Preservation – Historic Preservation Field Services Bureau

New York State Department of State, Division of Coastal Resources

Local Government Officials and Agencies

New York City Department of City Planning

Libraries

Bay Terrace Library - 18-36 Bell Boulevard, Bayside, NY 11360

Whitestone Library - 151-10 14 Road, Whitestone, NY 11357

Bayside Library - 214-20 Northern Boulevard, Bayside, NY 11361

Media

Times-Ledger (Queens, NY)

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- Queens :
http://nces.ed.gov/ccd/schoolsearch/school_list.asp?Search=1&InstName=&SchoolID=&Address=&City=&State=36&Zip=&Miles=&County=queens&PhoneAreaCode=&Phone=&DistrictName=&DistrictID=&SchoolType=1&SchoolType=2&SchoolType=3&SchoolType=4&SpecificSchlTypes=all&IncGrade=-1&LoGrade=-1&HiGrade=-1
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mt_name=DEC_2000_SF3_U_H015&-mt_name=DEC_2000_SF3_U_H085&-tree_id=403&-redoLog=false&-all_geo_types=N&-geo_id=05000US36059&-geo_id=05000US36081&-search_results=01000US&-format=&-_lang=en. Accessed June 2006.

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9.0 LIST OF ACRONYMS

AEPI	U.S. Army Environmental Policy Institute
AFRC	Armed Forces Reserve Center
AIRFA	American Indian Religions Freedom Act
AMSA	Area Maintenance Support Activity
AQI	Air Quality Index
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
AT/FP	Anti-Terrorism/Force Protection
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
BRAC Commission	Base Realignment and Closure Commission
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as SuperFund)
CERL	Construction Engineering Research Laboratory
CFR	Code of Federal Regulations
CMP	Coastal Management Program
CO	carbon monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DD	Defense Department
DoD	Department of Defense
EA	Environmental Assessment
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FNSI	Finding of No Significant Impact

ft ²	Square Feet
GIS	Geographic Information System
HQ	Headquarters
HVAC	Heating, Ventilation, and Air Conditioning
LWRP	Local Waterfront Revitalization Program
MEP	Military Equipment Parking
MOA	Memorandum Of Agreement
MP	Military Police
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NO _x	Nitrogen oxides
NOI	Notice of Intent
NPV	Net Present Value
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NYS DEC	New York State Department of Environmental Conservation
NYS DOS	New York State Department of State
NYSHPO	New York State Historic Preservation Officer
NYS PDES	New York State Pollutant Discharge Elimination System
O ₃	Ozone
Pb	lead
PM ₁₀	particles with a diameter less than or equal to a nominal 10 micrometers
PM _{2.5}	particles with a diameter less than or equal to a nominal 2.5 micrometers
ppm	parts per million
POL	petroleum, oils, and lubricants
POV	Privately-Owned Vehicle
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RRC	Regional Readiness Command
RTV	Rational Threshold Value
Sec.	Section

SIP	State Implementation Plan
SO ₂	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasure plan
SWPPP	Storm Water Pollution Prevention Plan
TPY	tons per year
TSCA	Toxic Substances Control Act
ug/m ³	micrograms per cubic meter
USACE	U.S. Army Corps of Engineers
USARC	U.S. Army Reserve Center
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WRP	Waterfront Revitalization Program

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APPENDIX A— FEDERAL AND STATE COORDINATION LETTERS

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The Historic Preservation Review Process in New York State

In order to insure that historic preservation is carefully considered in publicly-funded or permitted undertakings*, there are laws at each level of government that require projects to be reviewed for their potential impact/effect on historic properties. At the federal level, Section 106 of the National Historic Preservation Act of 1966 (NHPA) directs the review of federally funded, licensed or permitted projects. At the state level, Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980 performs a comparable function. Local environmental review for municipalities is carried out under the State Environmental Quality Review Act (SEQRA) of 1978.

regulations on line at:

<http://nysparks.com> then select **HISTORIC PRESERVATION** then select **Environmental Review**

Project review is conducted in two stages. First, the Field Services Bureau assesses affected properties to determine whether or not they are listed or eligible for listing in the New York State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures.

ALL PROJECTS SUBMITTED FOR REVIEW SHOULD INCLUDE THE FOLLOWING MATERIAL(S).

Project Description

Attach a full description of the nature and extent of the work to be undertaken as part of this project. Relevant portions of the project applications or environmental statements may be submitted.

Maps Locating Project

Include a map locating the project in the community. The map must clearly show street and road names surrounding the project area as well as the location of all portions of the project. Appropriate maps include tax maps, Sanborn Insurance maps, and/or USGS quadrangle maps.

Photographs

Photographs may be black and white prints, color prints, or color laser/photo copies; standard (black and white) photocopies are NOT acceptable.

-If the project involves rehabilitation, include photographs of the building(s) involved. Label each exterior view to a site map and label all interior views.

-If the project involves new construction, include photographs of the surrounding area looking out from the project site. Include photographs of any buildings (more than 50 years old) that are located on the project property or on adjoining property.

NOTE: Projects submissions will not be accepted via facsimile or e-mail.

***Undertaking** is defined as an agency's purchase, lease or sale of a property, assistance through grants, loans or guarantees, issuing of licenses, permits or approvals, and work performed pursuant to delegation or mandate.



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

July 31, 2006

Virginia Bartos
State Historic Preservation Office
Peebles Island Resource Center
PO Box 189
Waterford, NY 12188-0189

RE: Intergovernmental and Interagency Coordination of Environmental Planning (IICEP) for the Fort Totten Realignment Environmental Assessment.

Dear Ms. Bartos:

On behalf of the Department of the Army (DA), The Louis Berger Group Inc. is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended that the USAR close several US Army Reserve Centers (USARCs) in the local region and relocate the units to a new AFRC to be constructed at Fort Totten, NY. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. To enable implementation of these recommendations, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten.

The EA will analyze and document potential environmental effects associated with the U.S. Army's proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC would be an approximately 30,000 square feet (ft²) 2-story structure located on existing Army-owned land (Enclosure 1 and 2), and would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, a new privately-owned vehicle (POV) parking lot would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

In accordance with NEPA and the National Historic Preservation Act (NHPA), an evaluation of the potential impacts associated with implementing this action is required. We are requesting your further input concerning this action with regard to any cultural resource concerns.

The proposed location for the AFRC is immediately northwest of the storm water retention pond and approximately 150 feet south of the Fort Totten Historic District, an enclave of late 19th and early 20th century buildings (Enclosure 2). The enclosed photographs show the proposed building location, views from the site toward the Historic District, and those buildings in the District that are nearest the site (Photos 1-7). New construction will result in ground disturbance limited to the approximately 6-acre site surrounding the storm water retention pond. A Phase 1 study of the project site will be conducted in August 2006 and the results will be coordinated with your office.



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

I would like to thank you in advance for your cooperation in this matter. Please provide any comments to me at the address listed above or fax your response to my attention at 603-644-5220. If you have any questions concerning this request, please do not hesitate to contact me at 603-644-5200.

Sincerely,

Edward Cherian
Project Manager
The Louis Berger Group Inc.

cc Ravi Ajodah, U.S. Army 77th Regional Readiness Command

Enclosures



New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

August 30, 2006

Ravi Ajodah
JM Waller Associates
HQ 77th Regional Support Command
US ARMY Reserve
Ft. Totten, New York 11359-1016

Re: DEC, USFWS
Construction of Armed Forces Reserve Cntr
Fort Totten/Bayside
QUEENS, Queens County
06PR04361

Dear Mr. Ajodah:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966.

Michael Schifferli of our archeology unit has reviewed the project and it is the opinion of the SHPO that an archeological survey is warranted. I have enclosed a copy of the archeology comments for your review and use. If you have any questions related to archeology, please contact Mr. Schifferli at 518-237-8643.

The proposed new construction is located across from buildings that are part of the Fort Totten Historic District that is eligible for listing in the National Register of Historic Places. Because of this, we will need to review the project for its potential impact on the historic district. Please send us the following items so that we can continue our review:

1. An existing conditions and a proposed site plan.
2. Proposed elevation drawings of all sides of the new construction.
3. Photos of the buildings in the Fort Totten Historic District that are visible from the new construction keyed to a site plan or map.

I have enclosed a copy of our guidelines for new construction for your architect to review and use. Please be sure to refer to the OPRHP Project Review (PR) number noted above in your response and call me at 518-237-8643, ext. 3252 if you have any questions.

Sincerely,

Sloane Bullough
Historic Sites Restoration Coordinator

Enclosures

New York State Office of Parks, Recreation & Historic Preservation
New York State Historic Preservation Office

Guide to New Construction

1. New additions to an historic property can include new construction physically attached to an historic resource—such as appendage to a building—or may be a separate new piece of construction having nearby historic counterparts, such as a new building, bridge, road or path adjacent to a similar historic resource. They may also include new installations that are completely contemporary in nature, such as utility towers and service, parking facilities, play equipment, street lighting or signage systems.
2. Any new addition should be located in a manner that allows historic features to remain the primary visual and physical components of the historic property. Considerations include characteristics such as density, orientation, scale and form of features both within the historic property and its setting.
3. Attached additions, such as a building appendage, should be somewhat smaller in scale although similar in overall form to the historic feature. Separate new construction, such as a new building along an historic street or a new path within an historic park, should be of the same general scale or size as adjacent historic counterparts. Considerations include overall dimensions, as well as size of significant features—such as roof slopes and overall height, or road width and general alignment. A general rule of thumb is that the new construction falls within 10% of the scale of historic equivalents.
4. Additions to historic properties should reflect the shape or form of similar adjacent historic counterparts. When shape is determined by strict geometric arrangements—for example, the combination of rectilinear components to form buildings or the 90-degree grid of streets and blocks that delineate a village or neighborhood, these same forms should be reflected in contemporary additions. If historic forms are more organic or free flowing, as might be the case in the arrangement of structures on a farmstead or in the overall layout of a trail system, such forms should guide the design of new construction.
5. New construction should be comprised of individual features comparable, but not identical, to those of similar historic properties. For example in an historic district characterized by dwellings having front porches, paired windows and dormers, new buildings should include these same features. The addition of contemporary new construction having no historic precedent—such as surface parking lots, accessibility ramps or security fencing—should be detailed in a manner that avoids false historicism, and instead consists of features typical of present-day stylistic trends.

6. Materials used in new construction should be compatible with those of corresponding historic properties and their features. Additions having historic counterparts should reflect the overall pattern, texture and color of materials found at the historic property; for example, a new outbuilding should complement an historic main building in application of roof, cladding and foundation materials. Contemporary new additions, such as retaining walls or cross-walks, should use materials that complement those of an historic property without conveying a false historic image.

ARCHEOLOGY COMMENTS
06PR04361

Based on reported resources, there is an archeological site in or adjacent to your project area. Therefore the Office of Parks, Recreation and Historic Preservation (OPRHP) recommends that a Phase 1 archeological survey is warranted for all portions of the project to involve ground disturbance, unless substantial prior ground disturbance can be documented. If you consider the project area to be disturbed, documentation of the disturbance will need to be reviewed by OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition.

A Phase 1 survey is designed to determine the presence or absence of archeological sites or other cultural resources in the project's area of potential effect. The OPRHP can provide standards for conducting cultural resource investigations upon request. Cultural resource surveys and survey reports that meet these standards will be accepted and approved by the OPRHP.

Our office does not conduct cultural resources surveys. A 36 CFR 61 qualified archeologist should be retained to conduct the Phase 1 survey. Many archeological consulting firms advertise their availability in the yellow pages. The services of qualified archeologists can also be obtained by contacting local, regional, or statewide professional archeological organizations. Phase 1 surveys can be expected to vary in cost per mile of right-of-way or by the number of acres impacted. We encourage you to contact a number of consulting firms and compare examples of each firm's work to obtain the best product.

Documentation of ground disturbance should include a description of the disturbance with confirming evidence. Confirmation can include current photographs and/or older photographs of the project area which illustrate the disturbance (approximately keyed to a project area map), past maps or site plans that accurately record previous disturbances, or current soil borings that verify past disruptions to the land. Agricultural activity is not considered to be substantial ground disturbance and many sites have been identified in previously cultivated land.

Please also be aware that a Section 233 permit from the New York State Education Department (SED) may be necessary before any archeological survey activities are conducted on State-owned land. If any portion of the project includes the lands of New York State you should contact the SED before initiating survey activities. The SED contact is Christina B. Rieth and she can be reached at (518) 402-5975. Section 233 permits are not required for projects on private lands.

If you have any questions concerning archeology, please contact Michael Schifferli at 518-237-8643. ext 3281



DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY 77TH REGIONAL READINESS COMMAND
FORT TOTTEN
FLUSHING, NY 11359-1016

December 4, 2006

REPLY TO
ATTENTION OF

Army Reserve Installation Management

Ms. Sloane Bullough
New York State Office of Parks,
Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

Dear Ms. Bullough:

The Department of Army (DA) working with the 77th Regional Readiness Command (RRC) has completed a Phase I Archeological Survey. This was completed as part of the ongoing assessment of the potential impacts of new construction on potentially significant cultural resources at Fort Totten in Queens County (Project #06PR04361). Enclosed please find a copy of the final version of the Phase I for your review.

Correspondence or requests for information regarding this matter should be directed to Mr. Ravi Ajodah, Environmental Scientist, JM Waller Associates/ 77th RRC at (718) 352-5155 or ravi.ajodah@usar.army.mil. Mail correspondence should be sent to the following address:

HQ, 77th Regional Support Command, US Army Reserve
AFRC-CNY-EN-E, Bldg 200
Ft. Totten, NY 11359-1016
(ATTN: Ravi Ajodah)

Sincerely,

A handwritten signature in black ink, appearing to read "R. Ramsdell", written in a cursive style.

Richard C. Ramsdell
Facility Management Officer

Enclosure



PROJECT REVIEW COVER FORM Rev. 5-05

*Please complete this form and attach it to the top of **any and all information submitted to this office** for review.
 Accurate and complete forms will assist this office in the timely processing and response to your request.*

This information relates to a previously submitted project.

PROJECT NUMBER 06 PR 04361

COUNTY Queens

If you have checked this box and noted the previous Project Review (PR) number assigned by this office you do not need to continue unless any of the required information below has changed.

2. This is a new project. If you have checked this box you will need to complete ALL of the following information.

Project Name U.S.Army BRAC-Construction of Armed Forces Reserve Center at Fort Totten

Location 200 Duane Street
 You MUST include street number, street name and/or County, State or Interstate route number if applicable

City/Town/Village Fort Totten, Town of Bayside
 List the correct municipality in which your project is being undertaken. If in a hamlet you must also provide the name of the town.

County Queens
 If your undertaking* covers multiple communities/counties please attach a list defining all municipalities/counties included.

TYPE OF REVIEW REQUIRED/REQUESTED (Please answer both questions)

A. Does this action involve a permit approval or funding, now or ultimately from any other governmental agency?

No Yes

If Yes, list agency name(s) and permit(s)/approval(s)

Agency involved	Type of permit/approval	State	Federal
<u>Department of the Army</u>	<u>Funding</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>NY DEC</u>	<u>Review</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>U.S. Fish and Wildlife</u>	<u>Review</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

B. Have you consulted the NYSHPO web site at **<http://nysparks.com>** to determine the preliminary presence or absence of previously identified cultural resources within or adjacent to the project area? If yes:**

Yes No

Was the project site wholly or partially included within an identified archeologically sensitive area? Yes No

Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the NY State or National Registers of Historic Places? Yes No

CONTACT PERSON FOR PROJECT			
Name <u>Ravi Ajodah</u>	Title <u>Environmental Scientist</u>		
Firm/Agency <u>JM Waller Assoc./77th Army Reserve Installation Management</u>			
Address <u>AFRC-CNY-EN-E, Bldg. 200</u>	City <u>Fort Totten</u>	STATE <u>NY</u>	Zip <u>11359-1016</u>
Phone <u>(718) 352-5155</u>	Fax <u>(718) 352-5674</u>	E-Mail <u>ravi.ajodah@usar.army.mil</u>	

****<http://nysparks.com>** then select **HISTORIC PRESERVATION** then select **On Line Resources**

The Historic Preservation Review Process in New York State

In order to insure that historic preservation is carefully considered in publicly-funded or permitted undertakings*, there are laws at each level of government that require projects to be reviewed for their potential impact/effect on historic properties. At the federal level, Section 106 of the National Historic Preservation Act of 1966 (NHPA) directs the review of federally funded, licensed or permitted projects. At the state level, Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980 performs a comparable function. Local environmental review for municipalities is carried out under the State Environmental Quality Review Act (SEQRA) of 1978.

regulations on line at:

<http://nysparks.com> then select **HISTORIC PRESERVATION** then select **Environmental Review**

Project review is conducted in two stages. First, the Field Services Bureau assesses affected properties to determine whether or not they are listed or eligible for listing in the New York State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures.

ALL PROJECTS SUBMITTED FOR REVIEW SHOULD INCLUDE THE FOLLOWING MATERIAL(S).

Project Description

Attach a full description of the nature and extent of the work to be undertaken as part of this project. Relevant portions of the project applications or environmental statements may be submitted.

Maps Locating Project

Include a map locating the project in the community. The map must clearly show street and road names surrounding the project area as well as the location of all portions of the project. Appropriate maps include tax maps, Sanborn Insurance maps, and/or USGS quadrangle maps.

Photographs

Photographs may be black and white prints, color prints, or color laser/photo copies; standard (black and white) photocopies are NOT acceptable.

-If the project involves rehabilitation, include photographs of the building(s) involved. Label each exterior view to a site map and label all interior views.

-If the project involves new construction, include photographs of the surrounding area looking out from the project site. Include photographs of any buildings (more than 50 years old) that are located on the project property or on adjoining property.

NOTE: Projects submissions will not be accepted via facsimile or e-mail.

***Undertaking** is defined as an agency's purchase, lease or sale of a property, assistance through grants, loans or guarantees, issuing of licenses, permits or approvals, and work performed pursuant to delegation or mandate.



New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

December 8, 2006

Ravi Ajodah
Environmental Scientist
JM Waller Associates
AFRC-CNY-EN, Bldg 200
Fort Totten, NY 11359-1016

Dear Mr. Ajodah,

Re: ACOE/ARMY - BRAC Program
77th Regional Readiness Command
Proposed Administration Building
Fort Totten, Queens County, NY
06PR04361

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO) with regard to your project's potential to affect historic resources eligible for the National Register of Historic Places. This project will be reviewed in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. SHPO has received and reviewed the Phase I archaeological Survey prepared by the Louis Berger Group in November 2006. This review identified an archaeological site, the Little Bay Site, which has been assigned Unique Site Number (USN) A08101.011172 in the SHPO inventory of historic resources.

After reviewing the data on this site presented in the report, it is the opinion of the SHPO that the Little Bay Site is eligible for listing in the National Register of Historic Places for its potential to provide important information that will add to our understanding of prehistoric utilization of the western end of Long Island. This site should be considered very significant as many sites in the vicinity have already been destroyed by the development of the Queens area in recent history and the lack of professional archaeological study of the area. Additionally, the material already identified (shell midden, temporally diagnostic artifacts) indicate that the site has a high potential to contains several types of significant data.

After reviewing the construction plans for this project, it is the opinion of the SHPO that the proposed work will create and Adverse Effect on the Little Bay Site. SHPO recommends that if these effects can not be avoided, measures should be developed to mitigate the adverse effect of the proposed project. SHPO will be happy to continue to consult with you to develop appropriate mitigation measures.

Please contact me at Douglas.mackey@oprhp.state.ny.us or by phone at 518.237.8643, extension 3291 if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey
Historic Preservation Program Analyst,
Archaeology



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

July 31, 2006

John Cryan, Regional Permit Administrator
New York State Department of Environmental Conservation
Division of Environmental Permits
One Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407

RE: Intergovernmental and Interagency Coordination of Environmental Planning (IICEP) for the Fort Totten Realignment Environmental Assessment.

Dear Mr. Cryan:

On behalf of the Department of the Army (DA), The Louis Berger Group Inc. is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended that the USAR close several US Army Reserve Centers (USARCs) in the local region and relocate the units to a new AFRC to be constructed at Fort Totten, NY. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. To enable implementation of these recommendations, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten.

The EA will analyze and document potential environmental effects associated with the U.S. Army's proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC would be an approximately 30,000 square feet (ft²) 2-story structure located on existing Army-owned land (Enclosure 1 and 2), and would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, a new privately-owned vehicle (POV) parking lot would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

In accordance with the National Environmental Policy Act, Endangered Species Act, and Fish and Wildlife Coordination Act, an evaluation of the potential effects (both beneficial and adverse) associated with implementing this action is required. The affected areas where the construction of the AFRC and associated parking lot will occur are shown in Enclosures 1 and 2. Construction activities will be conducted in accordance with local practices and standards.



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

Previously, a biological assessment of Ernie Pyle USARC and the Adjacent Fort Totten Grounds was conducted in 2005. As part of that assessment and in response to a request for information on state listed animals and plants the NYS DEC indicated by letter dated June 28, 2005 (attached as Enclosure 3) that "We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site." Additionally, no state-listed plants or animals were found during the surveys conducted for the biological assessment (Terrestrial Environmental Specialists, Inc, 2005).

In light of the previous correspondence relating to this site, we are seeking confirmation from the NYS DEC that conditions have not changed since June 2005 and that this BRAC-related action at Fort Totten will not impact any of the trust resources of the State of New York.

I would like to thank you in advance for your cooperation in this matter. Please provide any comments to me at the address listed above or fax your response to my attention at 603-644-5220. If you have any questions concerning this request, please do not hesitate to contact me at 603-644-5200.

Sincerely,

Edward Cherian
Project Manager
The Louis Berger Group Inc.

cc Ravi Ajodah, U.S. Army 77th Regional Readiness Command

Enclosures



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

July 31, 2006

Robyn Niver
U.S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045-9349

RE: Intergovernmental and Interagency Coordination of Environmental Planning (IICEP) for the Fort Totten Realignment Environmental Assessment.

Dear Ms. Niver:

On behalf of the Department of the Army (DA), The Louis Berger Group Inc. is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended that the USAR close several US Army Reserve Centers (USARCs) in the local region and relocate the units to a new AFRC to be constructed at Fort Totten, NY. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. To enable implementation of these recommendations, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten.

The EA will analyze and document potential environmental effects associated with the U.S. Army's proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC would be an approximately 30,000 square feet (ft²) 2-story structure located on existing Army-owned land (Enclosure 1 and 2), and would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, a new privately-owned vehicle (POV) parking lot would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Previously, a biological assessment of Ernie Pyle USARC and the Adjacent Fort Totten Grounds was conducted in 2005. As part of that assessment, and in response to a request for listed species information in the vicinity of the Fort Totten Military Reservation, the USFWS indicated by letter (dated May 26, 2005 and attached as Enclosure 3) that "Except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species under our jurisdiction are known to exist within the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat"...and no further ESA coordination or consultation with the U.S. Fish and Wildlife Service (Service) is required." Based on the conclusions of this previous assessment and a review of federally listed species for Queens County, NY it is believed that the proposed undertaking will not impact any federally listed threatened or endangered species. In accordance with Section 7 of the Endangered Species Act (ESA) an evaluation of the potential impacts associated with implementing this action is required. We are seeking confirmation from the USFWS that no additional or formal consultation under Section 7 of the ESA is required for the proposed BRAC-related action at Fort Totten.



The Louis Berger Group Inc.

1001 Elm Street, Suite 203, Manchester, New Hampshire 03101 USA
Tel: (603) 644 - 5200 Fax: (603) 644 - 5220 www.louisberger.com

I would like to thank you in advance for your cooperation in this matter. Please provide any comments to me at the address listed above or fax your response to my attention at 603-644-5220. If you have any questions concerning this request, please do not hesitate to contact me at 603-644-5200.

Sincerely,

Edward Cherian
Project Manager
The Louis Berger Group Inc.

cc Ravi Ajodah, U.S. Army 77th Regional Readiness Command

Enclosures



United States Department of the Interior



FISH AND WILDLIFE SERVICE

In Reply Refer To:
FWS/R5/ES-LIFO/2007-FA-0020

3817 Luker Road
Cortland, NY 13045

October 30, 2006

Mr. Edward Cherian
Project Manager
The Louis Berger Group, Inc.
1001 Elm Street, Suite 203
Manchester, NH 03101

Dear Mr. Cherian:

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided to our office via correspondence dated July 31, 2006, concerning the proposed realignment actions being considered for the U.S. Army's Fort Totten Base in Queens County, New York.

Pursuant to your request for informal consultation under the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Service has determined that the proposed realignment actions will have no effect on Federally-listed species under jurisdiction of this agency, as the proposed project does not support listed species or critical habitat. Therefore, no further consultation is required by the Department of the Army concerning this action. However, should the project description change or additional information become available regarding the status of listed or candidate species, or their critical habitat, this determination may be reconsidered.

Thank you for the opportunity to assist you with this consultation. If you have any questions or require further assistance, please contact Steve Papa of the Long Island Field Office at (631) 581-2941.

Sincerely,


David A. Stilwell
Field Supervisor



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY 77TH REGIONAL READINESS COMMAND
FORT TOTTEN
FLUSHING, NY 11359-1016

September 7, 2006

Army Reserve Installation Management

Jeff Zappieri
New York State Department of State
Division of Coastal Resources
Attn: Consistency Unit
41 State Street – 8th Floor
Albany, NY 12231

RE: New York State Coastal Consistency for the Fort Totten Realignment Environmental Assessment.

Dear Mr. Zappieri:

The Department of the Army (DA) is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that the USAR close several US Army Reserve Centers (USARCs) in the local region and relocate the units to a new AFRC to be constructed at Fort Totten, NY. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. To enable implementation of these recommendations, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten.

The EA will analyze and document potential environmental effects associated with the U.S. Army’s proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC would be an approximately 75,000 square feet (ft²) 2-story structure located on existing Army-owned land immediately northwest of the existing storm water retention pond and approximately 150 feet south of the Fort Totten Historic District (Enclosure 1 and 2). The new AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, an approximately 39,000 ft² new privately-owned vehicle (POV) parking lot would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances into the existing storm water pond, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and

security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Fort Totten is located within the Coastal Zone Boundary of the State of New York and the DA is initiating this consultation in accordance with the *Coastal Zone Management Act of 1972* and New York State's *Waterfront Revitalization and Coastal Resource Act of 1981*. After discussions with Mr. Gary Haight of your office, the DA has completed a New York State Department of State Coastal Management Program Federal Consistency Assessment Form for the project and attached it as Enclosure 3 with supporting information addressing "Yes" responses to the Policy Questions attached as Enclosure 4.

The DA has determined that the proposed project to construct a new AFRC at Fort Totten, NY is consistent with the New York State Department of State Coastal Policies and is seeking the State's confirmation of this determination.

Fort Totten is also located within the area covered by The City of New York's state approved Local Waterfront Revitalization Program (LWRP). A copy of this plan was obtained from the New York City Department of City Planning Waterfront Revitalization Program (WRP) website.¹ According to the WRP, the project site is not located in a Significant Maritime and Industrial Area or a Special Natural Waterfront Area, and is not located in or adjacent to a Significant Coastal Fish and Wildlife Habitat. The DA is also initiating consultation with the City of New York under a separate letter and is seeking confirmation from their office of our determination that the proposed project is consistent with their WRP policies.

I would like to thank you in advance for your cooperation in this matter. Any correspondences regarding this action should be sent to Mr. Ravi Ajodah who can be contacted at (718) 352-5155, via e-mail at ravi.ajodah@usar.army.mil or the address above.

Sincerely,



Richard C. Ramsdell
Facility Management Officer

Enclosures

¹ <http://www.nyc.gov/html/dcp/html/wrp/wrp.shtml>

Enclosure 1
Project Location for BRAC Proposed Action Alternative–
USGS Topographic Quadrangles



Legend

 Fort Totten Boundary



0 0.25 0.5
Miles

Sources: Fort Totten, ESRI, USGS
 Coordinate System: NAD 1983
 State Plane New York Long
 Island FIPS 3104 Feet
 Prepared By: The Louis Berger Group

MAP INDEX



Fort Totten
USGS Quad Map - Flushing

Enclosure 2

Proposed AFRC Site Layout



Legend

-  Fort Totten Historic District Boundary
-  Individually Historic Structure



0 100 200
Feet

Sources: Fort Totten. Imagery from 2002

Coordinate System:
UTM, NAD 1983, Zone 18, Meters
Prepared By: The Louis Berger Group

MAP INDEX



Enclosure 3

**New York State Department of State Coastal Management Program
Federal Consistency Assessment Form**

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM
Federal Consistency Assessment Form

An applicant, seeking a permit, license, waiver, certification or similar type of approval from a federal agency which is subject to the New York State Coastal Management Program (CMP), shall complete this assessment form for any proposed activity that will occur within and/or directly affect the State's Coastal Area. This form is intended to assist an applicant in certifying that the proposed activity is consistent with New York State's CMP as required by U.S. Department of Commerce regulations (15 CFR 930.57). It should be completed at the time when the federal application is prepared. The Department of State will use the completed form and accompanying information in its review of the applicant's certification of consistency.

A. APPLICANT (please print)

1. Name: Richard C. Ramsdell, 77th Army Reserve Installation Management
2. Address: AFRC-CNY-EN, Building 200 Fort Totten, NY 11359-1016
3. Telephone: Area Code (⁷¹⁸) 352-2091

B. PROPOSED ACTIVITY

1. Brief description of activity:

See attached letter.

2. Purpose of activity:

See attached letter.

3. Location of activity:

<u>Queens County</u>	<u>Fort Totten (Town of Bayside)</u>	<u>130 Duane Street</u>
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: NA

5. Federal application number, if known: _____

6. If a state permit/license was issued or is required for the proposed activity, identify the state agency and provide the application or permit number, if known:

NA

C. COASTAL ASSESSMENT Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

- | | | | |
|----|---|------------|-----------|
| 1. | Will the proposed activity <u>result</u> in any of the following: | <u>YES</u> | <u>NO</u> |
| | a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43) | ___ | <u>X</u> |
| | b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44) | ___ | <u>X</u> |
| | c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1) | ___ | <u>X</u> |
| | d. Reduction of existing or potential public access to or along coastal waters? (19, 20) | ___ | <u>X</u> |
| | e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10) | ___ | <u>X</u> |
| | f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29) | ___ | <u>X</u> |
| | g. Siting of a facility essential to the generation or transmission of energy? (27) | ___ | <u>X</u> |
| | h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35) | ___ | <u>X</u> |
| | i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35) | ___ | <u>X</u> |
| | j. Draining of stormwater runoff or sewer overflows into coastal waters? (33) | ___ | <u>X</u> |
| | k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39) | ___ | <u>X</u> |
| | l. Adverse effect upon land or water uses within the State's small harbors? (4) | ___ | <u>X</u> |
| 2. | Will the proposed activity <u>affect</u> or be <u>located</u> in, on, or adjacent to any of the following: | <u>YES</u> | <u>NO</u> |
| | a. State designated freshwater or tidal wetland? (44) | ___ | <u>X</u> |
| | b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17,) | ___ | <u>X</u> |
| | c. State designated significant fish and/or wildlife habitat? (7) | ___ | <u>X</u> |
| | d. State designated significant scenic resource or area? (24) | ___ | <u>X</u> |
| | e. State designated important agricultural lands? (26) | ___ | <u>X</u> |
| | f. Beach, dune or barrier island? (12) | ___ | <u>X</u> |
| | g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3) | ___ | <u>X</u> |
| | h. State, county, or local park? (19, 20) | ___ | <u>X</u> |
| | i. Historic resource listed on the National or State Register of Historic Places? (23) | <u>X</u> | ___ |
| 3. | Will the proposed activity <u>require</u> any of the following: | <u>YES</u> | <u>NO</u> |
| | a. Waterfront site? (2, 21, 22) | ___ | <u>X</u> |
| | b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5) | ___ | <u>X</u> |
| | c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16) | ___ | <u>X</u> |
| | d. State water quality permit or certification? (30, 38, 40) | ___ | <u>X</u> |
| | e. State air quality permit or certification? (41, 43) | ___ | <u>X</u> |
| 4. | Will the proposed activity <u>occur within</u> and/or <u>affect</u> an area covered by a State approved local waterfront revitalization program? (see policies in local program document) | <u>X</u> | ___ |

D. ADDITIONAL STEPS

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.
2. If any of the questions in Section C are answered "YES", then the applicant or agent is advised to consult the CMP, or where appropriate, the local waterfront revitalization program document*. The proposed activity must be analyzed in more detail with respect to the applicable state or local coastal policies. On a separate page(s), the applicant or agent shall: (a) identify, by their policy numbers, which coastal policies are affected by the activity, (b) briefly assess the effects of the activity upon the policy; and, (c) state how the activity is consistent with each policy. Following the completion of this written assessment, the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with the State's CMP or the approved local waterfront revitalization program, as appropriate. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Richard C. Ramsdell, 77th Army Reserve Installation Management

Address: AFRC-CNY-EN, Building 200 Fort Totten, NY 11359-1016

Telephone: Area Code (718) 352-2091

Applicant/Agent's Signature:  Date: 9/11/06

F. SUBMISSION REQUIREMENTS

1. The applicant or agent shall submit the following documents to the New York State Department of State, Division of Coastal Resources, 41 State Street - 8th Floor, Albany, New York 12231.
 - a. Copy of original signed form.
 - b. Copy of the completed federal agency application.
 - c. Other available information which would support the certification of consistency.
2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.
3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government.

Enclosure 4

New York State Department of State Coastal Management Program

Federal Consistency Assessment Form

Supporting Information for “Yes” Responses to Policy Questions

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:

2.i. Historic resource listed on the National or State Register of Historic Places? (23)

Yes, the location and construction of the proposed AFRC would be within the viewshed of the Fort Totten Historic District, and would be in close proximity to Building 206, an U.S. Army owned building within the District. While the proposed new AFRC would be clearly visible from the district, the viewshed impacts would be minor due to the fact that the AFRC would be located on the rear sides of the historic buildings. In addition, the park-like setting of the building site, together with the landscaping and topography of the site provide some screening from the historic district.

Preservation of the significant cultural resources at Fort Totten and its historic character is a priority for the U.S. Army Reserve Center, therefore design and material considerations that are economically feasible and that will minimize any potentially adverse effects on the Historic District will be contemplated. Examples of potential design elements that may be incorporated to minimize effects on historic properties include the inclusion or “echoing” of key architectural elements of the historic buildings, including, but not limited to: a pitched roof; the use of red brick that echoes the size, texture and finish of the nearby buildings; the use of multi-light windows and decorative elements such as arched openings, contrasting window sills, and pilasters to break up the elevations of the new building to create the same exterior rhythm found in the historic buildings.

To be consistent with Policy 23, the new building would be designed and constructed, to the extent feasible given cost and other considerations, to be compatible with buildings within the designated historic district. The NY SHPO has been contacted via letter dated July 31, 2006 and Section 106 consultation for the project is ongoing.

Additionally, as part of the current BRAC action at Fort Totten, a Phase IA/IB archaeological investigation of the project site is being conducted and the results will be coordinated with the NY SHPO.

4. Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program? (See policies in local program document)

The project will take place at Fort Totten which is an area covered by the City of New York’s state approved Local Waterfront Revitalization Program (LWRP). The Department of the Army has completed the New York City Waterfront Revitalization Program Consistency Assessment Form, and under separate correspondence has initiated consultation with the City of New York.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY 77TH REGIONAL READINESS COMMAND
FORT TOTTEN
FLUSHING, NY 11359-1016

November 2, 2006

Army Reserve Installation Management

Rebecca Madlin
New York State Department of State
Division of Coastal Resources
Attn: Consistency Unit
41 State Street – 8th Floor
Albany, NY 12231

Dear Ms. Madlin:

The Department of the Army (DA) is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. The EA will analyze and document potential environmental effects associated with US Army's (DA) proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

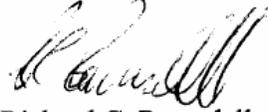
The AFRC would be an approximately 75,000 square feet (ft²) 2-story structure located on existing Army-owned land immediately northwest of the existing storm water retention pond and approximately 150 feet south of the Fort Totten Historic District (Enclosure 1 and 2). The new AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, an approximately 39,000 ft² new privately-owned vehicle (POV) parking lot would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances into the existing storm water pond, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Fort Totten is located within the Coastal Zone Boundary of the State of New York and via letter dated September 7, 2006 the DA submitted a completed New York State (NYS) Department of State (DOS) Coastal Management Program Federal Consistency Assessment Form for the project. Fort Totten is also located within the jurisdiction of the City of New York's state approved Local Waterfront Revitalization Program (LWRP). Via separate correspondence to the New York City (NYC) Department of City Planning (DCP) dated September 7, 2006, the DA submitted a completed NYC LWRP Consistency Assessment Form. After reviewing the policies of the NYS DOS Coastal Management Program and the NYC DCP LWRP, the DA has determined that the proposed action is consistent with these policies and would have no impact on the coastal resources of the State of New York. This assessment constitutes a *negative determination* and the DA is

seeking the State's confirmation of this determination for the proposed action.

I would like to thank you in advance for your cooperation in this matter. Any correspondences regarding this action should be sent to me via email at the above address or via e-mail at ravi.ajodah@usar.army.mil. I can also be reached via phone at (718) 352-5155.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Ramsdell", written in a cursive style.

Richard C. Ramsdell
Facility Management Officer

Enclosures

Enclosure 1
Project Location for BRAC Proposed Action Alternative–
USGS Topographic Quadrangles



Legend

 Fort Totten Boundary

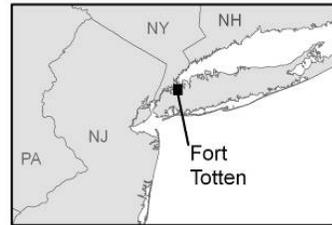
Fort Totten
USGS Quad Map - Flushing



0 0.25 0.5
Miles

Sources: Fort Totten, ESRI, USGS
Coordinate System: NAD 1983
State Plane New York Long
Island FIPS 3104 Feet
Prepared By: The Louis Berger Group

MAP INDEX



Enclosure 2

Proposed AFRC Site Layout



Legend

-  Fort Totten Historic District Boundary
-  Individually Historic Structure



0 100 200
Feet

Sources: Fort Totten. Imagery from 2002

Coordinate System:
UTM, NAD 1983, Zone 18, Meters
Prepared By: The Louis Berger Group

MAP INDEX





STATE OF NEW YORK
DEPARTMENT OF STATE
41 STATE STREET
ALBANY, NY 12231-0001

GEORGE E. PATAKI
GOVERNOR

CHRISTOPHER L. JACOBS
SECRETARY OF STATE

November 2, 2006

Richard C. Ramsdell
Facility Management Officer
US Army 77th Regional Readiness Command
Fort Totten
Flushing, NY 11359-1016

Re: F-2006-0852 (DA)
Department of the Army - Construction of an Armed
Forces Reserve Center at the US Army Reserve owned
property at Fort Totten, in Little Neck Bay, City of New
York, Queens County
Negative Determination

Dear Mr. Ramsdell:

On November 2, 2006, the Department of State received the Department of the Army's negative determination and supporting information for the above-referenced activity. Based on the information provided, the Department concurs with your determination that the Fort Totten Realignment will not result in any reasonably foreseeable effects to land and water uses or natural resources of the coastal area. Further review of this activity by the Department of State is not necessary.

Thank you for providing this information to the Department of State. If you have any questions regarding this matter, please contact us at (518) 474-6000 and refer to our file # F-2006-0852.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Zappieri'.

Jeff Zappieri
Supervisor, Consistency Review and Analysis
Division of Coastal Resources

SCR/bms

c: DEC Region 2- John Cryan
NYC WRP - Eddie Greenfield



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY 77TH REGIONAL READINESS COMMAND
FORT TOTTEN
FLUSHING, NY 11359-1016

September 7, 2006

Army Reserve Installation Management

Amanda M. Burden, Director
New York City Department of City Planning
22 Reade Street
New York, NY 10007-1216

RE: New York State Coastal Consistency for the Fort Totten Realignment Environmental Assessment.

Dear Ms. Burden:

The Department of the Army (DA) is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) at the US Army Reserve (USAR) owned property at Fort Totten, NY. On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended that the USAR close several US Army Reserve Centers (USARCs) in the local region and relocate the units to a new AFRC to be constructed at Fort Totten, NY. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. To enable implementation of these recommendations, the U.S. Army proposes to provide the necessary facilities to support the changes in force structure at Fort Totten.

The EA will analyze and document potential environmental effects associated with the U.S. Army's proposed realignment actions at Fort Totten. The EA is being prepared in strict accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC would be an approximately 75,000 square feet (ft²) 2-story structure located on existing Army-owned land immediately northwest of the existing storm water retention pond and approximately 150 feet south of the Fort Totten Historic District (Enclosure 1 and 2). The new AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems. In addition, an approximately 39,000 ft² new privately-owned vehicle (POV) parking lot would be constructed on the site. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of stormwater run-off pipes and conveyances to the existing storm water pond, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements. Anti-Terrorism/Force Protection (AT/FP) safety and security regulations, including minimum stand-off distances from fencelines, roads, parking areas and vehicle unloading areas, will be incorporated into the facility design and siting.

Fort Totten is located within the Coastal Zone Boundary of the State of New York and the DA is initiating this consultation in accordance with the *Coastal Zone Management Act of 1972* and New York State's *Waterfront Revitalization and Coastal Resource Act of 1981*. The City of New York has implemented a Local Waterfront Revitalization Program (LWRP) that identifies policies that should be used to review the compliance of projects with the LWRP. A copy of this plan was obtained from the New York City Department of City Planning Waterfront Revitalization Program (WRP) website.¹ According to the WRP, the project site is not located in a Significant Maritime and Industrial Area or a Special Natural Waterfront Area, and is not located in or adjacent to a Significant Coastal Fish and Wildlife Habitat. A completed New York City Waterfront Revitalization Program Consistency Assessment Form has been completed for the project and is attached as Enclosure 3 with supporting information addressing "Yes" responses to the Policy Questions attached as Enclosure 4.

The DA has determined that the proposed project to construct a new AFRC at Fort Totten, NY is consistent with the New York State Department of State Coastal Policies as set forth in the City of New York's WRP and is seeking the City's confirmation of this determination. The DA is also initiating consultation with the New York State Department of State and is seeking confirmation of our coastal consistency determination from their office as well.

I would like to thank you in advance for your cooperation in this matter. Any correspondences regarding this action should be sent to Mr. Ravi Ajodah who can be contacted at (718) 352-5155, via e-mail at ravi.ajodah@usar.army.mil or the address above.

Sincerely,



Richard C. Ramsdell
Facility Management Officer

Enclosures

¹ <http://www.nyc.gov/html/dcp/html/wrp/wrp.shtml>

Enclosure 1
Project Location for BRAC Proposed Action Alternative–
USGS Topographic Quadrangles



Legend

 Fort Totten Boundary



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Miles

Sources: Fort Totten, ESRI, USGS
 Coordinate System: NAD 1983
 State Plane New York Long
 Island FIPS 3104 Feet
 Prepared By: The Louis Berger Group

MAP INDEX



Fort Totten
USGS Quad Map - Flushing

Enclosure 2

Proposed AFRC Site Layout



Legend

-  Fort Totten Historic District Boundary
-  Individually Historic Structure



0 100 200 Feet

Sources: Fort Totten. Imagery from 2002

Coordinate System:
UTM, NAD 1983, Zone 18, Meters
Prepared By: The Louis Berger Group

MAP INDEX



Enclosure 3

**New York City Waterfront Revitalization Program
Consistency Assessment Form**

For Internal Use Only:
Date Received: _____

WRP no. _____
DOS no. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's designated coastal zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)*. The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and subsequently approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, state and federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the city must be given the opportunity to comment on all state and federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other state agencies or the New York City Department of City Planning in their review of the applicant's certification of consistency.

A. APPLICANT

- Name: Richard C. Ramsdell, 77th Army Reserve Installation Management
- Address: AFRC-CNY-EN, Building 200 Fort Totten, NY 11359-1016
- Telephone: 718-352-2091 Fax: 718-352-5674 E-mail: richard.c.ramsdell@usar.army.mil
- Project site owner: U.S. Army

B. PROPOSED ACTIVITY

- Brief description of activity:
See attached letter.
- Purpose of activity:
See attached letter.
- Location of activity: (street address/borough or site description):
130 Duane Street
Fort Totten, NY
Town of Bayside, Queens County

Proposed Activity Cont'd

4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known:

N/A.

5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).

BRAC 2005 Funding

6. Will the proposed project require the preparation of an environmental impact statement?
 Yes _____ No ✓ If yes, identify Lead Agency:

The project does, however, require an Environmental Assessment (EA).
 The lead agency is the US Army Corps of Engineers, Mobile District.

7. Identify **city** discretionary actions, such as a zoning amendment or adoption of an urban renewal plan, required for the proposed project.

N/A/

C. COASTAL ASSESSMENT

Location Questions:	Yes	No
1. Is the project site on the waterfront or at the water's edge?	_____	<u>✓</u>
2. Does the proposed project require a waterfront site?	_____	<u>✓</u>
3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters?	_____	<u>✓</u>
Policy Questions	Yes	No

The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations.

Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.

4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under-used waterfront site? (1)	_____	<u>✓</u>
5. Is the project site appropriate for residential or commercial redevelopment? (1.1)	_____	<u>✓</u>
6. Will the action result in a change in scale or character of a neighborhood? (1.2)	_____	<u>✓</u>

Policy Questions cont'd

Yes No

- | | Yes | No |
|---|-------|----|
| 7. Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3) | _____ | ✓ |
| 8. Is the action located in one of the designated Significant Maritime and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2) | _____ | ✓ |
| 9. Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2) | _____ | ✓ |
| 10. Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1) | _____ | ✓ |
| 11. Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2) | _____ | ✓ |
| 12. Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2) | _____ | ✓ |
| 13. Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3) | _____ | ✓ |
| 14. Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3) | _____ | ✓ |
| 15. Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1) | _____ | ✓ |
| 16. Would the proposed project create any conflicts between commercial and recreational boating? (3.2) | _____ | ✓ |
| 17. Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3) | _____ | ✓ |
| 18. Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound- East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2) | _____ | ✓ |
| 19. Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitat? (4.1) | _____ | ✓ |
| 20. Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1and 9.2) | _____ | ✓ |
| 21. Would the action involve any activity in or near a tidal or freshwater wetland? (4.2) | _____ | ✓ |
| 22. Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3) | _____ | ✓ |
| 23. Would the action have any effects on commercial or recreational use of fish resources? (4.4) | _____ | ✓ |
| 24. Would the proposed project in any way affect the water quality classification of nearby waters or be unable to be consistent with that classification? (5) | _____ | ✓ |
| 25. Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1) | _____ | ✓ |
| 26. Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1) | _____ | ✓ |
| 27. Will any activity associated with the project generate nonpoint source pollution? (5.2) | _____ | ✓ |
| 28. Would the action cause violations of the National or State air quality standards? (5.2) | _____ | ✓ |

Policy Questions cont'd

Yes No

29. Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)	_____	✓
30. Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? (5.3)	_____	✓
31. Would the proposed action have any effects on surface or ground water supplies? (5.4)	_____	✓
32. Would the action result in any activities within a federally designated flood hazard area or state-designated erosion hazards area? (6)	_____	✓
33. Would the action result in any construction activities that would lead to erosion? (6)	_____	✓
34. Would the action involve construction or reconstruction of a flood or erosion control structure? (6.1)	_____	✓
35. Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)	_____	✓
36. Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)	_____	✓
37. Would the proposed project affect a non-renewable source of sand ? (6.3)	_____	✓
38. Would the action result in shipping, handling, or storing of solid wastes, hazardous materials, or other pollutants? (7)	_____	✓
39. Would the action affect any sites that have been used as landfills? (7.1)	_____	✓
40. Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage? (7.2)	_____	✓
41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)	_____	✓
42. Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)	_____	✓
43. Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8)	_____	✓
44. Would the action result in the provision of open space without provision for its maintenance? (8.1)	_____	✓
45. Would the action result in any development along the shoreline but NOT include new water-enhanced or water-dependent recreational space? (8.2)	_____	✓
46. Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)	_____	✓
47. Does the proposed project involve publicly owned or acquired land that could accommodate waterfront open space or recreation? (8.4)	_____	✓
48. Does the project site involve lands or waters held in public trust by the state or city? (8.5)	_____	✓
49. Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9)	_____	✓
50. Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1)	_____	✓

Policy Questions cont'd

Yes No

51. Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources? (10) _____

52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10) _____

D. CERTIFICATION

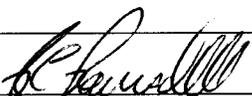
The applicant or agent must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent Name: Richard C. Ramsdell, 77th Army Reserve Installation Management

Address: AFRC-CNY-EN, Building 200, Fort Totten, NY 11359-1016

Telephone 718-352-2091

Applicant/Agent Signature:  Date: 9/11/06

Enclosure 4

New York State Department of State Coastal Management Program

New York City Waterfront Revitalization Program Consistency Assessment Form

Supporting Information for “Yes” Responses to Policy Questions

52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10)

Yes, the location and construction of the proposed AFRC would be within the viewshed of the Fort Totten Historic District, and would be in close proximity to Building 206, an U.S. Army owned building within the District. While the proposed new AFRC would be clearly visible from the district, the viewshed impacts would be minor due to the fact that the AFRC would be located on the rear sides of the historic buildings. In addition, the park-like setting of the building site, together with the landscaping and topography of the site provide some screening from the historic district.

Preservation of the significant cultural resources at Fort Totten and its historic character is a priority for the USARC, therefore design and material considerations that are economically feasible and that will minimize any potentially adverse effects on the Historic District will be contemplated. Examples of potential design elements that may be incorporated to minimize effects on historic properties include the inclusion or “echoing” of key architectural elements of the historic buildings, including, but not limited to: a pitched roof; the use of red brick that echoes the size, texture and finish of the nearby buildings; the use of multi-light windows and decorative elements such as arched openings, contrasting window sills, and pilasters to break up the elevations of the new building to create the same exterior rhythm found in the historic buildings.

To be consistent with Policy 10, the new building would be designed and constructed, to the extent feasible given cost and other considerations, to be compatible with buildings within the designated historic district. The NY SHPO has been contacted via letter dated July 31, 2006 and Section 106 consultation for the project is ongoing.

Additionally, as part of the current BRAC action at Fort Totten, a Phase IA/IB archaeological investigation of the project site is being conducted and the results will be coordinated with the NY SHPO.

**APPENDIX B— ECONOMIC IMPACT
FORECAST SYSTEM (EIFS) MODEL**

ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL

SOCIOECONOMIC IMPACT ASSESSMENT

Socioeconomic impacts are linked through cause-and-effect relationships. Military payrolls and local procurement contribute to the economic base for the region of influence (ROI). In this regard, the BRAC realignment actions proposed for Fort Totten would have a multiplier effect on the local and regional economy. With the Proposed Action, direct jobs would be created, generating new income and increasing personal spending. This spending generally creates secondary jobs, increases business volume, and increases revenues for schools and other social services.

THE ECONOMIC IMPACT FORECAST SYSTEM

The U.S. Army, with the assistance of many academic and professional economists and regional scientists, developed EIFS to address the economic impacts of NEPA-requiring actions and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments for RCI. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS was developed under a joint project of the U.S Army Corps of Engineers (USACE), the U.S. Army Environmental Policy Institute (AEPI), and the Computer and Information Science Department of Clark Atlanta University, Georgia. EIFS is an on-line system, and the EIFS Web application is hosted by the USACE, Mobile District. The system is available to anyone with an approved user-ID and password.

The databases in EIFS are national in scope and cover the approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

THE EIFS MODEL

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future

changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the EA and EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements which describe the Army action: the change in expenditures, or dollar volume of the construction project(s); change in civilian or military employment; average annual income of affected civilian or military employees; the percent of civilians expected to relocate due to the Army’s action; and the percent of military living on-post. Once these are entered into the EIFS model, a projection of changes in the local economy is provided. These are projected changes in sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the Proposed Action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries due to the Proposed Action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the Proposed Action. Population is the increase or decrease in the local population as a result of the Proposed Action.

THE SIGNIFICANCE OF SOCIOECONOMIC IMPACTS

Once model projections are obtained, the Rational Threshold Value (RTV) profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action’s impact on the historical fluctuation in a particular area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

		Increase	Decrease
Sales Volume	X	100%	75%
Income	X	100%	67%
Employment	X	100%	67%
Population	X	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

The following are the EIFS inputs and output data and the RTV values for the ROI. These data form the basis for the socioeconomic impact analysis presented in Section 4.10 of the EA.

EIFS REPORT FORT TOTTEN

FORECAST INPUT:

Change In Local Expenditures	\$27,813,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-post	0

FORECAST OUTPUT:

Employment Multiplier	3.18	
Income Multiplier	3.18	
Sales Volume – Direct	\$19,066,770	
Sales Volume – Induced	\$41,565,570	
Sales Volume – Total	\$60,632,340	0.05%
Income – Direct	\$3,402,852	
Income – Induced	\$7,418,218	
Income – Total (place of work)	\$10,821,070	0.01%
Employment – Direct	78	
Employment – Induced	170	
Employment – Total	249	0.02%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY:

Population	Sales Volume	Income	Employment
Positive RTV 12.25 %	10.96 %	2.48 %	1.03 %
Negative RTV -6.44 %	-4.99 %	-2.52 %	-0.8 %

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APPENDIX C— AIR QUALITY APPLICABILITY ANALYSIS

AIR QUALITY APPLICABILITY ANALYSIS

This air quality applicability analysis was conducted to identify potential increases or decreases in criteria air pollutant emissions associated with the proposed construction of an AFRC and implementation of BRAC 05 actions at Fort Totten, New York. Since the project will occur within a U.S. Environmental Protection Agency (EPA) designated ozone and particulate matter (2.5 microns [$PM_{2.5}$]) non-attainment area, it is subject to the federal conformity requirements. The purpose of the analysis is to further determine the applicability of the Federal General Conformity Rule established in 40 CFR, Part 93 entitled: *Determining Conformity of Federal Actions to State or Federal Implementation Plans* to the action.

The federal conformity rules were established to ensure that federal activities do not hamper local efforts to control air pollution. In particular, Section 176(c) of the Clean Air Act (CAA) prohibits federal agencies, departments or instrumentalities from engaging in, supporting, licensing, or approving any action, in an area that is in non-attainment of the National Ambient Air Quality Standards (NAAQS), which does not conform to an approved state or federal implementation plan. Therefore, the agency must determine whether or not the project would interfere with the clean air goals in the State Implementation Plan (SIP).

1.0 PROJECT DESCRIPTION

The following describes the Base Realignment and Closure (BRAC)-related projects analyzed in this Environmental Assessment (EA).

The Proposed Action is to relocate units from closing U.S. Army Reserve Centers (USARC) to a new Armed Forces Reserve Center (AFRC) to be constructed at Fort Totten, NY. The closing of USARCs will include the realignment of reserve units from the closing facilities to Fort Totten, including a Military Police (MP) company and associated vehicles, the 320th Chemical Company (most vehicles already stored at Fort Totten), a Quartermaster Company, a Transportation Company, and a Brigade Headquarters command.

The AFRC would be an approximately 75,000 square feet (ft^2) 2-story structure located at Fort Totten on existing Army-owned land. The AFRC would provide adequate space for training, classrooms, offices, administrative and other support spaces. The structure would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, masonry veneer walls, standing seam metal roof, HVAC systems, plumbing, mechanical, electrical, and security systems.

In addition, a new Privately-Owned Vehicle (POV) parking lot approximately 39,000 ft^2 in size would be constructed. Supporting improvements are also proposed to compliment the AFRC and parking lot, including walkways, grading, clearing and landscaping, rehabilitation and/or refurbishment of storm water run-off pipes and conveyances, extension of utility services to the AFRC facility, security fencing and gates, and general site improvements (U.S. Army, 2005a).

Anti-Terrorism/Force Protection (AT/FP) safety and security regulations require a minimum buffer of 148 feet from any nearby roads or parking areas. Accordingly, the proposed new AFRC would require adequate stand-off and buffer areas around it to meet these requirements.

2.0 METEOROLOGY/CLIMATE

Temperature is a parameter used in calculations of emissions for air quality applicability. Climate at Fort Totten can be characterized as typical of the mid-Atlantic seaboard with hot, humid summers and cold, snowy winters. The local climate is largely affected by the abundance of open water nearby, reducing temperature extremes and allowing for good wind circulation. Fort Totten experiences an annual precipitation of about 42 inches. The mean winter temperature is around 37°F with an average low of 31°F. Throughout the summer, the mean temperature is around 74°F with a high averaging at about 81°F (U.S. Army, 2004).

3.0 CURRENT AMBIENT AIR QUALITY CONDITIONS

The EPA has classified the New York – Northern New Jersey – Long Island area, including the area of the Proposed Action (Queens County, New York), as being in non-attainment for the criteria pollutant PM_{2.5}, and in moderate non-attainment for the criteria pollutant ozone.

4.0 AIR QUALITY REGULATORY REQUIREMENTS

The EPA defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 Clean Air Act (CAA) and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated NAAQS. The NAAQS were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), particles with a diameter less than or equal to a nominal 10 micrometers (PM₁₀), ozone (O₃), nitrogen dioxide (NO₂), and lead (Pb). The EPA promulgated a standard for fine particulates (PM_{2.5}) in April 2005; however, PM_{2.5} *de minimis* thresholds are not yet finalized. Areas that do not meet NAAQS are called non-attainment areas.

The NAAQS for Ozone and PM_{2.5} are presented in Table C-1.

Table C-1. Ambient Air Quality Standards For Ozone and Particulate Matter (PM_{2.5})

Pollutant	Federal Standard	New York Standard ²
Ozone (O ₃) ¹ 8-Hour Average	0.08 ppm	0.08 ppm
Particulate Matter (PM _{2.5}) ¹ 24-Hour Average Annual Arithmetic Mean	65 µg/m ³ 15 µg/m ³	250 µg/m ³ 45 µg/m ³

ppm = parts per million; µg/m³ = micrograms per cubic meter

¹ Federal primary and secondary standards for this pollutant are identical.

² New York standards are for suspended particulates, including PM₁₀

Source: EPA 2006; NYSDEC 2004

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). The project area is located within a PM_{2.5} non-attainment area and a moderate ozone non-attainment area; therefore, a General Conformity Rule applicability analysis is required.

Section 93.153 of the Rule sets applicability requirements for projects subject to the Rule through establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

Direct emissions are those caused by, or initiated by, the federal action that occur at the same time and place as the action. Indirect emissions are those caused by the action, but which occur later in time and/or at a distance removed from the action itself, yet are reasonably foreseeable and the federal agency responsible for the action can maintain control as part of the actions program responsibility. To determine the applicability of the Rule to this action, emissions must be estimated for PM_{2.5} and for the ozone precursor pollutants nitrogen oxides (NO_x) and volatile organic compounds (VOC). Annual emissions for these compounds were estimated for the project to determine if it would be below or above the *de minimis* levels established in the Rule. The *de minimis* levels for moderate ozone non-attainment areas are 50 tons per year (TPY) for VOCs and 100 TPY for NO_x.

As mentioned above, the EPA is in the process of promulgating the *de minimis* levels and the rules governing an applicability analysis for PM_{2.5}. During the interim, the EPA believes it is appropriate for Federal agencies to use the PM₁₀ *de minimis* level of 100 TPY as a surrogate for PM_{2.5} *de minimis* levels in their General Conformity applicability analysis. Since PM_{2.5} emissions are a subset of PM₁₀ emissions, PM_{2.5} emissions will always be less than PM₁₀. Under the EPA's guidance, if an action's direct or indirect emissions of PM_{2.5} a General Conformity determination would be required if annual emissions exceed the 100 TPY threshold.

In addition to evaluating air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10% of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10% threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

5.0 CONFORMITY APPLICABILITY ANALYSIS

This project construction- and operations-related General Conformity analysis needs to be performed for the Proposed Action at Fort Totten. This conformity analysis and air emissions evaluation will follow the criteria regulated in *40 CFR Parts 6, 51, and 93, Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule* (November 30, 1993).

5.1 CONSTRUCTION PHASE EMISSIONS

Construction emissions would result from the operation of heavy equipment, the commuter vehicle traffic from the construction crew, and the painting of parking spaces. The project would utilize a mix of heavy equipment for construction, mainly associated with preparing the site for building construction, and utility relocation.

5.1.1 Emissions from Heavy Equipment

Annual emissions were calculated for various types of diesel-powered construction vehicles using the EPA’s document *Exhaust Emission Factors for Nonroad Engine Modeling—Compression-Ignition* (Report No. NR-009A, 1998). Truck emission levels were calculated using the EPA’s *MOBILE6* model for an average temperature of 52° F. The total annual emissions, in tons per year, were determined for each type of vehicle based on the number of vehicles used and the number of operating hours per year. It was assumed that construction activities for the building would last approximately 24 months (480 workdays). It was also assumed that construction personnel would commute an average of 30 miles per day over the 24 months. Emissions factors used for construction vehicles under the Preferred Alternative are shown in Table C-2.

Table C-2. Emissions Factors for Construction Vehicles

Construction Vehicle Type	Emissions Factors lbs/hr-vehicle		
	PM ₁₀	NO _x	VOC
Grader	0.134	1.53	0.116
Concrete Truck	0.190	2.94	0.225
Front End Loader	0.238	3.45	0.198
Paver	0.109	1.30	0.100
Vibratory Roller	0.125	1.49	0.112
Pneumatic Tire Roller	0.122	0.94	0.097
Steel Wheel Roller	0.122	0.94	0.097
Concrete Pumper Truck	0.190	2.94	0.225
Backhoe	0.176	1.52	0.245
Crane	0.117	1.17	0.112
Pick-up Truck*	0.012	0.713	0.532
Dump Truck (heavy duty) *	0.183	6.45	0.55
Excavator	0.198	3.154	0.155
Scraper	0.342	5.258	0.276
Delivery Truck (Medium)*	0.07	0.756	0.349
Delivery Truck (Heavy)*	0.08	3.91	0.34

*units are in grams/mile/vehicle

For this project, it was assumed that pick-up trucks, delivery trucks, and dump trucks would be utilized. It was assumed that delivery trucks and pick-up trucks would travel 20 miles per trip, making four trips a day, for a total of 80 miles a day traveled by pick-up truck. It was assumed that dump trucks would travel 30 miles per trip, making 6 trips (3 trucks, 2 trips each) a day when used during trenching activities, or 180 miles traveled daily per dump truck.

5.1.1.1 Calculations for Construction Emissions

Using the emissions factors in Table C-2, annual construction emissions were calculated for the proposed construction at Fort Totten. Using the assumptions described above, the annual emissions in tons per year of PM₁₀, NO_x and VOC for construction emissions were calculated for each vehicle type using the appropriate equations displayed in Table C-3.

Table C-4 summarizes the total annual emissions for the heavy equipment used during construction based upon hours of usage.

Table C- 3: Equations for Construction Emissions Calculations

Emission Source	Equation	Sample Calculation
Heavy Equipment Emissions, On-Site Activities	(# of vehicle type) (Emission factor) (Total # of days in operation) (percent usage) (hours/day) (1 ton/2000 lbs) = TPY of air emissions	(1 grader) (1.53 lbs/hr/vehicle) (1 days in operation) (100% usage) (8 hours/day) (1 ton/2000 lbs) = 0.006 TPY of NO_x emissions
Construction Crew, Commuting	(# of vehicles) (#miles/day) (#days) (emissions factor grams/mile) (1 lb/453.59 grams) (1ton/2000 lb) = TPY of Vehicle Emissions	(50 vehicles) (30 miles/day) (240 days) (0.62 grams/mile/vehicle) (1 lb/453.59 grams) (1ton/2000 lb) = 0.25 TPY NO_x of Vehicle Emissions

Table C-4. Total Emissions from On-Site Construction Activity –Proposed Action Alternative

Construction Vehicle Type	Number of Vehicles	Length of Operation (days)	Total Annual Emissions –TPY		
			PM ₁₀	NO _x	VOC
Grader	1	135	0.072	0.83	0.063
Concrete Truck	1	60	0.046	0.71	0.05
Front End Loader	1	14	0.009	0.18	0.003
Paver	1	2	0.001	0.01	0.001
Vibratory Roller	1	148	0.074	0.88	0.064
Pneumatic Tire Roller	1	2	0.001	0.01	0.001
Steel Wheel Roller	2	4	0.004	0.03	0.002
Concrete Pumper Truck	1	240	0.182	2.82	0.22
Backhoe	1	484	0.683	2.94	0.47
Crane	1	180	0.084	0.84	0.08
Pick-up Truck*	5	2400	0.011	0.206	0.21
Dump Truck *	9	43	0.00	0.066	0.00
Excavator	1	12	0.01	0.016	0.11
Scraper	6	68	0.558	1.43	0.07
Delivery Truck (Medium)*	1	72	0.005	0.009	0.01
Delivery Truck (Heavy)*	1	648	0.005	0.075	0.21
Total Emissions			1.77	11.37	1.49

*units are in grams/mile/vehicle

5.1.2 Emissions from Construction Crew Workers

Emissions from construction personnel traffic were calculated using the EPA’s *MOBILE6*. It was assumed that the construction crew would consist of approximately 50 workers over a 24 month (480 workdays) time period. For a conservative analysis, it was assumed that each person would drive to the site and they would each drive approximately 30 miles per day. Based on *MOBILE6*, the emission factor for PM_{2.5} is 0.012 grams/mile/vehicle, NO_x is 0.62 grams/mile/vehicle and VOC is 0.622 grams/mile/vehicle for the average fleet in Queens County, New York. The total emissions associated with the construction crew commuting to and from the project site is calculated to be approximately 0.33 TPY of NO_x, 0.33 TPY of VOC, and 0.01 TPY of PM₁₀.

5.1.3 Emissions from Painting Activities

When calculating VOC emissions from painting building structures it was assumed that water-based latex paint would be used with a VOC content of one pound per gallon, and that one gallon of paint would cover approximately 300 square feet. It was assumed that three coats of paint will be applied (one primer and two finish) to approximately 85,950 square feet of interior surfaces. Based on these assumptions, approximately 450 gallons of paint would be needed for painting interior spaces and would create approximately 0.43 TPY of VOC emissions.

Emissions from painting parking spaces were based on four-inch wide stripes. It was assumed that the average parking space would be 9 feet wide by 19 feet long and every two parking spaces would share a common line.

Approximately 20 square feet would be painted for every two parking spaces. For parking spaces, it was assumed that alkyd paint would be used with a VOC content of three pounds per gallon, and that one gallon of paint would cover approximately 200 square feet. It was also assumed that one coat of paint would be applied to the parking surfaces. Based on the construction of 115 parking spaces at the facility, the amount of area to be painted, and the number of gallons required, the approximate VOC emissions for painting parking spaces would be 0.01 TPY.

5.1.4 Summary of Construction Emissions

After the emissions analysis was performed for all aspects of construction, the totals were summed to determine the combined construction emissions. Table C-5 summarizes the findings for the Proposed Action and compares them to the *de minimis* values.

Table C-5. Total Emissions from Construction Related Activities –Proposed Action Alternative

Construction Activity	Total Emissions (TPY)			<i>De minimis</i> values –TPY		
	NO _x	VOC	PM10	NO _x	VOC	PM10
Use of Heavy Equipment (on –site construction)	11.37	1.49	1.767	100	50	100
Construction Crew Workers	0.70	0.79	0.01			
Painting	NA	0.4423	NA			
Total Emissions from Construction	12.08	2.69	1.78			

5.2 OPERATIONAL EMISSIONS

5.2.1 Heating Source Emissions

Given that there was no estimated energy usage given in the DD1391s provided for the Proposed Action at Fort Totten, energy usage was estimated based on previously conducted environmental assessments where energy usage for similar facilities, office/administrative facilities in this case, were known. The estimate generated for the combined natural gas usage for boilers and water heaters was approximately 55 standard cubic feet (SCF) of natural gas per square foot of office space. Furthermore, using the EPA’s *AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors Volume I, Chapter 1: Stationary Sources, Supplement D* (EPA, 1998), the emission factors for NO_x, VOC, and PM₁₀ were determined for the facility boilers and water heaters. For NO_x emissions, the facility boilers and water heaters fall in the category of small, uncontrolled boilers that emit 100 lb NO_x /10⁶ SCF of natural gas. The emission rate for VOC was found to be 5.5 lb/10⁶ SCF of natural gas. The emission rate for PM₁₀ was found to be 7.6 lb/10⁶ SCF of natural gas. Using these emission factors and the stated natural gas demand based on 75,000 square feet of space for the proposed facility, the emissions of NO_x, VOC, and PM₁₀ were calculated to be 0.208 TPY, 0.011 TPY, and 0.015 TPY, respectively.

5.2.2 Vehicle Emissions from Daily Commuters

The Proposed Action would increase full-time staffing levels at Fort Totten by approximately 107 employees, and it was assumed that they would commute approximately 40 miles round trip to Fort Totten. Under the Proposed Action an additional 323 reservists are expected to report to Fort Totten each month, with about 108 reservists reporting each of three weekends during a month. For the analysis, it was assumed that each reservist would travel approximately 120 miles per weekend to and from Fort Totten. Based on these assumptions, the daily additional vehicle emissions resulting from the Proposed Action are shown in Table C-6.

Table C-6. Emissions from Daily Vehicle Traffic

Total Annual Emissions – TPY		
PM ₁₀	NO _x	VOC
0.029	1.58	1.71

5.3 REGIONAL SIGNIFICANCE

In addition to *de minimis* values, actions are also evaluated for regional significance. An action is considered to be regionally significant if the annual increase in emissions would make up 10 percent or more of the available regional emission inventory. The *New York Metropolitan Area State Implementation Plan* sets forth 2005 daily emission targets for non-road construction vehicles of 18.36 tons per day of VOC and 100.26 tons per day of NO_x for the New York Metropolitan ozone non-attainment area where Fort Totten is located (West Point EA, 2003). The increase in annual emissions from the construction activities would not make up 10% or more of the available regional emission target for VOC or NO_x and would not be regionally significant.

6.0 OVERALL RESULTS

Table C-7 below summarizes the total emissions associated with the Proposed Action at Fort Totten. Construction related emissions would be temporary and only occur during the 24-month construction period for the facility. Operational emissions associated with commuter traffic and the operation of boilers for heating the facility would be long-term and occur throughout the life of the facility. When compared to the *de minimis* levels of 100 TPY each for NO_x and PM₁₀ and 50 TPY for VOC for this non-attainment area, the emissions associated with implementation of the Proposed Action fall below the *de minimis* values for all alternatives evaluated. As a result the preferred alternative under the Proposed Action, is not subject to the General Conformity Rule requirements.

Table C-7. Total Emissions from the Proposed AFRC

Activity	Construction Emissions (TPY)			Operation Emissions (TPY)			Combined Emissions (TPY)		
	NO _x	VOC	PM10	NO _x	VOC	PM10	NO _x	VOC	PM10
Heavy Equipment (building/parking)	11.37	1.49	1.77				11.37	1.49	1.77
Construction Crew Commuting Vehicles*	0.70	0.76	0.01				0.70	0.76	0.01
Painting	NA	0.44	NA				NA	0.44	NA
Stationary Heating Unit (boiler and water heater)				0.21	0.011	0.015	0.21	0.011	0.015
Commuter Traffic				1.58	1.71	0.029	1.58	1.71	0.029
Totals							13.86	4.41	1.82
Construction Crew Commuting Vehicles and Daily Commuter Traffic represent only the emissions increase associated with the implementation of the Proposed Action									

-
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- U.S. Environmental Protection Agency. *National Primary and Secondary Ambient Air Quality Standards*. 40 CFR Part 50.
- U.S. Environmental Protection Agency. *Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved under Title 23 U.S.C. or the Federal Transit Act*. 40 CFR Part 51, Subpart T.
- U.S. Environmental Protection Agency. *Designation of Areas for Air Quality Planning Purposes, Subpart C: Section 107 Attainment Status Designations*. 40 CFR Part 81.

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APPENDIX D— PHASE I ARCHAEOLOGICAL SURVEY

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PHASE I ARCHAEOLOGICAL SURVEY

PROPOSED NEW FACILITY ARMED FORCES RESERVE CENTER, FORT TOTTEN



FLUSHING
QUEENS COUNTY
NEW YORK

CONTRACT NO: W91728-06-D-0017
TASK ORDER NO: 001

Prepared by:



THE Louis Berger Group, INC.

20 Corporate Woods Blvd.
Albany, New York 12211-2370

Prepared for:



**US Army Corps
of Engineers**
Mobile District

U.S. Army Corps of Engineers

Mobile District
Mobile, Alabama 36628

Final
November 2006

Management Summary

Involved State and Federal Agencies	New York State Department of Environmental Conservation (DEC) New York State Office of Parks, Recreation and Historic Preservation (OPRHP) United States Army United States Army Corps of Engineers United States Fish and Wildlife Service (USFWS)
Phase of Survey	Phase I
Location Information	
<i>Town</i>	Fort Totten
<i>County</i>	Queens
Survey Area	Total area: 2.04 hectares (5.05 acres)
USGS 7.5-Minute Quadrangle Map	<i>Flushing, NY</i> 1966 (Photorevised 1979)
Archaeological Survey Overview	
<i>Methods Used</i>	Background research Surface reconnaissance Excavation of 79 shovel tests
<i>Artifacts Recovered/ Features Identified</i>	62 prehistoric artifacts, 63 historic/modern artifacts, probable shell midden, possible stone feature.
Results of Archaeological Survey	
<i>No./Name(s) of Prehistoric Sites Identified</i>	1 site, Little Bay Site (Berger Temporary Site 3810-01, OPRHP A08101.011172)
<i>No./Name(s) of Historic Sites Identified</i>	
Recommendations	Avoidance of Little Bay Site (Berger Temporary Site 3810-01, OPRHP A08101.011172)
Report Authors	Rick Vernay, Patrick Sabol, Niels Rinehart, and Hope E. Luhman, Ph.D.
Date of Report	November 2006

Abstract

On behalf of the National Environmental Policy Act (NEPA) Support Team, Mobile District, U.S. Army Corps of Engineers, The Louis Berger Group, Inc. (Berger), Albany, New York, has completed a Phase I archaeological survey for the Base Realignment and Closure (BRAC) 2005 actions associated with a proposed new facility under the jurisdiction of the 77th Regional Readiness Command (RRC) at Fort Totten, Flushing, Queens County, New York. The proposed action consists of the construction of a new administration building covering approximately 2,676 square meters (28,800 square feet), paved parking areas, patios, and associated walkways. Presumably, new utility infrastructure will be completed to service the new facility, such as lighting, runoff control structures, communication and power utilities, as well as sewage treatment facilities, although these are not depicted on the available plans. The project area, defined as the area of potential effect (APE), consists of the proposed footprints of the improvements, as well as any areas subject to ground disturbance during their construction. From north to south the project area extends for 150 meters (500 feet), and from east to west, it is 200 meters (650 feet) wide at the widest point, for a total of 5.05 acres (2.04 hectares).

Berger conducted the archaeological survey in August and September 2006. The objective of the survey was to identify any archaeological sites within the project area. The archaeological fieldwork consisted of extensive field reconnaissance, subsurface testing through the excavation of 79 shovel tests, and the recovery of 62 historic/modern artifacts and 63 prehistoric artifacts.

Berger identified one prehistoric archaeological site (Little Bay Site, Berger Temporary Site 3810-01, OPRHP A08101.011172) defined by 19 positive shovel tests within the APE. Temporally diagnostic artifacts recovered from the site during the Phase I investigation include a Susquehanna Broad projectile point (4000 to 3500 years before present) and pottery. It was not possible to date the pottery, but the earliest prehistoric ceramics in the Northeast date to about 3,000 years ago. Berger identified a possible rock feature in the center of the site and a possible shell midden in the southwest portion of the site.

Based on the findings of the Phase I survey, Berger concludes that the Little Bay Site (A08101.011172) is eligible for listing in the National Register of Historic Places under Criterion D as the site has the potential to yield further information about and contribute to our understanding of the lifeways of prehistoric populations in the Lower Hudson Valley. Site A08101.011172 lies in an area associated with plans to expand an existing facility, and direct impacts to the site are expected to occur. Berger recommends further consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) and other appropriate parties to discuss the alternatives to avoid, minimize, or mitigate the potential impacts to the Little Bay Site.

Table of Contents

	<i>Page</i>
Management Summary.....	i
Abstract.....	ii
List of Figures.....	iv
List of Tables.....	iv
List of Plates.....	iv
I INTRODUCTION.....	1
II LITERATURE SEARCH AND SENSITIVITY ASSESSMENT.....	6
A. Environmental Setting.....	6
B. Prehistoric Context.....	2
C. Historic Context.....	10
D. Background Research.....	11
E. Sensitivity Assessment.....	20
III METHODS AND TECHNIQUES.....	23
A. Archaeological Field Methods and Techniques.....	23
B. Laboratory Methods.....	23
IV FIELD INVESTIGATION.....	25
A. Pedestrian Reconnaissance and Present Conditions.....	25
B. Shovel Test Program.....	25
V CONCLUSIONS AND RECOMMENDATIONS.....	30
VI REFERENCES.....	31
APPENDIX A: Shovel Test Data	
APPENDIX B: Artifact Inventory	
Translations of Utilized Codes	
APPENDIX C: Site Form for the Little Bay Site (Berger Temporary Site 3810-01, OPRHP A08101.011172)	

List of Figures

	<i>Page</i>
1 Project Area Location	2
2 Aerial View of Project Area	3
3 Plan Map of Project Area Showing Reconnaissance Results and Subsurface Testing	4
4 Project Area in 1875	12
5 Project Area in 1891	13
6 Project Area in 1897	14
7 Project Area in 1900	15
8 Project Area in 1904	16
9 Project Area in 1910	17
10 Project Area in 1928	18
11 Project Area in 1964	19

List of Tables

	<i>Page</i>
1 Evolution/Succession of Biota for the Region	7
2 Recorded Archaeological Sites in the Project Area Vicinity	11

List of Photographs

	<i>Page</i>
1 Cut and Paved Area, View to West	21
2 View Southwest from Shovel Test D-7	21
3 Filled and Paved Area, Densely Wooded in Background, View to North	22
4 Transect G, Fill Berm on Left, View to North	26
5 Filled Area along North Shore of Pond, View to West	26
6 Along the Boundary Driveway, View to Northwest	27
7 Little Bay Site, View to Southwest	29
8 Cat No. 33, Tentatively Identified as Susquehanna Broad Point	29

I. Introduction

On behalf of the National Environmental Policy Act (NEPA) Support Team, Mobile District, U.S. Army Corps of Engineers, The Louis Berger Group, Inc. (Berger), Albany, New York, has completed a Phase I archaeological survey for the Base Realignment and Closure (BRAC) 2005 actions associated with a proposed new facility under the jurisdiction of the 77th Regional Readiness Command (RRC) at Fort Totten, Flushing, Queens County, New York. The proposed new facility at Fort Totten is located in Queens County, New York, New York (Figures 1 and 2). It will consist of a new administration building covering approximately 2,676 square meters (28,800 square feet), two stories high with a basement. In addition, paved parking areas, patios, and associated walkways will be constructed. Presumably, new utility infrastructure will be completed to service the new facility, such as lighting, runoff control structures, communication and power utilities, as well as sewage treatment facilities although these are not depicted on the available plans (Figure 3). The project area, defined as the area of potential effect (APE), consists of the footprints of the proposed improvements, as well as any areas subject to ground disturbance during their construction. The project area is bounded on the south by Duane Road, and on the west and north by the semi-circular rear driveway servicing Buildings 206, 207, 208 and 211. An arbitrary line bounds the APE to the east from the end of the same driveway to the pond.

To assess the potential of the project area for archaeological resources, Berger conducted background research. This included a review of local histories, a study of nineteenth- and twentieth-century maps and plans, a check of archaeological site files, as well as a review of published archaeological and historical studies and unpublished cultural resource management reports. Berger gathered information on cultural resources at the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). In addition, Berger referred to Berger's 1985 cultural resource report for Forts Totten and Hamilton, prepared for the National Park Service (Berger 1985).

After conducting a literature review in August 2006, Berger conducted a field inspection of the project area accompanied by Ravi Ajodah, Environmental Scientist with J.M. Waller Associates at HQ 77th Regional Support Command, U.S. Army Reserve. The purpose of the field inspection was to identify the APE in the field, evaluate the area in terms of slope and degree of previous disturbance, and to look for any visible evidence for cultural remains.

After conducting a literature review and a field inspection of the project area, Berger conducted the subsurface survey in August and September 2006. This work consisted of more intensive field reconnaissance and excavation of 79 shovel tests in those undisturbed portions of the project area that will be subject to ground disturbance.

The Phase I archaeological survey was conducted in accordance with guidelines and recommendations established by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and the *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections*, published by the New York Archaeological Council (1994). This report conforms to the New York Archaeological Council (NYAC) standards and the requirements set forth in 36 CFR 66, *Methods, Standards, and Reporting Requirements for Data Recovery*. The study was performed in accordance with the National Historic Preservation Act of 1966, as amended; Procedures for the Protection of Historic and Cultural Properties (36 CFR 800); the Procedures for Determining Site Eligibility for the National Register of Historic Places (36 CFR 60 and 63); the New York State Environmental Quality Review Act (SEQRA); and the Secretary of the Interior's Standards for Archaeology and Historic Preservation. Personnel performing the investigation meet or exceed the standards specified in 36 CFR 66.3(b)(2) and 36 CFR 61.

This report is divided into six chapters. Chapter II summarizes the results of the background research completed for this project. Chapter III describes the Phase IB archaeological survey methods implemented. The results of the Phase IB archaeological survey are presented in Chapter IV. Chapter V provides a summary and recommendations. Chapter VI contains a list of the references cited. The report concludes with three appendices: Appendix A contains a summary table of all excavated shovel tests, Appendix B consists of an artifact inventory and a translation of all codes utilized in the artifact inventory, and

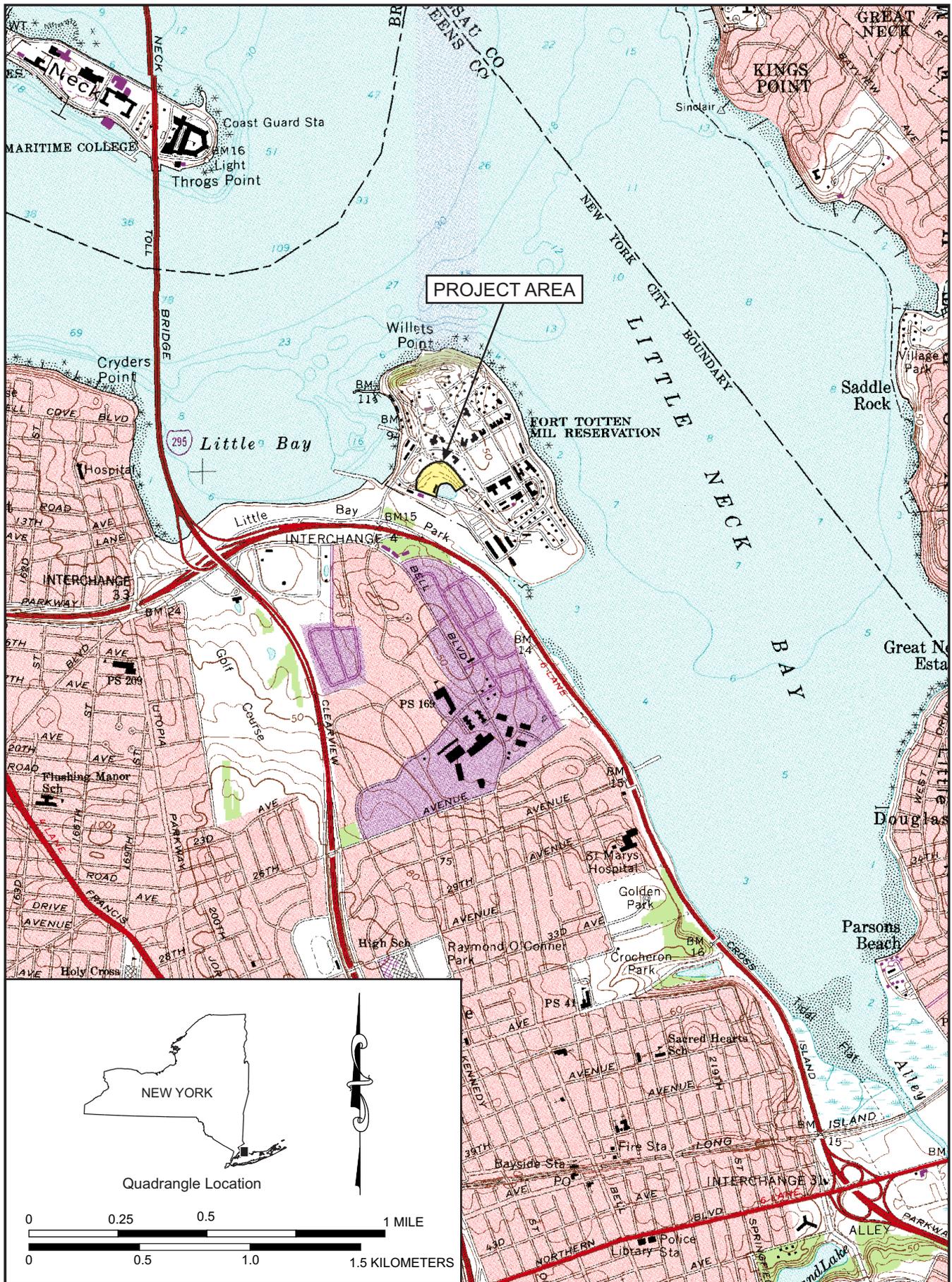


FIGURE 1: Project Area Location

SOURCE: USGS 7.5-Minute Quadrangle, Flushing, NY 1966 (Photorevised 1979)



FIGURE 2: Aerial View of Project Area

SOURCE: Google Earth 2006

Proposed New Facility At Fort Totten, NY

LEGEND

- NEGATIVE SHOVEL TEST
- POSITIVE HISTORIC SHOVEL TEST
- POSITIVE PREHISTORIC SHOVEL TEST
- POSITIVE HISTORIC AND PREHISTORIC SHOVEL TEST
- 📍 PHOTOGRAPH LOCATION AND DIRECTION
- ⬜ SITE BOUNDARY
- ▭ PROJECT AREA

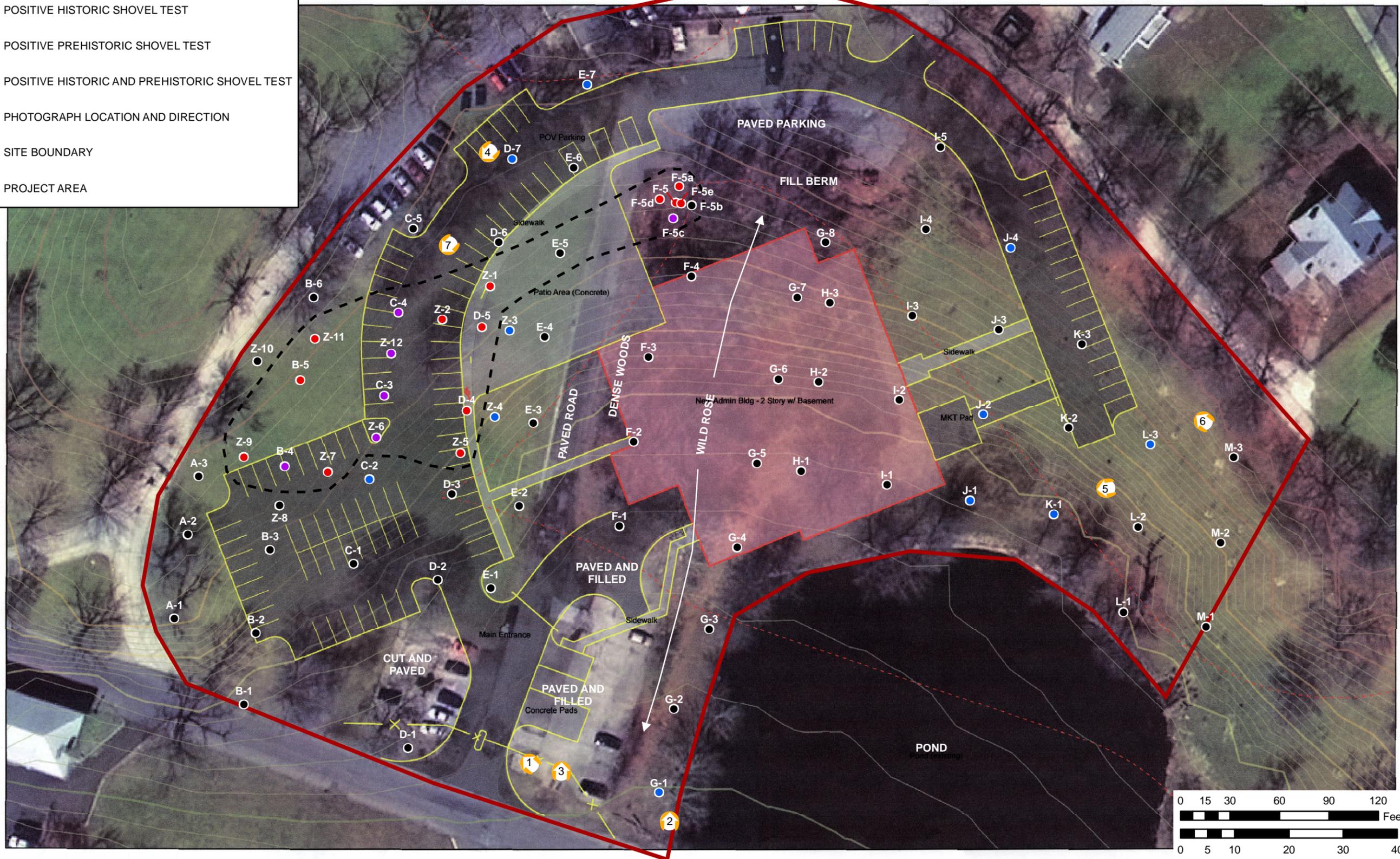


FIGURE 3: Plan Map of Project Area Showing Reconnaissance Results and Subsurface Testing

Appendix C contains the site form for the Little Bay Site (Berger Temporary Site 3810-01, OPRHP A08101.011172).

Berger Senior Archaeologist and Assistant Director Hope E. Luhman, Ph.D., directed the Phase I Archaeological Survey. Rick Vernay served as Field Supervisor and was assisted by Crew Chief Patrick Sabol and Field Archaeologist Niall Conway. Mr. Vernay and Dr. Luhman authored the report with the assistance of Berger Crew Chief Patrick Sabol and Berger Archaeologist Niels Rinehart. Susan Butler directed the processing and cataloging of the artifacts. C. Carol Halitsky edited and produced this report and Principal Draftsperson Jacqueline L. Horsford prepared the graphics.

II. Literature Search and Sensitivity Assessment

A. Environmental Setting

Fort Totten is located in the Coastal Plain physiographic province of the Atlantic Coastal Lowland landform. More specifically, the facility is geographically part of the Ronkonkoma and Harbor Hill morainal ridges (Schuberth 1968). Parent material within these ridges includes schist, granite, Inwood marble, and several other layers of metamorphosed shales, limestones, and several crustaceous sediments (Barlow 1971; Kieran 1971). The soils of the area are alluvial, situated in valley bottoms (Thompson 1977), and have excellent production potential in terms of agriculture.

The major water resource associated with Fort Totten is the New York Harbor system. Fort Totten is sited above a narrow ship lane, Throgs Neck, to which the fort had access and was positioned to defend. Fort Totten does not contain any major streams; however, a pond that is still extant was a source for ice during the historical occupation of the facility. Other historic water resources include the salt marshes that were once located along the southern boundary of Fort Totten. This area was filled in the twentieth century.

The normal annual precipitation, including melted snow, is about 40.38 inches with an annual mean temperature of 53.4°F, or 11.9°C. Temperature extremes include a sweltering 102.3°F (39.1°C) in late August and -14°F (-25.6°C) in February (Kieran 1971). The average temperature range is 32.7°F (0.4°C) to 76.1°F (24.5°C).

Based on data from fossil pollen remains and associated radiocarbon dates, the local environment during the earliest human habitation of the area can be generally characterized as periglacial. The remnants of the Wisconsin glacial advance stretched in an irregular belt almost 1.6 kilometers (1 mile) wide from Perth Amboy at the mouth of Raritan Bay to across New York State in a northwesterly direction. Between 12,000 and 13,000 years ago, sea levels were lowered to the extent that the shoreline was approximately 100 to 150 kilometers (63 to 94 miles) from its present position, and the ocean levels may have once been 90 meters (295 feet) lower (Kraft 1977). Consequently, river and stream systems exhibited different configurations, as did the plant and animal communities within these environments (Edwards and Merrill 1977). Peat borings from the continental shelf indicate that the fairly level plain supported an open spruce parkland or spruce woodland environment, including pine, fir, and other vegetation (Sirkin 1976, 1977). The geomorphology of the area in combination with the effects of glaciation and subsequent sea-level rise indicates that marine environments were probably not stable at this early date and could not have served as a primary focus of human subsistence activities (Custer and Stewart 1983; Edwards and Merrill 1977; Newman 1977).

The glaciers began to retreat some 17,000 to 15,000 years ago. Glacial scarring created a variety of developing habitats, including estuaries, salt and freshwater marshes, bogs, upland, and midslope communities. Glacial soils contained a wide diversity of particle size allowing for good drainage and adequate water supplies for all these developing plant and animal communities.

After the retreat of the glaciers, the coastal region of New York was favored by a set of ecological factors that probably contributed to its attractiveness to early human populations. These factors included a relatively long frost-free period, a greater annual reception of sunlight, and the tempering effects of a coastal environment. Brennan (1979:34) suggests that during post-glacial recovery, deciduous forests penetrated the coastal region of New York and New England more rapidly than in the cooler and higher inland regions. Many of the cold-adapted animals probably followed the retreating glaciers northward and, in the case of mammoth and mastodon, into extinction. Deer, elk, moose, bear, and smaller mammals replaced these creatures.

Pollen data show that the regional environment continued to change after glaciation. Table 1 summarizes the evolution of plant species from deglaciation to the present. By 2,000 years ago environmental and meteorological conditions had approached those of the present, but southern tree species continued to migrate into the area (Barlow 1971).

TABLE 1
EVOLUTION/SUCCESSION OF BIOTA FOR THE REGION

15,000-12,500 BP*	Low grasses, scrub pine, small birches
12,500-10,500 BP	Arctic willows, tall grasses, birch, pine, spruce-fir (generally coniferous)
10,500-8000 BP	Pine (coniferous)
8000-5000 BP	Oak, chestnut, hemlock
5000-2000 BP	Oak, chestnut, hickory
2000-present	Oaks, chestnut, hickory, birch, holly, sweet gum, tulip, persimmon, hackberry, sweetbay, magnolia, and willow oak, poplars, beech, cedars, cherry, maples, ginko, aspen (includes European imports)

* BP: years before present. Sources: Kieran (1971) and Barlow (1971).

United States Department of Agriculture (USDA) Soil Survey information is not available for the Borough of Queens, but analogous landforms in neighboring Nassau County usually contain soils of the Riverhead series. These soils are described as deep, well-drained, nearly level soils formed in glacial outwash deposits. These soils are situated on crests and sideslopes of low morainal hills, and on the tops and sides of outwash plains and terraces. Typically, the surface layer is dark brown to brown sandy loam about 21 centimeters (0.7 feet) thick (plowzone). The subsoil consists of dark yellowish brown and yellowish brown sandy loam that extends to a depth of about 61 centimeters (2 feet). The substratum or parent material is a brownish yellow loamy sand and sand. Riverhead fine sandy loam warms up early in the spring, and the soil is well suited to a wide variety of crops (USDA 1987)

B. Prehistoric Context

Archaeologists have divided the vast expanse of New York culture history into five general periods: Paleoindian (12,000-9500 years before present [BP]); Archaic (9500-3000 BP); Woodland (3000-500 BP); Contact (500-300 BP); and Historic (300 BP-present). The first three subdivisions (Paleoindian, Archaic, and Woodland) are thought to represent Native American cultural adaptation to changing climatic conditions since the arrival of humans to the New York region around 12,000 years ago—from Pleistocene (Ice Age) to Holocene or modern norms. The region's natural environment and geomorphology have greatly influenced the nature of Native American settlement, land use, and cultural development. One important factor in the interpretation of New York prehistory is the impact of glaciation on the topographic and hydrologic conditions in the area since the end of the Pleistocene

1. Paleoindian Period (12,000-9500 BP)

The earliest documented human occupation of New York occurred about 12,000 BP, during what is known as the Paleoindian period. The Paleoindians were groups of mobile hunter-gatherers who were adapted to the periglacial environments of the late Pleistocene and early Holocene. Paleoindian sites are known primarily through distinctive lanceolate fluted points that were usually made of high-quality stone. One such point was found in Deer Park just east of the study area, north of Belmont Lake State Park (Saxon 1973). Although isolated fluted points have been found on Long Island (Saxon 1973), no Paleoindian habitation sites have been identified. The Port Mobil Site on Staten Island is the nearest excavated Paleoindian site (Eisenberg 1978; Funk 1977). At the time of Paleoindian occupation, large portions of the present continental shelf near coastal New York would have been exposed because of the lower sea levels. Therefore, former habitation sites on Long Island may have been submerged or destroyed by rising seas following the last glacial retreat (Edwards and Merrill 1977; Newman 1977).

2. Archaic Period (9500-3000 BP)

The Archaic period is characterized by climatic amelioration that eventually resulted in greater biodiversity in the resource base, and the changes in technology, site size, and site location that reflect utilization of the broader spectrum of resources. Researchers usually divide the Archaic into three subperiods: Early (9500-7000 BP); Middle (7000-5500 BP); and Late (5500-3000 BP).

a. Early Archaic Period (9500-7000 BP)

The Early Archaic period was initially characterized by fluctuations in the climate that eventually stabilized into a warming trend. The warmer conditions enhanced biological diversity in the plant and animal communities developing in the region. The subsistence focus of aboriginal populations shifted from a primary focus on hunting post-Pleistocene megafauna to hunting, fishing, and gathering a diverse range of animal and plant forms. Populations may have increased as a result of the greater stability of the resource base. Most of the evidence of human occupation during this period is based on isolated finds of artifacts that are diagnostic for the period, including bifurcate-base points, which are most often located along major drainages.

On Long Island the instability of the coastal environments during the early Holocene epoch may be one reason that evidence of significant Native American occupation of Long Island prior to Late Archaic times (5500 to 3000 BP) is lacking (Wyatt 1977:400). Remains of Early Archaic (9500 to 7000 BP) occupation are represented by a few scattered points similar to the Kanawha Stemmed and Lecroy Bifurcate Base types (Broyles 1971). Vosburg and Brewerton point types are also known to have come from Long Island, but are relatively scarce (Wyatt 1977:400).

b. Middle Archaic Period (7000-5500 BP)

During the Middle Archaic the climatic warming trend continued. New varieties of flora and fauna became established in the region. The subsistence and settlement pattern of the human occupants of the region continued to shift toward seasonal transhumance focused on utilization of specialized resources within limited ranges, which may have fostered a greater degree of territoriality (Dincauze and Mulholland 1977). Diagnostic artifacts include Neville and Stark projectile points. The reliance on diverse and specialized resources fostered expansion of the toolkit, which included adzes, axes, drills, mortars and pestles, netsinkers, and hammerstones.

c. Late Archaic Period (5500-3000 BP)

Climatic warming continued into the Late Archaic. The rich and diverse biotic resource base enabled increased habitation. Diagnostic artifacts include small stemmed projectile points, such as Lamoka, Taconic, Squibnocket, and Brewerton.

The rate of sea-level rise and isostatic rebound of the continental margins had lessened by Late Archaic times (Edwards and Merrill 1977; Newman 1977; Snow 1980), resulting in the stabilization of marine environments. There is considerable archaeological evidence, in the form of shell middens, to indicate that marine resources are intensively exploited by Late Archaic populations on Long Island, where the shell middens are concentrated near salt marshes (Wyatt 1977). However, the relationship between shell midden sites and Late Archaic sites in interior areas, which are characterized by artifact assemblages that include Wading River points, atlatl weights, and celts (Ritchie 1980:142-145), is poorly understood.

Coastal occupation intensified during the Terminal Archaic (Transitional) period (3300 to 2800 BP), which is represented by artifact assemblages that include broadspear points, Orient Fishtail points, and soapstone vessels. On Long Island the earliest known Native American burials are associated with Terminal Archaic (Transitional) period occupation (Ritchie 1980:164-165).

3. Woodland Period (3000-500 BP)

The Woodland period is divided into three subperiods: Early Woodland (3000-1700 BP); Middle Woodland (1700-1200 BP); and Late Woodland (1200-500 BP).

a. Early Woodland Period (3000-1700 BP)

In general, Early Woodland occupations in the Eastern Woodlands are characterized by a continuation of Late Archaic lifeways. Throughout the eastern United States it appears that Early Woodland groups were sedentary or semisedentary, with residential sites located in riverine and upland contexts, and with logistical sites located in a variety of physiographic contexts.

Ritchie and Funk (1973:96) write that “as in the case of the Transitional [Archaic] stage, it [the Early Woodland] is marked by the appearance of certain new traits and by the characteristic expression of other, older traits,” but “there is no evidence for significant changes in subsistence or settlement patterns.” Substantial residential sites of the Late Archaic are often referred to as base camps, yet similar sites of the Early Woodland become “villages” with the presence of ceramics and possible storage pits at these sites.

Broadspear forms were phased out in the Early Woodland period, and small stemmed and notched forms, as well as lanceolate and tear-drop forms, dominate hafted biface assemblages. Ground grooved axes, seen in the Late Archaic, continue into the Early Woodland but are refined, and the repertoire of such implements is expanded. Slate gorgets, pendants, and ground slate pieces have also been recovered from Early Woodland sites.

The mortuary complexity exhibited by some Late Archaic groups continued into the Early Woodland. Meadowood (3000-2560 BP) cremations, bundle burials, and flex burials include red ochre, cache blades (“up to 1,500 in one grave”), gorgets, tubular pipes, and copper objects, as well as utilitarian items such as hafted bifaces, other bifacial tools, adzes, celts, bone tools, carbonized nets, and basketry (Ritchie and Funk 1973:96, 348). Early Woodland groups also created burial mounds for their dead, which represent one of the most dramatic manifestations of the social complexity inherent in Adena societies.

The Early Woodland period (Middlesex phase) is characterized by the introduction of ceramic vessels, in this region typed as Vinette 1 undecorated wares, some with steatite temper. Sites of the period are usually found on well-drained knolls next to fresh water (Ritchie 1980:21).

b. Middle Woodland Period (1700-1200 BP)

The Middle Woodland period is marked by changes in lithic and ceramic technology. During the Middle Woodland period maize agriculture and other horticultural practices were gradually incorporated into the subsistence adaptations of the occupants of the region, promoting development of semipermanent village settlement. Subsistence practices during the Middle Woodland period were not very different from those of earlier periods, although intensified hunting, gathering, and small-scale agriculture increased use of resources. The climate during this cultural period remained similar to that of the Early Woodland period. Episodic fluctuations in temperature and precipitation did occur, which affected the distribution and composition of biotic communities. Site types identified include small camps (some temporary and some reoccupied over time), semipermanent large camps, cemeteries, burial mounds, and workshop activity areas (Ritchie and Funk 1973:349).

The bow and arrow are introduced in this period. Diagnostic lithic artifacts include Jack’s Reef Corner Notched and Pentagonal projectile points and Fox Creek projectile points. The presence of increased amounts of exotic lithic materials suggests further development of inter-regional trade networks. Other items of material culture associated with the Middle Woodland include ornamental pendants and pins. Ceramic technology became more sophisticated as indicated by a decrease in the wall thickness of pots and a rounding of vessel shape. Ceramic decoration, including netmarking, and ornamentation of collars and bodies increased.

c. Late Woodland Period (1200–500 BP)

During the Late Woodland period aboriginal populations continued to grow and expand into riverine environmental zones. Agriculture continued to increase in importance as part of aboriginal subsistence systems. Maize became a major component of the prehistoric diet. By the time of the Late Woodland, the climate was very similar to that of today. A greater number of sites, larger sites, and sites with a higher density of cultural material are associated with this period in prehistory than with earlier periods. Sites are encountered along major drainages, associated with rockshelters, in coastal areas, and on islands. Small campsites are also located near swamps and streams. The settlement-subsistence system for this period appears to be characterized by an annual pattern of seasonal movement among riverine, coastal, and inland sites. The semipermanence of many of the occupations and resource areas may have fostered greater territoriality (Mulholland 1988:163). Diagnostic artifacts include Levanna projectile points and Owasco-related ceramics.

In some areas of New York State, competition for land and resources appears to have resulted in conflicts that caused groups to “nucleate” in larger, defensible settlements; late prehistoric occupation of Long Island, however, seems to have been dispersed along the coastline, suggesting that marine and estuarine resources continued to dominate subsistence economies. Caution must nevertheless be used when making assumptions about settlement patterns on Long Island. Earlier studies have been conducted primarily along the coast, or along rivers and streams, and it is therefore not surprising that most sites have been found in these locations. More recently, archaeologists have shown that Native Americans conducted many activities in inland areas of Long Island (e.g., Lightfoot and Moore 1985; McLean 1994).

4. *Early Historic Contact (500-300 BP)*

During the early Contact period the Native American settlement and subsistence adaptations of the Late Woodland continued. These adaptations were characterized by seasonal hunting and gathering, focused on streams and major watercourses in the spring and fall for the seasonal fish runs. During this period Native Americans also accessed smaller sites in inland and upland areas for hunting and resource procurement. Larger semipermanent village sites, consisting of oval and round houses and large pits, were also located in the interior near planted fields. In the winter smaller bands of people occupied sites in inland and upland settings close to forest game (Cronon 1983:48).

Initial contact between Europeans and Native Americans resulted when early explorers entered the area to engage in trade. The introduction of European material goods, the demands of trading relationships, rapid colonial expansion, and disease had profound effects on the settlement and subsistence adaptations of the native populations. Native groups gradually became dependent on trade with the Europeans. Tribal and clan affiliations were affected, and much of the native population was depopulated or displaced (Brasser 1978). Some estimates suggest that between 60 and 90 percent of the native population was lost to European diseases in the seventeenth century in southern New England and New York (Snow 1980:34).

C. Historic Context

Prior to European contact the Native Americans subsisted on hunting of small game, fishing, collection of shellfish, and gathering of local plants. The cultivation of corn, local wild grasses, and tubers may have occurred prior to European contact, but this point is currently under debate. The first European explorers, Henry Hudson and Giovanni Verrazano, among others, noted the surrounding environment in some detail. While in New York early explorers remarked on the great quantities of fish, small game, oysters (larger than they had ever seen), and waterfowl (Kieran 1971). The early European settlements of the 1600s imported many of the initial foodstuffs needed, including domestic animals (sheep, cattle, horses, swine, and fowl), and seeds, grains, and root plants. These new agricultural species suffered very few adaptive problems when transplanted to local soils. However, along with these imports came an unwanted invasion of foreign insects and fungi that later proved detrimental to native species (Barlow 1971; Kieran 1971).

Early shipping settlements remained fairly self-contained, relying little on native resources. By the turn of the eighteenth century, as more towns were established, reliance on such resources increased. Local salt-

marsh grasses proved ideal as feed hay for cows. Virgin stands of oak were cut and used in shipbuilding, house construction, and raw material export (Barlow 1971; Booth 1859; Kieran 1971).

From 1700 to 1850, more townships were established and grew. The forest area diminished; all the local large game animals (deer, bear, etc.) were killed off, and their habitat was replaced by agricultural fields. The Revolutionary War destroyed much of the virgin forest in the New York area. Between the Tory and Hessian forces, most of the trees were used as firewood. What remained were small stands of trees often used as official landmarks for township divisions (Thompson 1918).

During the period of increased industrialization (in the mid-nineteenth century), land use gradually shifted from agriculture to manufacturing and raw material processing. The tidal marshes, previously exploited for grasses, became ideal dumpsites. Much of what is landfill today was at one time tidal marshes and small rivulets.

D. Background Research

There are no known prehistoric sites within the project area although there are 10 prehistoric sites within a 3.2-kilometer (2-mile) radius of the project area. Very little information was available at the OPRHP pertaining to these sites.

TABLE 2
RECORDED ARCHAEOLOGICAL SITES IN THE PROJECT VICINITY

SITE NUMBER / ADDITIONAL SITE # (NAME)	DISTANCE FROM APE m (ft) / USGS QUADRANGLE	SITE TYPE / TIME PERIOD	ARTIFACTS / FEATURES	REPORTED BY
OPRHP				
A07117.007357	312 m (1,024 ft) / Flushing, NY	N/A	N/A	N/A
A08101.006539	362 m (1,188 ft) / Flushing, NY	N/A	N/A	N/A
NYSM				
718 / Locust Point	3073 m (1,0085 ft) / Flushing, NY	No Information	No Information	No Information
722 / Bayview Site	2557 m (8,391 ft) / Flushing, NY	No Information	No Information	Platt
723 / John Golden Park Site 1	1938 m (6,361 ft) / Flushing, NY	No Information	Shell Midden	No Information
726 / Crocheron Park Site 1	2155 m (7,071 ft) / Flushing, NY	Prehistoric	Fox Creek Projectile Point, Prehistoric Pottery	Platt
4528	2469 m (8,101 ft) / Flushing: Seacliff, NY	Village / Prehistoric	Shell Midden	Parker 1922
4529	2118 m (6,949 ft) / Flushing: Seacliff, NY	Prehistoric	Shell Midden	Parker 1922
4530	2588 m (8,494 ft) / Flushing: Seacliff, NY	Burial Site	Burials	Parker 1922
4541	2390 m (7,842 ft) / Flushing, NY	Prehistoric	Traces of Occupation	Parker 1922

There are no documented historic sites in the project area, but historical cartographic research (Figures 4-11) illustrates that little construction took place around the project area since the nineteenth century. A map from 1875 provided by the U.S. Army Corps of Engineers depicts the pond within the project area to the southwest of the paved driveway listed as “post gardens” (see Figure 4), indicating that the area, although possibly landscaped, was not subjected to development.

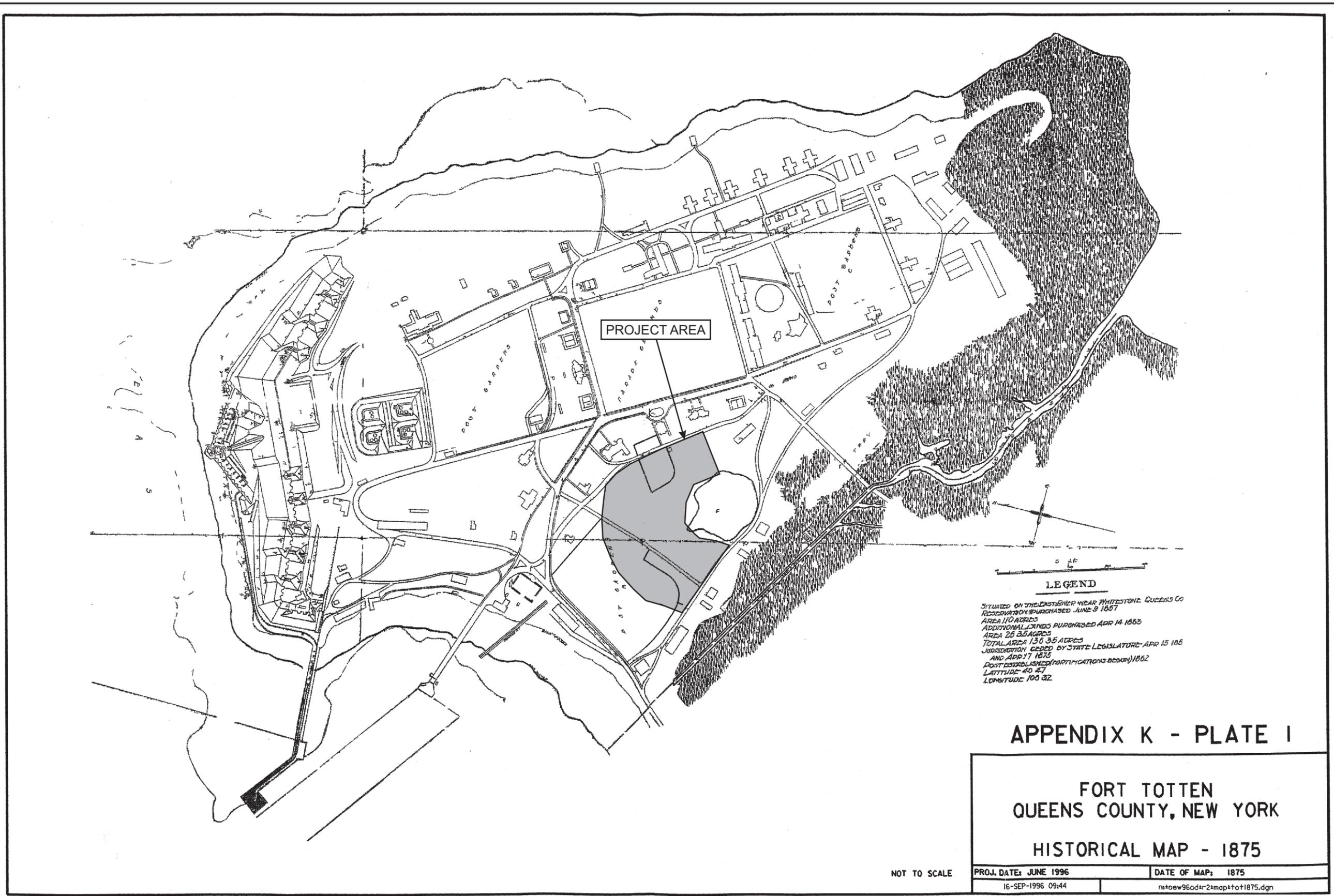


FIGURE 4: Project Area in 1875

SOURCE: US Army Corp of Engineers 1998

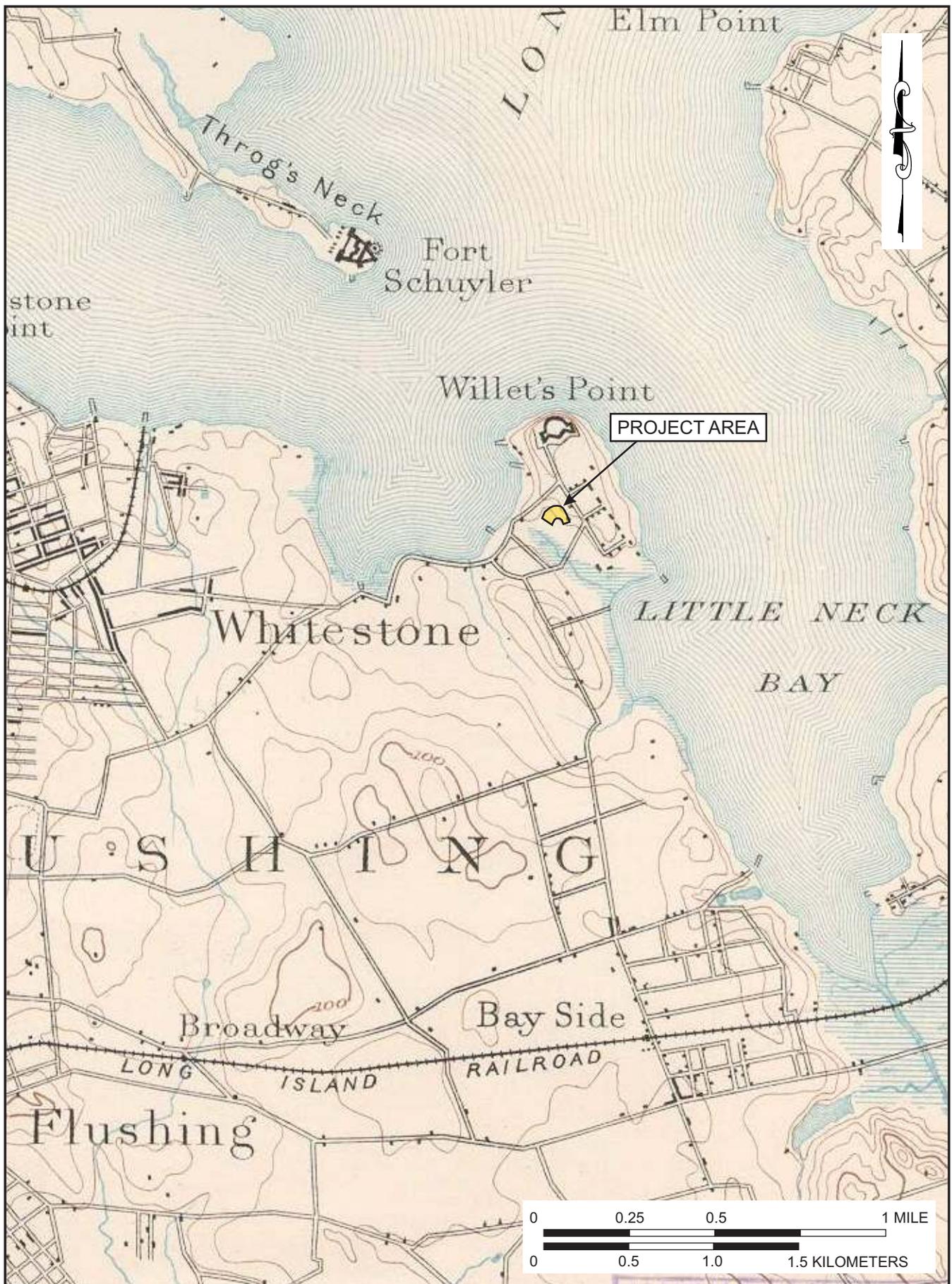


FIGURE 5: Project Area in 1891

SOURCE: USGS 15-Minute Quadrangle, Harlem, NY-NJ 1891



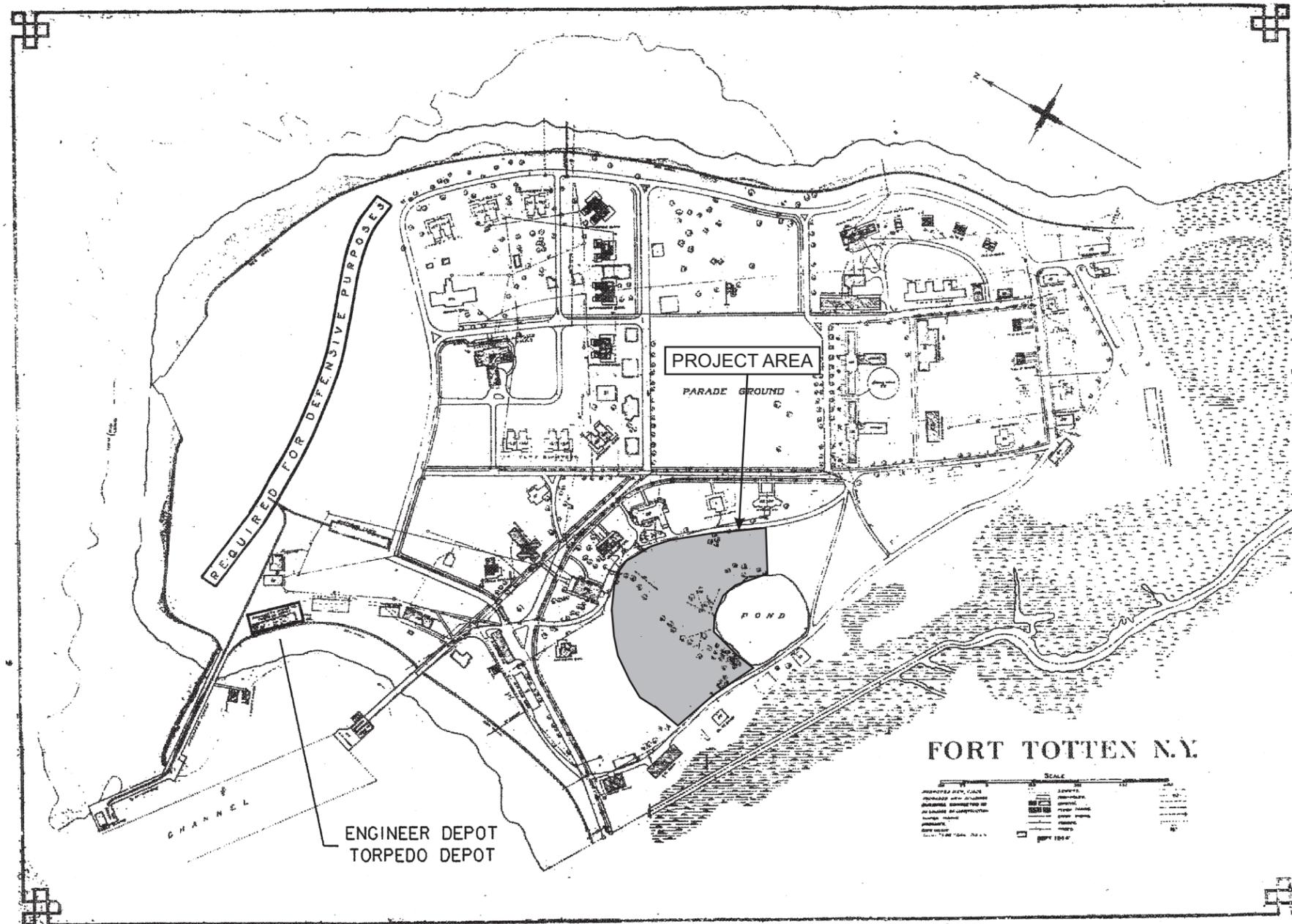
FIGURE 6: Project Area in 1897

SOURCE: USGS 15-Minute Quadrangle, Harlem, NY-NJ 1897



FIGURE 7: Project Area in 1900

SOURCE: USGS 15-Minute Quadrangle, Harlem, NY-NJ 1900



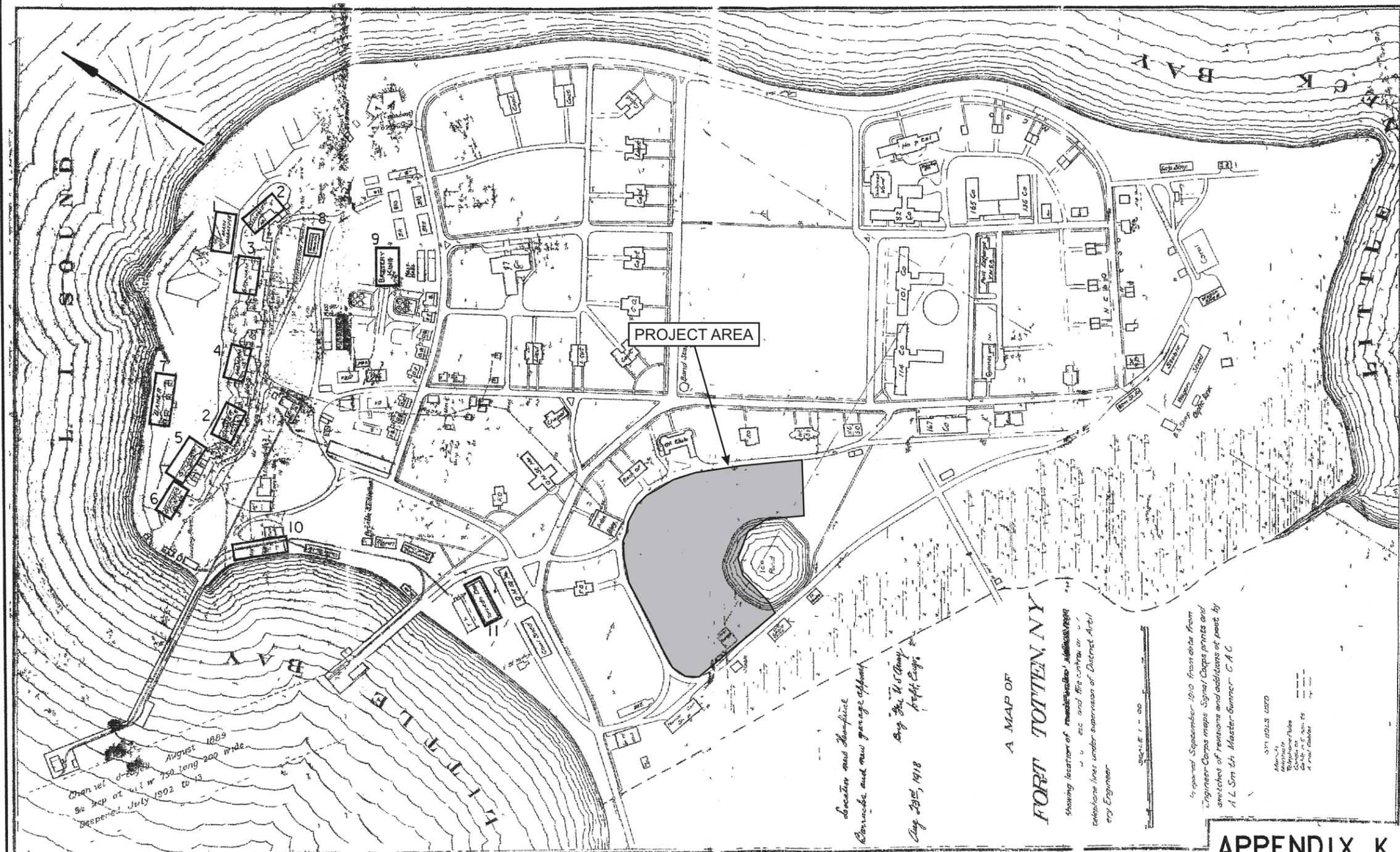
APPENDIX K - PLATE 2

FORT TOTTEN
QUEENS COUNTY, NEW YORK

HISTORICAL MAP - 1904

PROJ. DATE:	AUGUST 1996	DATE OF MAP:	1904
16-SEP-1996 09:45		N/OEW96CD/R2/MAP/TOT1904.DGN	

FIGURE 8: Project Area in 1904



LEGEND:

- | | |
|-------------------|------------------------|
| 1. MAIN MAGAZINE | 6. BATTERY BURNES |
| 2. BATTERY SUMNER | 7. BATTERY BAKER |
| 3. BATTERY GRAHAM | 8. ORDNANCE STOREHOUSE |
| 4. BATTERY MAHAN | 9. BATTERY KING |
| 5. BATTERY STUART | 10. MINE SHOP |
| | 11. TORPEDO DEPOT |

APPENDIX K - PLATE 3

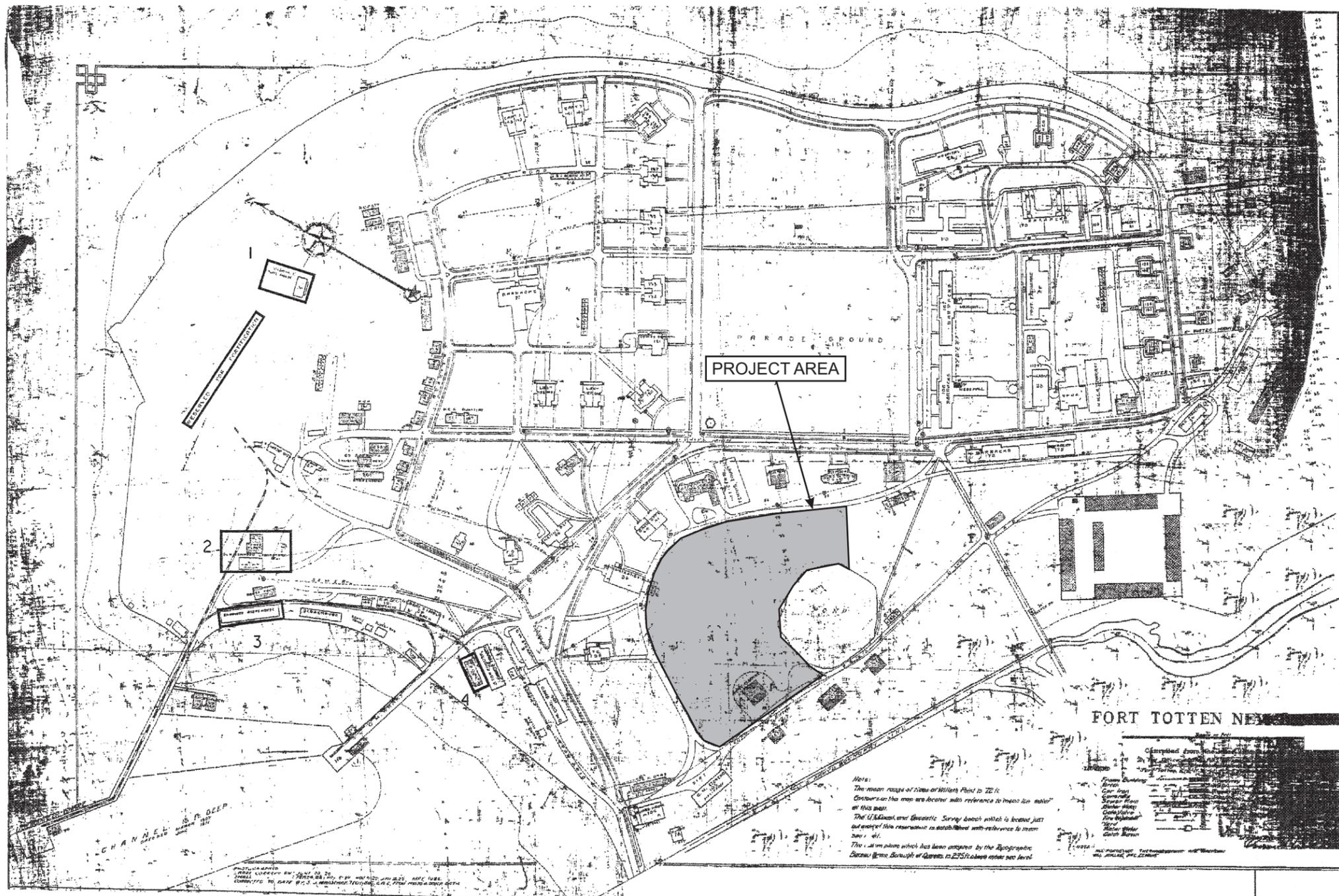
FORT TOTTEN
 QUEENS COUNTY, NEW YORK
 HISTORICAL MAP - 1910

PROJ. DATE: AUGUST 1996	DATE OF MAP: 1910
16-SEP-1996 09:47	N/OEW96CD/R2/MAP/TOT1910.DGN & CIT

NOT TO SCALE

FIGURE 9: Project Area in 1910

SOURCE: US Army Corp of Engineers 1998



LEGEND:

- 1. ORDNANCE STOREHOUSE
- 2. OLD TORPEDO LABORATORY
- 3. ENGINEER STOREHOUSE (FORMER MINE SHOP)
- 4. TORPEDO STOREHOUSE

APPENDIX K - PLATE 6

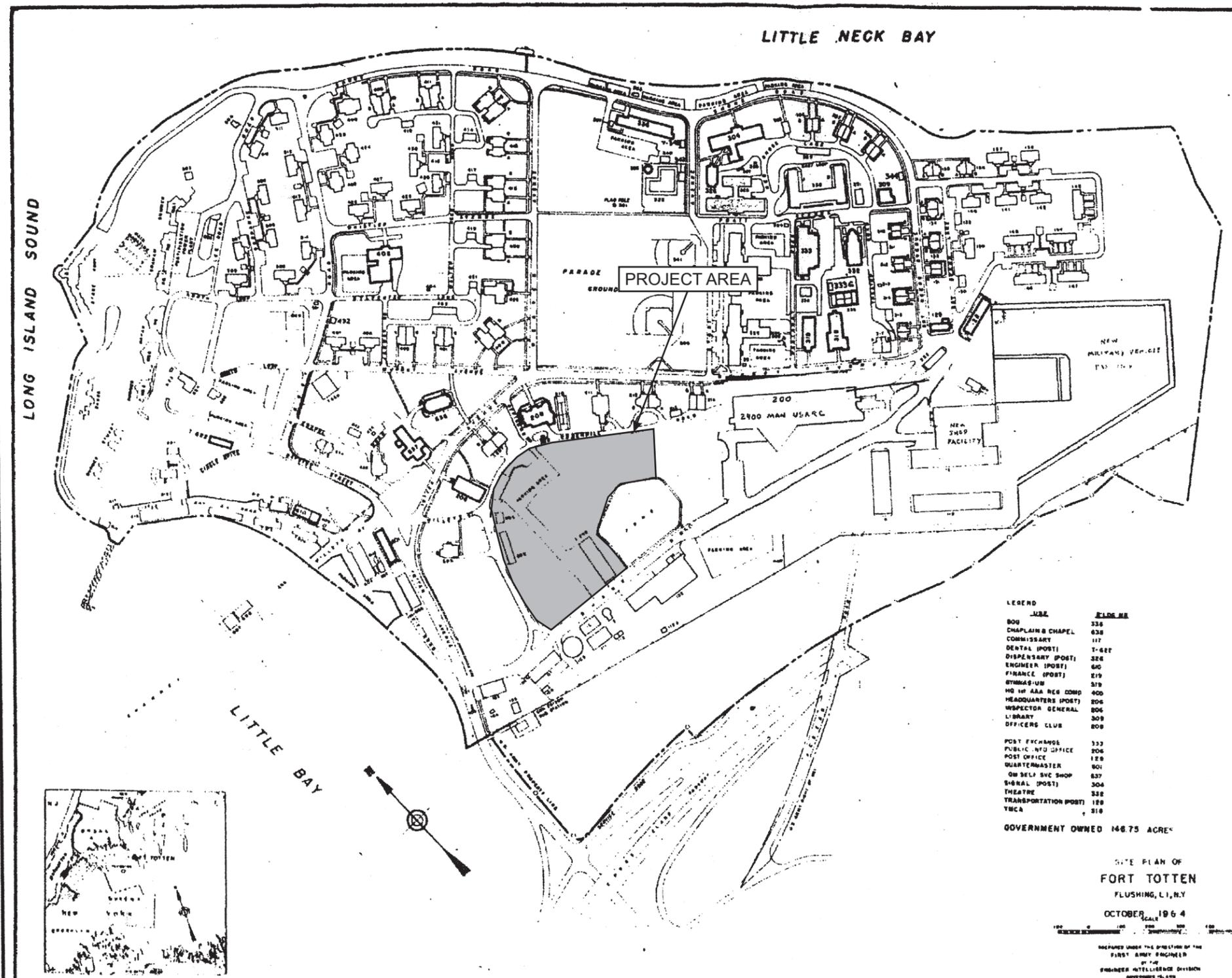
**FORT TOTTEN
QUEENS COUNTY, NEW YORK**

HISTORICAL MAP - 1928

NOT TO SCALE

PROJ. DATE: AUGUST 1996	DATE OF MAP: 1928
16-SEP-1996 09:53	N/OEW96CD/R2/MAP/TOT28.DGN & CIT

FIGURE 10: Project Area in 1928

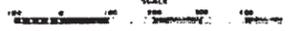


LEGEND

NAME	ROOM NO.
BOQ	336
CHAPLAIN'S CHAPEL	638
COMMISSARY	117
DENTAL (POST)	1-627
DISPENSARY (POST)	326
ENGINEER (POST)	640
FINANCE (POST)	219
GYMNASIUM	519
HQ OF AAA REG COMD	400
HEADQUARTERS (POST)	206
INSPECTOR GENERAL	806
LIBRARY	309
OFFICERS CLUB	809
POST EXCHANGE	333
PUBLIC INFO OFFICE	206
POST OFFICE	128
QUARTERMASTER	801
QM SELF SVC SHOP	637
SIGNAL (POST)	304
THEATRE	338
TRANSPORTATION (POST)	128
YMCA	318

GOVERNMENT OWNED 146.75 ACRES

SITE PLAN OF
FORT TOTTEN
FLUSHING, L.I., N.Y.
OCTOBER, 1964



PREPARED UNDER THE DIRECTION OF THE
FIRST ARMY ENGINEER
BY THE
ENGINEER INTELLIGENCE DIVISION
ARMY ENGINEER CENTER
FORT MONMOUTH, N.J.

NOT TO SCALE

APPENDIX K - PLATE 8

FORT TOTTEN QUEENS COUNTY, NEW YORK

HISTORICAL MAP - 1964

PROJ. DATE: AUGUST 1996	
16-SEP-1996 10:00	N/0EW96CD/R2/MAP/TOT64.DGN & CIT

FIGURE 11: Project Area in 1964

SOURCE: US Army Corp of Engineers 1998

During the course of the historical background research, a series of historical maps in the Archives Search Report (U.S. Army Corps of Engineers 1998) was provided to Berger by Mr. Ravi Ajodah. These, as well as the historical topographic quad maps, were studied for information about the four buildings that were thought to have been within the project area (see Figures 4-11). As the maps provided in the Archives Search Report were the result of multiple generations of copying, many were almost illegible. The historical maps from 1935, 1940 and pre-1940 (aerial photographs), and 1987 from the Archives Search Report were studied but not reproduced here because of the poor quality of reproduction. Only the most pertinent maps are reproduced in this report.

The earliest map available was that of 1875 (see Figure 4), which depicts an unknown structure to the east and somewhat south of the pond. It falls outside the project area. Within the project area to the north of the pond there is a rectangular space drawn where the current paved parking area is located. The space does not appear to have been a building, and its function is unknown. The 15-minute United States Geological Survey [USGS] maps (see Figures 5-7), as well as the 1904 historical map (see Figure 8), show no structures within the project area. By 1910 (see Figure 9) a structure is depicted to the west of the pond, fronting on Duane Street, with an almost illegible label indicating "Garage." The structure is definitely labeled "garage" on the 1928 historical map (see Figure 10). It is later depicted as an auto repair shop on the map from 1935 (not reproduced), but is gone by 1964 (see Figure 11). The garage structure corresponds with the cut and paved area shown in Photograph 1.

The next structure depicted in the project area is a stable seen on the 1935 historical map. It is seen on the 1964 map (see Figure 11) and the 1987 map (not reproduced) as Structure 202. It was thought to have been a garage, although it is not so labeled. The area of this structure may be seen in Photograph 2 as the parking area to the right.

First seen on the 1964 historical map (see Figure 11) are two more structures: Structure 204, labeled as a garage on the 1987 map, and a fairly large structure immediately west of the pond that may be labeled T-200, although the label is unclear. Structure 204 lies immediately northeast of Structure 202. Structure T-200 corresponds with the filled and paved area depicted in Photograph 3. Its function could not be determined from the available mapping. This structure is depicted on the current quad map (see Figure 1), which was photorevised in 1979, but it is not clear whether this structure was standing in 1987, based on the historical map of that year.

E. Sensitivity Assessment

To determine the archaeological sensitivity of the project area or APE, an archaeological reconnaissance was combined with a review of historical maps and the developed context for the project area. The review compared the existing conditions with historical depictions of the project area, such as those provided in Figures 4-11. Although the project area does not contain previously identified archaeological resources, both the topographic setting of the project area and the literature review suggest that the undisturbed portions of the project area have a high potential to contain archaeological resources. The initial site reconnaissance, however, did not locate any surficial evidence within the project area for prehistoric activity.

The extent of existing ground disturbance in the project area can be attributed to the excavation of a manmade pond to the south of the project area, as well as the construction and subsequent demolition of the few buildings that have stood within the project area.



PHOTOGRAPH 1: Cut and Paved Area, View to West



PHOTOGRAPH 2: View Southwest from Shovel Test D-7



PHOTOGRAPH 3: Filled and Paved Area, Densely Wooded in Background, View to North

III. Methods and Techniques

A. Archaeological Field Methods and Techniques

Based on the background research and soils information, Berger believed the project area had a high probability to contain cultural material. Berger conducted a pedestrian reconnaissance over the entire project area to determine which portions were suitable for subsurface testing. Berger made this determination based on degree of disturbance and slope, and any surficial evidence of cultural remains. The project area consists of the proposed footprints of the improvements and any areas that will be disturbed during construction of the improvements (see Figure 3). In defining the project area, a considerably larger area than the structural footprint was chosen to accommodate the greater cut and fill areas required for construction on the sloped portions of the project area.

The subsurface testing methodology was straightforward and consisted of standard shovel testing at 15-meter (50-foot) intervals of all areas within the project area that fell within the requisite parameters of disturbance and slope. Transects were labeled alphabetically from west to east, and the shovel tests were numbered south to north.

Shovel tests were 50 centimeters (1.6 feet) in diameter and were excavated into glacial soils. All soils removed from the shovel tests were passed through 0.25-inch mesh hardware cloth to recover artifacts. As each natural or cultural stratum was excavated, that stratum was assigned an alphabetic designation (i.e., Stratum A, Stratum B, Stratum C, etc.) in order to indicate its stratigraphic relationship to the other levels within the shovel test. The letter designations were assigned beginning with the first excavated level of the shovel test and proceeding alphabetically through each subsequent level, until the termination of the shovel test. Any artifacts recovered were bagged by level, and a field number was assigned to each provenience. Modern artifacts recovered from fill strata were noted and then discarded in the field. The shovel test data were recorded on standardized Berger forms. Recorded data included stratum depth, soil texture, soil color according to Munsell soil color charts, and artifact content. Appendix A provides the shovel test data in tabular form. Shovel test locations and project area conditions were recorded on a project plan map (Figure 3). Digital photographs were taken of the project area to document disturbances and cultural features, and to complement the field notes.

B. Laboratory Methods

1. Laboratory Processing

All artifacts were transported from the field to Berger's laboratory. In the field artifacts were bagged in 4-mil, re-sealable polyethylene bags. Artifact cards bearing provenience information were included in the plastic bags. A Field Number was assigned to each unique provenience in the field. This number appears with all the provenience information and is used throughout processing and analysis to track artifacts.

In the laboratory provenience information on each artifact card was checked against a master list of Field Numbers with their proveniences. Any discrepancies were corrected at this time, and a Catalog Number was assigned to each provenience.

Prehistoric lithics and most historic artifacts were washed in water with a soft toothbrush. Prehistoric ceramics, faunal material, and fragile artifacts were wet-brushed with a soft, natural-bristle paint brush or were simply dry-brushed. Metal objects were cleaned using a dry toothbrush or stainless-steel wire brush. All artifacts were laid out to air dry in preparation for analysis.

During analysis individual Specimen Numbers were assigned to artifacts within each Catalog Number for each analytical Class: historic ceramics, curved (vessel) glass, small finds/architectural, lithics, prehistoric ceramics, faunal, and floral.

After analysis the artifacts were re-bagged into clean, perforated, 4-mil, re-sealable polyethylene bags. Artifacts are organized sequentially first by Site Number, then by Catalog Number, and finally by artifact Class and Specimen Number within each Catalog Number. An acid-free artifact card listing full provenience information and analytical class was included in each bag.

Artifacts were marked with provenience information following the format listed below, using black waterproof India ink on a base of Rhoplex. The label was then sealed with a top coat of 10-percent polyvinyl acetate (PVA) in acetone.

(State Site Number)
(Catalog No.) – (Specimen No.)

Example:
13JK132
356-12

2. Analytical Methods

All artifact analyses were conducted by the Laboratory Supervisor and/or Material Specialist(s). Berger maintains an extensive comparative collection and laboratory research library to contribute to the completeness and accuracy of the analyses.

Berger has developed a flexible analytical database system that fully integrates all artifacts in one database for use in data manipulation and interpretation. The computerized data management system is written using Paradox® 9, a relational database development package that runs on a Windows® platform.

Each class of artifacts (historic ceramics, curved (vessel) glass, small finds/architectural, lithics, prehistoric ceramics, faunal, and floral) has a series of attributes, sometimes unique to that class, that are recorded to describe each artifact under analysis. Artifact information (characteristics), recorded on the data entry forms by the analysts, was entered into the system. The system was then used to enhance the artifact records with the addition of provenience information. Berger maintains a complete type and attribute coding book for each material class.

The artifact coding system employs a Type/Subtype system developed by Berger's Cultural Resources Division. The format for the historic artifacts is based on the South/Noël Hume typology (South 1977), as modified for use in a computerized system (Berger 1987). The prehistoric lithics system is based on Taylor et al. (1996) and the prehistoric ceramics is based on Koldehoff (1992), both modified for use in a computerized system.

The Type/Subtype system is comprised of a three-letter code followed by a number (integer). The first letter of the code represents the specific Class to which that artifact belongs: C, for Historic Ceramics; G, for Curved (Vessel) Glass; S, for Small Finds/Architectural; L, for Lithics; A, for Prehistoric Ceramics; Z, for Faunal; and F, for Floral. The second and third letters and number represent further subdivisions of the artifact groups within the class and are defined in the below discussions for each analytical class.

The Notes field allows for individual written comments applicable to a specific entry. In general, notes are used to describe particulars of decorative motifs or unusual characteristics, or to record bibliographic references used for identification or dating. Comment codes refer to information not covered in other fields.

IV. Field Investigation

A. Pedestrian Reconnaissance and Present Conditions

Fort Totten is northeast of New York City in the Borough of Queens, on a peninsula that extends northeastward into Long Island Sound, creating Little Neck Bay to the south and east (see Figures 1, 5, 6, and 7). Most of Fort Totten is on relatively level ground with a notable rise on the north end of the peninsula above the granite battery. In the past the peninsula was approached from the south via a narrow neck (the route followed by current Totten Avenue), with an extensive tidal flat/wetland to the east (see Figures 5, 6, and 7). Much of this wetland has been filled to provide additional land for the base.

Duane Road bounds the project area to the south, and a driveway servicing Buildings 206, 207, 208, and 211 circles the project area to the west and north. An arbitrary line from the end of the same driveway to the pond bounds the project area to the east. The project area is situated on sloped terrain, generally between 10 and 15 percent, and the pond rests at the low point. The north and west boundary of the project area delineate the break between the sloped area around the pond and the generally level topography that covers the remainder of the fort. Toward the north and outside the project area is a small knoll. To the south and west is a moderate to steep slope down to the tidal marsh. The project area is bisected by a paved driveway with a paved parking area at its northeast end. Northwest of the south end of the driveway is the remains of an old building consisting of a paved concrete pad that was cut into the slope (see Photograph 1). Across the driveway is another concrete pad that sits on a fill berm (Photograph 4). To the north (grid north) lies a densely wooded and overgrown area where modern garbage has been dumped (see Photograph 3). The parade grounds, barracks, hospital, officer housing, and headquarters were all located on the level, southeast portion of the base. The defensive structures were all located on and below the elevated area on the north end.

The proposed construction within the project area will consist of a new two-story administration building with a basement, along with associated paved parking areas, patios, sidewalks and concrete pads (see Figure 3). The building will be situated immediately northwest of the artificial pond in the most low-lying portion of the project area.

Berger conducted the pedestrian reconnaissance of the project area on August 8 and August 30 through September 1, 2006. During the pedestrian reconnaissance no evidence of prehistoric archaeological deposits or historic structures was identified within the project area. Cartographic evidence of structures within the project area included a possible garage in the cut area west of the driveway, an unknown building east of the driveway on the filled area, and Buildings 202 and 204 depicted south of the boundary driveway on maps from 1964 and 1987. Buildings 202 and 204 sat on the fill berm shown to the right in Photograph 2. Berger also noted evidence of recent fill, including concrete and asphalt fragments, visible on the ground surface near the artificial pond (Photograph 5). The rear driveway that delineates the northeast boundary of the project area is also built on fill (Photograph 6).

B. Shovel Test Program

Berger conducted the excavation of shovel tests at Fort Totten from August 30 through September 1, 2006 and established a site grid parallel to the paved north-south driveway. Grid North is on an azimuth of approximately 25 degrees. Transects were set at 15-meter (50-foot) intervals and labeled alphabetically west to east. Shovel tests were numbered from south to north and also set at 15-meter (50-foot) intervals.

Berger excavated a total of 79 shovel tests within the areas to be affected by the project (see Figure 3), consisting of 62 tests placed on grid points, five tests placed as radials around a possible isolated find at Shovel Test F-5, and 12 tests placed at 7.5-meter (25-foot) intervals between positive and negative shovel tests to more tightly define contiguous positive shovel tests. Of the 79 shovel tests, 19 were positive for prehistoric material, yielding a total of 62 prehistoric artifacts, resulting in the identification of the Little Neck Site (Berger Temporary Site 3810-01, OPRHP A08101.011172). In addition to these artifacts, Berger recovered a total of 5.5 kilograms of shell, four faunal specimens, and 20 floral specimens.



PHOTOGRAPH 4: Transect G, Fill Berm on Left, View to North



PHOTOGRAPH 5: Filled Area Along North Shore of Pond, View to West



PHOTOGRAPH 6: Along the Boundary Driveway, View to Northwest

Artifact density was more intense to the southwest of the site, where the ground was more level (Photograph 7). Although Shovel Test F-5 and its four positive radial shovel tests are located more than 33 meters (100 feet) from positive shovel tests in the main portion of the site, they are included within the Little Bay Site since they are separated by the disturbance of the paved driveway.

Seventeen shovel tests were positive for historic and modern material, producing a total of 63 historic and modern artifacts. Berger recovered 53 of these artifacts from the Ap- or A-horizons, and the remaining 10 from the B-horizon. The area of highest concentration of the historic artifacts was found at the center of the Little Bay Site.

Shovel Tests D-5 and Z-2 encountered a dense layer of cobble-sized rocks and black soil that was considered to be a possible cultural feature. Shovel Test C-3 contained a high concentration shell in a fairly well-defined Stratum B, and is likely the remains of a shell midden. Shovel Tests F-5, F-5a, F-5d, and F-5e contained several prehistoric artifacts.

Stratigraphy across the APE was very consistent where the soil profile was undisturbed. Soils within the Little Bay Site were of two types depending on the degree of colluvium and/or fill present. The first, on the more level areas, was exemplified by that seen in Shovel Test B-5, where a 41-centimeter (1.35-foot) Stratum A consisting of dark brown (10YR 3/3) sandy loam overlay a yellowish brown (10YR 5/4) sandy loam with about 1 percent rounded cobbles and gravel that continued to the base of the excavation at 60 centimeters (2.03 feet) below the ground surface. Stratum A was interpreted as a mix of Ap and colluvium (or possibly landscape fill) and produced two biface reduction flakes, and one piece of block shatter. Stratum B was a B horizon soil. The second type of profile within the Little Bay Site was seen in Shovel Test C-3, where the plowzone (Ap) could be distinguished from an undisturbed A-horizon beneath it. In Shovel Test C-3, Stratum A was very dark gray (10YR 3/1) silt loam to 24 centimeters (0.79 foot) below the ground surface, interpreted as the Ap-horizon. Stratum B continued to 50 centimeters (1.64 feet) below the ground surface and consisted of 4.8 kilograms of shell in a black (10YR 2/1) loam matrix. It was interpreted as a shell midden that was at the level of a remnant A horizon. Beneath that, continuing to 65 centimeters (2.13 feet) below the ground surface, Stratum C, dark yellowish brown (10YR 4/6) fine sand was thought to have been a B-horizon soil altered by the overlying midden deposit. Stratum D, yellowish brown (10YR 5/4) fine sand, continued to the base of the excavation at 74 centimeters (2.43 feet) below the ground surface and was the more typical B-horizon soil in this part of the APE. Artifacts recovered from Stratum A included three flake fragments and a hammerstone, as well as two bottle glass fragments, one wire nail, one machine-cut nail, and one unidentified metal piece. Stratum B produced the shell mentioned above as well as three bone fragments, 20 floral samples, and a bottle fragment. Stratum C contained one fire-cracked rock, and Stratum D was culturally sterile.

The Little Bay Site produced six prehistoric ceramic pieces, but the only temporally diagnostic artifact was a tentatively identified Susquehanna Broad point from Shovel Test Z-9 (Photograph 8). Berger identified the shell as mostly clam and scallop with smaller amounts of oyster and mussel shells.

As was expected, evidence from the shovel tests placed closest to the artificial pond indicated both modern disturbance and fill; however, enough shovel tests penetrated the fill into intact strata to allow characterization of these lower lying sections of the project area. Shovel Test F-4 revealed an intact soil profile beneath two fill layers. Stratum A was very dark brown (10YR 3/2) silt loam that continued to 15 centimeters (0.49 feet) below the ground surface, where it overlay Stratum B, brown (10YR 4/3) silt clay loam. Stratum B gave way to Stratum C at 39 centimeters (1.28 feet). Stratum C was dark gray (10YR 4/1) silt clay loam and was interpreted as a somewhat hydric A-horizon that was culturally sterile. Berger encountered Stratum D at 54 centimeters (1.77 feet) below the ground surface. This stratum, the intact B-horizon, was yellowish brown (10YR 5/6) sandy clay loam and continued to the base of the excavation at 65 centimeters (2.13 feet) below the ground surface.

Unlike Shovel Test F-4, Shovel Test K-1 revealed substantial fill over a truncated B horizon. Stratum A extended for 75 centimeters (2.46 feet) below the ground surface and consisted of brown (10YR 4/3) sandy loam with modern and historic artifacts. Stratum B, although below the water table, was light yellowish brown (10YR 6/4) loamy sand with no artifacts. This stratum continued to the base of the excavation at 80 centimeters (2.62 feet) below the ground surface and was interpreted as the B-horizon.



PHOTOGRAPH 7: Little Bay Site, View to Southwest



PHOTOGRAPH 8: Cat No. 33, Tentatively Identified as Susquehanna Broad Point

V. Conclusions and Recommendations

On behalf of the National Environmental Policy Act (NEPA) Support Team, Mobile District, U.S. Army Corps of Engineers, The Louis Berger Group, Inc. (Berger), Albany, New York, has completed a Phase I archaeological survey for the Base Realignment and Closure (BRAC) 2005 actions associated with a proposed new facility under the jurisdiction of the 77th Regional Readiness Command (RRC) at Fort Totten, Flushing, Queens County, New York. The proposed action consists of the construction of a new administration building covering approximately 2,676 square meters (28,800 square feet), paved parking areas, patios, and associated walkways. Duane Road bounds the project area to the south, and a semi-circular driveway bounds the project area to the west and north, servicing Buildings 206, 207, 208 and 211. On the east, an arbitrary line bounds the project area from the end of the same driveway to the pond. From north to south the APE extends for 150 meters (500 feet) and from east to west it is 200 meters (650 feet) wide at the widest point for a total of 5.05 acres (2.04 hectares).

The archaeological survey was conducted in August and September 2006. The objective of the survey was to identify any archaeological sites within the project area. The archaeological fieldwork consisted of extensive field reconnaissance, subsurface testing through the emplacement of 79 shovel tests, and the recovery of 62 historic/modern artifacts and 63 prehistoric artifacts.

Berger identified the Little Bay Site (Berger Temporary Site 3810-01, OPRHP A08101.011172) through the excavation of 19 positive shovel tests within the APE. In addition to 63 prehistoric artifacts, Berger believes that this site includes a shell midden and a large rock feature. The earliest datable artifact Berger recovered was a tentatively identified Susquehanna Broad projectile point (fourth millennium BP). Although six ceramic fragments were recovered, these were not identifiable to type, but they indicate that people were occupying the site sometime between 3,000 and 500 years ago.

Judging from the available evidence, the recovered historic cultural material represents a historic artifact scatter found in a plowzone context that lacks any association with map-documented structures. The material therefore has no associative context within which behavioral correlates can be derived and does not represent an archaeological site. Nevertheless, if further investigation of the prehistoric site is conducted, additional information will also be obtained on this historic presence that may change the current interpretation.

Based on the findings of the Phase I survey, Berger concludes that the Little Bay Site (A08101.011172) is eligible for listing in the National Register of Historic Places under Criterion D as the site has the potential to yield further information about and contribute to our understanding of the lifeways of prehistoric populations in the Lower Hudson Valley. Site A08101.011172 lies in an area associated with plans to expand an existing facility, and direct impacts to the site are expected to occur. Berger recommends further consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) and other appropriate parties to discuss the alternatives to avoid, minimize, or mitigate the potential impacts to the Little Bay Site. Further work should involve the controlled excavation of 50-centimeter-square shovel tests, 1-meter test units, and larger block excavation. As data from shell middens have been used productively to contribute to our understanding of prehistoric lifeways and environment in the Lower Hudson Valley (Brennan 1991; Claassen 1991), Berger further recommends the excavation of a cruciform slot/slit trench into the area of the possible shell midden to examine the profile, sample the matrix for analysis, and evaluate the nature of this feature.

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APPENDIX A

Shovel Test Data

STP	Stratum	Depth to base of Stratum		Soil Color	Texture	Coarse Fraction	Artifact Cat. #	Comments, Pedology (if understood)
		cm	ft					
A-1	A	26	0.85	10YR 3/3 Dark Brown	Sandy Loam	15 Percent Rounded Cobbles	NCM	Disturbed A or landscape fill
	B	35	1.15	10YR 6/4 Light Yellowish Brown	Loamy Sand		NCM	B
	C	45	1.48	10YR 5/6 Yellowish Brown	Loamy Fine Sand		NCM	C
A-2	A	11	0.36	10YR 4/2 Dark Grayish Brown	Silt Loam	< 5 Percent Gravel	NCM	Fill
	B	35	1.15	10YR 4/3 Brown	Silt Loam	< 5 Percent Gravel	NCM	Some Charcoal; Ap
	C	54	1.77	10YR 5/4 Yellowish Brown	Silt	< 5 Percent Gravel	NCM	B
A-3	A	22	0.72	10YR 4/2 Dark Grayish Brown	Silt Loam	< 5 Percent Gravel	NCM	Offset 12' South
	B	42	1.38	10YR 4/3 Brown	Silt Loam	< 5 Percent Gravel	NCM	Ap
	C	60	1.97	10YR 5/4 Yellowish Brown	Silt	< 5 Percent Gravel	NCM	B
B-1	A	10	0.33	10YR 3/3 Dark Brown	Sandy Loam		NCM	STP offset 6' north due to fence; Large Root Impasse
B-2	A	28	0.92	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Ap
	B	43	1.41	10YR 4/6 Dark Yellowish Brown	Sandy Loam	1 Percent Rounded Cobbles	NCM	B
B-3	A	30	0.98	10YR 4/3 Brown	Silt Loam		NCM	Ap
	B	44	1.44	10YR 3/6 Dark Yellowish Brown	Loamy Silt		NCM	B
B-4	A	46	1.51	10YR 3/3 Dark Brown	Silt Loam		1	Ap + colluvium
	B	60	1.97	10YR 4/6 Dark Yellowish Brown	Loamy Silt	1 Percent Rounded Cobbles	NCM	B
B-5	A	41	1.35	10YR 3/3 Dark Brown	Sandy Loam		2	Ap + colluvium
	B	62	2.03	10YR 5/4 Yellowish Brown	Sandy Loam	1 Percent Rounded Cobbles	NCM	B
B-6	A	44	1.44	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Ap
	B	65	2.13	10YR 5/3 Brown	Loamy Sand	1 Percent Rounded Cobbles	NCM	B
C-1	A	28	0.92	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Ap
	B	56	1.84	10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	B
C-2	A	30	0.98	10YR 3/4 Dark Yellowish Brown	Sandy Loam		3	Ap
	B	55	1.8	10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	B
C-3	A	24	0.79	10YR 3/1 Very Dark Gray	Silt Loam		4	Ap
	B	50	1.64		Shell		5	Shell Midden
	C	65	2.13	10YR 4/6 Dark Yellowish Brown	Fine Sand		6	Altered B
	D	74	2.43	10YR 5/4 Yellowish Brown	Fine Sand		NCM	B
C-4	A	31	1.02	10YR 3/3 Dark Brown	Sandy Loam		7	Ap?
	B	52	1.71	10YR 5/8 Yellowish Brown	Sandy Loam		8	B disturbed ?
C-5	A	6	0.2	10YR 2/2 Very Dark Brown	Sandy Loam		NCM	Offset 3' west
	B	31	1.02	10YR 4/6 Dark Yellowish Brown	Coarse Sand	Large Cobbles	discarded	Fill - within building footprint
D-1	A	21	0.69	10YR 3/3 Dark Brown	Loamy Sand	5 Percent Gravel	NCM	Fill
	B	31	1.02	10YR 5/6 Yellowish Brown	Silt Loam		NCM	Truncated B
D-2	A	40	1.31	10YR 3/3 Dark Brown	Sandy Loam		NCM	A
	B	52	1.71	10YR 3/6 Dark Yellowish Brown	Loamy Silt		NCM	B
D-3	A	26	0.85	10YR 2/1 Black	Silt Loam		NCM	Fill or colluvium
	B	33	1.08	10YR 3/2 Very Dark Grayish Brown	Silt Loam		NCM	Ap
	C	50	1.64	10YR 3/1 Very Dark Gray	Sandy Clay Loam		NCM	A
	D	78	2.56	10YR 5/8 Yellowish Brown	Silty Clay Loam		NCM	B
D-4	A	39	1.28	10YR 3/3 Dark Brown	Sandy Loam		9	Ap + colluvium
	B	56	1.84	10YR 6/3 Pale Brown	Sandy Loam	1 Percent Rounded Cobbles	NCM	B
D-5	A	34	1.12	10YR 3/2 Very Dark Brown	Sandy Loam		NCM	Ap
	B	68	2.23	10YR 3/1 Very Dark Gray	Silty Clay Loam		NCM	Large cobbles found at base of strat B - poss feature?
	C	82	2.69	10YR 5/8 Yellowish Brown	Silty Clay		NCM	B
D-6	A	42	1.38	10YR 4/3 Brown	Sandy Loam		NCM	Ap + colluvium
	B	58	1.9	10YR 4/6 Dark Yellowish Brown	Silt Loam		NCM	B

D-7	A	17	0.56	10YR 3/2 Very Dark Brown	Silt Loam		NCM	Fill
	B	35	1.15	10YR 3/3 Dark Brown	Sandy Clay Loam		10	Ap
	C	45	1.48	10YR 3/4 Dark Yellowish Brown	Sandy Loam	High concentration of Shell	NCM	A
	D	58	1.9	10YR 5/6 Yellowish Brown	Sandy Loam		NCM	B
E-1	A	22	0.72	10YR 4/2 Dark Grayish Brown	Silt Loam	<5 Percent Gravel	NCM	A
	B	47	1.54	10YR 5/3 Brown	Silt	<2 Percent Gravel	NCM	Intact B
E-2	A	25	0.82	10YR 3/1 Very Dark Gray	Loam		NCM	Offset 20' west
	B	43	1.41	10YR 5/4 Yellowish Brown	Silty Clay Loam		NCM	B - water table at 43 cm.
E-3	A	28	0.92	10YR 3/1 Very Dark Gray	Loam		NCM	Offset 15' west
	B	46	1.51	10YR 5/4 Yellowish Brown	Silty Clay Loam		NCM	B - Water table at 42 cm.
E-4	A	37	1.21	10YR 4/3 Brown	Silt Loam		NCM	Offset 12' west
	B	52	1.71	10YR 6/3 Pale Brown	Loamy Silt	1 Percent Gravel	NCM	B
E-5	A	27	0.89	10YR 4/3 Brown	Silty Clay Loam		NCM	Offset 12' west; Discarded brick and tire valve
	B	40	1.31	10YR 6/3 Pale Brown	Silty Clay		NCM	B
E-6	A	31	1.02	10YR 4/4 Dark Yellowish Brown	Silt Loam		NCM	Offset 10' west
	B	44	1.44	10YR 4/6 Dark Yellowish Brown	Loamy Silt	1 Percent Gravel	NCM	Probably B
E-7	A	20	0.66	10YR 3/3 Dark Brown	Sandy Loam		NCM	Offset 15' west
	B	34	1.12	10YR 4/6 Dark Yellowish Brown	Fine Sand		11	A or Ap
	C	62	2.03	10YR 5/4 Yellowish Brown	Fine Sand		NCM	B
F-1	A	15	0.49	10YR 3/2 Very Dark Brown	Loam		NCM	Offset 8' to the west
	B	28	0.92	10YR 4/6 Dark Yellowish Brown	Loamy Sand		NCM	Fill
	C	50	1.64	10YR 5/6 Yellowish Brown	Sand		NCM	Fill, high concentration slag
F-2	A	25	0.82	10YR 3/2 Very Dark Brown	Loam		NCM	Fill
	B	43	1.41	10YR 4/6 Dark Yellowish Brown	Loamy Sand	20 Percent Gravel	NCM	Fill
	C	50	1.64	10YR 3/3 Dark Brown	Sandy Loam		NCM	Fill
	D	64	2.1	10YR 5/6 Yellowish Brown	Loamy Sand		NCM	Fill; Terminated due to compact fill
F-3	A	15	0.49	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Fill
	B	35	1.15	10YR 3/4 Dark Yellowish Brown mottled w/10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	Fill
	C	49	1.61	10YR 4/6 Dark Yellowish Brown	Loamy Sand		NCM	Fill
	D	61	2	10YR 2/1 Black	Loam		NCM	Fill; Terminated due to compact fill
F-4	A	15	0.49	10YR 3/2 Very Dark Brown	Silt Loam		NCM	
	B	39	1.28	10YR 4/3 Brown	Silty Clay Loam		NCM	Fill; Discarded 1 bottle glass, 1 brick
	C	54	1.77	10YR 4/1 Dark Gray	Silty Clay Loam		NCM	A
	D	65	2.13	10YR 5/6 Yellowish Brown	Sandy Clay Loam		NCM	B
F-5	A	43	1.41	10YR 3/3 Dark Brown	Silt Loam	<2 Percent Gravel	12	A or Ap
	B	59	1.94	10YR 5/4 Yellowish Brown	Silt Loam	<2 Percent Gravel	NCM	B
F-5a	A	58	1.9	10YR 3/3 Dark Brown	Silt Loam		13	A or Ap
	B	69	2.26	10YR 4/6 Dark Yellowish Brown	Silty Clay Loam		NCM	B
F-5b	A	41	1.35	10YR 3/3 Dark Brown	Silt Loam		NCM	A or Ap
	B	61	2	10YR 6/6 Brownish Yellow	Silt Loam		NCM	B
F-5c	A	34	1.12	10YR 3/3 Dark Brown	Silt Loam		14	A or Ap
	B	54	1.77	10YR 4/6 Dark Yellowish Brown	Sandy Loam		15	B
F-5d	A	40	1.31	10YR 3/2 Very Dark Brown	Silt Loam		16	A or Ap
	B	50	1.64	10YR 3/3 Dark Brown	Silt Loam		NCM	B
F-5e	A	42	1.38	10YR 3/3 Dark Brown	Silt Loam		17	A or Ap
	B	60	1.97	10YR 6/6 Brownish Yellow	Silt Loam		NCM	B
G-1	A	20	0.66	10YR 3/3 Dark Brown	Sandy Loam		18	Fill
	B	36	1.18	10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	Fill; compact
	C	47	1.54	10YR 5/8 Yellowish Brown	Silt		NCM	Truncated B
G-2	A	10	0.33	10YR 3/2 Very Dark Brown	Loam		NCM	Fill

	B	23	0.75	10YR 4/4 Dark Yellowish Brown	Silt		NCM	Fill
	C	31	1.02	10YR 4/6 Dark Yellowish Brown mottled w/ 10YR 5/4 Yellowish Brown	Silt Loam		NCM	Terminated due to rock impasse
G-3	A	12	0.39	10YR 3/3 Dark Brown	Silt Loam		NCM	Fill
	B	48	1.57	10YR 5/6 Yellowish Brown	Sandy Loam		NCM	Fill
	C	62	2.03	10YR 5/8 Yellowish Brown mixed w/ 10YR 5/4 Yellowish Brown	Sandy Loam		NCM	Fill; Utility trench
G-4	A	25	0.82	10YR 4/3 Brown	Sandy Loam		NCM	Fill
	B	41	1.35	10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	Fill
	C	60	1.97	10YR 3/3 Dark Brown	Sandy Loam		NCM	Fill
	D	70	2.3	10YR 5/4 Yellowish Brown	Sandy Loam		NCM	Fill
	E	80	2.62	10YR 4/4 Dark Yellowish Brown	Sandy Loam		NCM	Fill; Terminated due to depth of fill
G-5	A	13	0.43	10YR 4/3 Brown	Sandy Loam		NCM	Fill
	B	15	0.49	10YR 3/1 Very Dark Gray	Sandy Loam		NCM	Fill
	C	48	1.57	10YR 4/3 Brown	Sandy Loam		NCM	Fill; Discarded brick and ceramic
	D	63	2.07	10YR 3/2 Very Dark Brown	Sandy Loam		NCM	A; Hydric
	E	73	2.39	2.5Y 5/4 Light Olive Brown	Sandy Loam		NCM	B; hydric
G-6	A	18	0.59	10YR 4/3 Brown	Sandy Loam		NCM	Fill; Discarded brick and plastic
	B	26	0.85	Gley1 4/5GY Dark Greenish Gray	Sandy Loam		NCM	Fill
	C	50	1.64	5 Y 3/2 Dark Olive Gray	Sandy Loam		NCM	Discarded brick; A
	D	61	2	2.5Y 5/4 Light Olive Brown	Sandy Loam		NCM	B; hydric
G-7	A	37	1.21	10YR 3/4 Dark Yellowish Brown mottled w/ 10YR 4/6 Dark Yellowish Brown	Silt Loam		NCM	Fill; modern plastic discarded
	B	60	1.97	10YR 3/3 Dark Brown	Silt Loam		NCM	Fill
G-8	A	28	0.92	10YR 4/3 Brown	Silt Loam		NCM	Fill
	B	56	1.84	10YR 4/1 Dark Gray	Loamy Sand	< 2 Percent Gravel	NCM	A
	C	64	2.1	10YR 5/2 Grayish Brown	Sand	< 2 Percent Gravel	NCM	B
H-1	A	19	0.62	10YR 4/2 Dark Grayish Brown	Sandy Loam		NCM	Fill
	B	29	0.95	5Y 4/1 Dark Gray	Sandy Loam		NCM	Fill
	C	37	1.21	2.5Y 5/4 Light Olive Brown	Sandy Loam		NCM	Fill
	D	56	1.84	5Y 4/1 Dark Gray	Sandy Loam		NCM	A; Hydric
	E	72	2.36	10YR 4/6 Dark Yellowish Brown	Silty Clay Loam		NCM	B; hydric
H-2	A	37	1.21	10YR 4/2 Dark Grayish Brown	Sandy Loam		NCM	Fill
	B	57	1.87	10YR 4/3 Brown	Sandy Loam		NCM	Fill; Rock Impasse
H-3	A	31	1.02	10YR 4/3 Brown	Sandy Loam		NCM	Fill
	B	56	1.84	10YR 4/6 Dark Yellowish Brown mixed w/ 10YR 3/3 Dark Brown	Sandy Loam		NCM	Fill; Terminated due to large concrete impasse
I-1	A	30	0.98	10YR 4/4 Dark Yellowish Brown mottled w/ 10YR 4/6 Dark Yellowish Brown	Silt Loam		NCM	Fill
	B	58	1.9	10YR 4/2 Dark Grayish Brown	Sandy Loam	Round Cobbles	NCM	Fill
	C	84	2.76	10YR 3/2 Very Dark Brown	Silt Loam		NCM	Fill
I-2	A	38	1.25	10YR 4/4 Dark Yellowish Brown mottled w/ 10YR 4/6 Dark Yellowish Brown	Loamy Silt	Angular and rounded cobbles	NCM	Fill
	B	82	2.69	10YR 4/2 Dark Grayish Brown	Sandy Loam	Round Cobbles	NCM	Fill; Large rock impasse
I-3	A	47	1.54	10YR 4/3 Brown mottled w/ 10YR 4/6 Dark Yellowish Brown	Sandy Loam	Round Cobbles	NCM	Coal discarded; Disturbed A
	B	62	2.03	10YR 4/6 Dark Yellowish Brown	Sandy Loam	Round Cobbles	NCM	B
I-4	A	30	0.98	10YR 4/2 Dark Grayish Brown	Sandy Loam		NCM	Fill; Offset 3' east
	B	48	1.57	10YR 4/2 Dark Grayish Brown mottled w/10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	Fill
	C	65	2.13	10YR 5/1 Gray	Loamy Sand		NCM	Fill; terminated due to buried utility
I-5	A	26	0.85	10YR 4/3 Brown	Sandy Loam		NCM	A or Ap
	B	43	1.41	10YR 6/4 Light Yellowish Brown	Sandy Loam	1 Percent Rounded Cobbles	NCM	B
			0					
J-1	A	39	1.28	10YR 4/3 Brown	Sandy Loam		NCM	Fill; extremely compact, brick and coal discarded
	B	100	3.28	10YR 3/1 Very Dark Gray	Sandy Loam	40 Percent Gravel	19	Fill; brick, cola , plastic discarded

J-2	A	30	0.98	10YR 3/2 Very Dark Brown	Sandy Loam		20	Fill or colluvium
	B	70	2.3	10YR 4/4 Dark Yellowish Brown	Sandy Loam		NCM	A
	C	83		2.5Y 6/4 Light Yellowish Brown	Fine Sand		NCM	B
			0					
J-3	A	22	0.72	10YR 4/2 Dark Grayish Brown	Sandy Clay Loam		NCM	Fill; asphalt, glass, nail discarded
	B	69	2.26	10YR 4/2 Dark Grayish Brown mixed w/ 10YR 5/6 Yellowish Brown	Sandy Loam		NCM	Fill; Terminated due to buried utility
J-4	A	30	0.98	10YR 4/2 Dark Grayish Brown	Sandy Loam		21	A
	B	64	2.1	10YR 5/8 Yellowish Brown	Sandy Loam		NCM	B
K-1	A	75	2.46	10YR 4/3 Brown	Sandy Loam		22	Fill
	B	80	2.62	10YR 6/4 Light Yellowish Brown	Loamy Sand		NCM	Truncated B or C
K-2	A	21	0.69	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	A
	B	48	1.57	10YR 4/6 Dark Yellowish Brown	Loamy Sand		NCM	B
K-3	A	16	0.52	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	A
	B	35	1.15	10YR 4/6 Dark Yellowish Brown	Loamy Sand		NCM	B
L-1	A	23	0.75	5Y 4/1 Dark Gray	Sandy Loam		NCM	Fill
	B	44	1.44	5Y 3/1 Very Dark Gray	Silt Loam		NCM	Fill
	C	60	1.97	2.5Y 5/4 Light Olive Brown	Sandy Loam		NCM	Fill; rock impasse
L-2	A	37	1.21	10YR 4/2 Dark Grayish Brown	Sandy Loam		NCM	A
	B	60	1.97	10YR 5/8 Yellowish Brown	Sandy Loam		NCM	B
L-3	A	17	0.56	10YR 4/2 Dark Grayish Brown	Sandy Loam		23	A or Ap
	B	40	1.31	10YR 5/8 Yellowish Brown	Sandy Loam		24	B
	C	63	2.07	2.5Y 6/2 Light Brownish Gray	Coarse Sand		NCM	C
M-1	A	31	1.02	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Asphalt and coal discarded; A
	B	50	1.64	10YR 5/6 Yellowish Brown	Loamy Silt	1 Percent Round Cobbles	NCM	B
M-2	A	18	0.59	10YR 4/3 Brown	Sandy Loam	1 Percent Round Cobbles	NCM	A
	B	41	1.35	10YR 5/6 Yellowish Brown	Loamy Silt	1 Percent Round Cobbles	NCM	B
M-3	A	15	0.49	10YR 3/2 Very Dark Brown	Sandy Loam		NCM	Fill; nail discarded
	B	40	1.31	10YR 4/6 Dark Yellowish Brown	Sandy Loam	Large Cobbles	NCM	Fill
Z-1	A	33	1.08	10YR 4/3 Brown	Sandy Loam		NCM	Landscape fill or Colluvium
	B	73	2.39	10YR 3/2 Very Dark Brown	Sandy Loam		25	A or Ap
	C	90	2.95	10YR 4/6 Dark Yellowish Brown	Sandy Loam		NCM	B
Z-2	A	42	1.38	10YR 4/3 Brown	Sandy Loam		NCM	Modern Plastic Discarded
	B	65	2.13	10YR 3/3 Dark Brown	Sandy Loam		26	A or Ap
	C	80	2.62	10YR 4/6 Dark Yellowish Brown	Sandy Loam	Round Cobbles	NCM	B
Z-3	A	42	1.38	10YR 3/2 Very Dark Brown	Silty Clay Loam		27	A
	B	61	2	2.5Y 6/4 Light Yellowish Brown	Sandy Clay Loam		NCM	B
Z-4	A	23	0.75	10YR 2/2 Very Dark Brown	Silt Loam		28	Shell discarded; Colluvium
	B	40	1.31	10YR 2/1 Black	Silt Loam			A
	C	58	1.9	2.5Y 6/4 Light Yellowish Brown	Sandy Loam			Water table at BOE; B
Z-5	A	21	0.69	10YR 3/2 Very Dark Brown	Sandy Loam		NCM	Colluvium
	B	37	1.21	10YR 3/2 Very Dark Brown	Sandy Loam		29	Significant Shell; A
	C	49	1.61	10YR 5/6 Yellowish Brown	Loamy Sand		NCM	B
Z-6	A	29	0.95	10YR 3/3 Dark Brown	Sandy Loam		30	Ap
	B	49	1.61	10YR 5/4 Yellowish Brown	Loamy Sand		NCM	B
Z-7	A	27	0.89	10YR 3/2 Very Dark Brown	Sandy Loam		31	Ap
	B	55	1.8	10YR 5/8 Yellowish Brown	Sandy Loam		NCM	B
Z-8	A	25	0.82	10YR 4/4 Dark Yellowish Brown	Sandy Loam		32	Ap
	B	48	1.57	10YR 3/3 Dark Brown	Sandy Loam		NCM	A
Z-9	A	23	0.75	10YR 4/4 Dark Yellowish Brown	Sandy Loam		NCM	Ap
	B	45	1.48	10YR 3/3 Dark Brown	Sandy Loam		33	A
	C	62	2.03	10YR 4/6 Dark Yellowish Brown	Sandy Loam	1 Percent Round Cobbles	NCM	B
Z-10	A	33	1.08	10YR 3/4 Dark Yellowish Brown	Sandy Loam		NCM	Modern glass discarded
	B	52	1.71	10YR 6/6 Brownish Gray	Silt Loam	1 Percent Round Cobbles	NCM	B
Z-11	A	22	0.72	10YR 3/3 Dark Brown	Sandy Loam		34	Ap
	B	58	1.9	10YR 6/6 Brownish Gray	Silt Loam		35	B
Z-12	A	39	1.28	10YR 4/3 Brown	Sandy Loam		NCM	Modern glass discarded
	B	50	1.64	10YR 3/3 Dark Brown	Sandy Loam		36	A
	C	77	2.53	10YR 3/6 Dark Yellowish Brown	Sandy Loam	10 Percent Round cobbles	NCM	B

APPENDIX B

Artifact Inventory Translations of Utilized Codes

Site	Accession	Cat	Spec	Fld	STP	Str	Type Stype	Translation	Cnt	Wght	Beg-End Date	V1	V3	V4	V5	V6	V7	V8	V9	Cmt	Ptn	Note
A08101.011172	-	1	5	101	B4	A	ZXP 1	Oyster/Clam		45.3	- -	- -	- -	- -	700	2	- -	- -	- -	- -	11.97	-
A08101.011172	-	1	1	101	B4	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	9	-	1.2	-
A08101.011172	-	1	2	101	B4	A	LDB 6	Finishing Flake	1	0.1	- -	- -	1	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	1	3	101	B4	A	LDB 9	Flake Fragment	3	2.4	- -	- -	1	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	1	4	101	B4	A	LDB 9	Flake Fragment	1	2.9	- -	- -	531	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	2	1	102	B5	A	LDB 3	Biface Reduction Flake	2	1.2	- -	- -	551	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	2	2	102	B5	A	LDB 10	Block Shatter	1	100.1	- -	- -	531	- -	- -	- -	- -	- -	4	-	9.91	-
A08101.011172	-	2	3	102	B5	A	LUM 2	Unmodified Pebble	1	93.0	- -	- -	551	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	3	1	103	C2	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	9	-	1.2	-
A08101.011172	-	3	2	103	C2	A	SAB 1	Brick	2	1.6	- -	- -	1	- -	- -	2	- -	- -	- -	- -	2.16	-
A08101.011172	-	4	1	104	C3	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	9	-	1.2	-
A08101.011172	-	4	2	104	C3	A	GBU 3	Unidentified Bottle/Fragment-Finish	1	-	- -	- -	- -	- -	- -	- -	- -	245	9	-	1.2	-
A08101.011172	-	4	6	104	C3	A	LDB 9	Flake Fragment	3	3.9	- -	- -	531	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	4	7	104	C3	A	LCB 2	Hammerstone	1	374.7	- -	- -	551	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	4	3	104	C3	A	SAF 6	Wire Nail	1	-	1880	- -	624	-	414	2	- -	- -	- -	- -	2.12	-
A08101.011172	-	4	4	104	C3	A	SAF 74	Machine Cut Nail - Unknown Head	1	-	1790	- -	624	-	414	2	- -	- -	- -	- -	2.12	-
A08101.011172	-	4	5	104	C3	A	SOS 1	Unidentified Metal	1	56.2	- -	- -	624	-	-	2	- -	- -	- -	- -	0.0	-
A08101.011172	-	5	2	105	C3	B	ZMZ 1	Unidentified Mammal	3	5.7	- -	- -	- -	- -	999	2	- -	- -	- -	- -	11.99	-
A08101.011172	-	5	3	105	C3	B	ZXZ 1	Unidentified Shell		4,787.0	- -	- -	- -	- -	700	2	- -	- -	- -	- -	11.99	-
A08101.011172	-	5	4	105	C3	B	FZA 20	Unidentified Floral	20	0.7	- -	- -	- -	- -	99	-	10	- -	- -	- -	12.99	-
A08101.011172	-	5	1	105	C3	B	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	7	-	1.2	-
A08101.011172	-	6	1	106	C3	C	LFC 1	Fire-cracked Rock	1	331.5	- -	- -	551	-	-	-	-	-	-	-	9.91	-
A08101.011172	-	7	3	107	C4	A	ZMZ 5	Large Mammal	1	26.7	- -	- -	- -	- -	999	2	- -	- -	- -	- -	11.99	-
A08101.011172	-	7	2	107	C4	A	LFC 1	Fire-cracked Rock	1	26.9	- -	- -	551	-	-	-	-	-	-	-	9.91	-
A08101.011172	-	7	1	107	C4	A	SAF 6	Wire Nail	1	-	1880	- -	624	-	414	2	- -	- -	- -	- -	2.12	-
A08101.011172	-	8	1	108	C4	B	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	7	-	1.2	-
A08101.011172	-	8	3	108	C4	B	LFC 1	Fire-cracked Rock	2	64.2	- -	- -	721	-	-	-	-	-	-	-	9.91	-
A08101.011172	-	8	2	108	C4	B	SAF 6	Wire Nail	1	-	1880	- -	624	-	414	2	- -	- -	- -	- -	2.12	-
A08101.011172	-	9	1	109	D4	A	LDB 3	Biface Reduction Flake	1	0.6	- -	- -	1	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	9	2	109	D4	A	LDB 9	Flake Fragment	2	0.3	- -	- -	1	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	9	3	109	D4	A	LDB 9	Flake Fragment	1	0.1	- -	- -	531	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	10	1	110	D7	B	SAG 11	Broad Glass	2	1.6	-	1926	-	320	-	2	-	-	11	-	2.11	-
A08101.011172	-	10	2	110	D7	B	SAP 3	Earthenware Drain Pipe	1	-	- -	- -	216	-	-	2	- -	- -	- -	- -	2.15	-
A08101.011172	-	11	1	111	E7	B	CRW 0	Whiteware	1	-	1820	- -	- -	- -	79	-	1	- -	- -	- -	1.4	-

Site	Accession	Cat	Spec	Fld	STP	Str	Type Type Style	Translation	Cnt	Wght	Beg-End Date	V1	V3	V4	V5	V6	V7	V8	V9	Cmt	Ptn	Note
A08101.011172	-	11	2	111	E7	B	CRW 35	Whiteware - Underglaze Handpainted	1	-	1820 -	-	-	102	79	-	1	-	40	-	1.4	-
A08101.011172	-	11	3	111	E7	B	SAF 6	Wire Nail	1	-	1880 -	-	624	-	414	2	-	-	-	-	2.12	-
A08101.011172	-	12	1	112	F5	A	LDB 9	Flake Fragment	1	0.1	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	13	1	113	F5a	A	LFC 1	Fire-cracked Rock	1	363.1	- -	-	551	-	-	-	-	-	-	-	9.91	-
A08101.011172	-	14	1	114	F5c	A	LDB 3	Biface Reduction Flake	1	0.5	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	15	1	115	F5c	B	SAP 3	Earthenware Drain Pipe	1	-	- -	-	216	-	-	2	-	-	-	-	2.15	-
A08101.011172	-	15	2	115	F5c	B	SAF 74	Machine Cut Nail - Unknown Head	1	-	1790 -	-	624	-	414	2	-	-	-	-	2.12	-
A08101.011172	-	16	1	116	F5d	A	ACV 6	Body Sherd	1	1.2	- -	-	2	-	-	20	-	-	20	-	9.92	three pieces
A08101.011172	-	17	1	117	F5e	A	LDB 3	Biface Reduction Flake	1	0.4	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	18	1	118	G1	A	SAG 1	Modern Window Glass	3	6.1	- -	-	320	-	-	2	-	-	10	-	2.11	-
A08101.011172	-	18	2	118	G1	A	SAF 6	Wire Nail	1	-	1880 -	-	624	-	414	2	-	-	-	-	2.12	-
A08101.011172	-	19	1	119	J1	B	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	-	-	-	-	-	-	-	9	-	1.2	-
A08101.011172	-	20	2	120	J2	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	-	-	-	-	-	-	-	9	-	1.2	-
A08101.011172	-	20	3	120	J2	A	GBU 2	Unidentified Bottle/Fragment-Base	1	-	- -	-	-	-	-	-	99	-	1	-	1.2	-
A08101.011172	-	20	1	120	J2	A	CPF 2	Soft Paste Porcelain - Plain	3	-	- -	-	-	-	78	-	1	-	-	-	1.4	-
A08101.011172	-	20	4	120	J2	A	SAG 1	Modern Window Glass	1	1.1	- -	-	320	-	-	2	-	-	10	-	2.11	-
A08101.011172	-	20	5	120	J2	A	SPM 1	Unit Insignia	1	-	1924 1930	-	631	-	-	2	-	-	-	-	5.35	Coastal Artillery Corps collar insignia disk, Type-II (Hagge, et al 2004:512)
A08101.011172	-	21	1	121	J4	A	SAF 74	Machine Cut Nail - Unknown Head	2	-	1790 -	-	624	-	414	2	-	-	-	-	2.12	-
A08101.011172	-	22	3	122	K1	A	GBU 4	Unidentified Bottle/Fragment-Body	3	-	- -	-	-	-	-	-	-	-	1	-	1.2	-
A08101.011172	-	22	4	122	K1	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	-	-	-	-	-	-	-	3	93	1.2	-
A08101.011172	-	22	5	122	K1	A	GOU 2	Total Unidentified Glass/Melted	1	-	- -	-	-	-	-	-	-	-	1	93	1.10	-
A08101.011172	-	22	1	122	K1	A	CRI 2	Ironstone - Plain	1	-	1840 -	-	-	-	77	-	3	-	-	99	1.4	-
A08101.011172	-	22	2	122	K1	A	CRI 2	Ironstone - Plain	2	-	1840 -	-	-	-	77	-	1	-	-	99	1.4	-
A08101.011172	-	22	6	122	K1	A	SAP 2	Salt-Glazed Slipped Drain Pipe	1	-	1810 -	-	220	-	598	2	-	-	-	-	2.15	-
A08101.011172	-	22	7	122	K1	A	SKO 20	Food Wrapper	2	-	- -	-	420	-	-	2	-	-	-	7	1.10	Oreo wrapper discarded
A08101.011172	-	23	1	123	L3	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	-	-	-	-	-	-	-	7	-	1.2	-
A08101.011172	-	23	2	123	L3	A	SAG 11	Broad Glass	4	4.7	- 1926	-	320	-	-	2	-	-	11	-	2.11	-
A08101.011172	-	24	1	124	L3	B	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	-	-	-	-	-	-	-	7	-	1.2	-
A08101.011172	-	24	2	124	L3	B	SAG 11	Broad Glass	2	2.7	- 1926	-	320	-	-	2	-	-	11	-	2.11	-
A08101.011172	-	25	5	125	Z1	B	ZXZ 1	Unidentified Shell		324.6	- -	-	-	-	700	2	-	-	-	-	11.99	-
A08101.011172	-	25	1	125	Z1	B	LDB 3	Biface Reduction Flake	2	0.8	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	25	2	125	Z1	B	LDB 6	Finishing Flake	2	0.2	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	25	3	125	Z1	B	LDB 9	Flake Fragment	1	0.4	- -	-	1	-	-	-	-	-	1	-	9.91	-
A08101.011172	-	25	4	125	Z1	B	ACV 6	Body Sherd	1	0.5	- -	-	2	-	-	2	-	-	20	-	9.92	-

Site	Accession	Cat	Spec	Fld	STP	Str	Type Type Type	Translation	Cnt	Wght	Beg-End Date	V1	V3	V4	V5	V6	V7	V8	V9	Cmt	Ptn	Note	
A08101.011172	-	26	1	126	Z2	B	ZXZ 1	Unidentified Shell		139.7	- -	- -	- -	- -	700	2	- -	- -	- -	- -	11.99	-	
A08101.011172	-	27	1	127	Z3	A	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	9	-	1.2	-
A08101.011172	-	27	2	127	Z3	A	GBU 3	Unidentified Bottle/Fragment-Finish	1	-	- -	- -	- -	- -	- -	- -	- -	- -	245	9	-	1.2	-
A08101.011172	-	28	1	128	Z4	A	SAF 7	Unidentified Nail	2	-	- -	- -	624	-	414	2	- -	- -	- -	- -	- -	2.12	-
A08101.011172	-	29	1	129	Z5	B	LDB 9	Flake Fragment	1	0.1	- -	- -	531	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	29	2	129	Z5	B	LUM 2	Unmodified Pebble	1	11.4	- -	- -	681	-	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	30	1	130	Z6	A	CER 1	Redware - Unglazed	1	-	- -	- -	- -	- -	357	-	2	- -	- -	- -	- -	1.7	-
A08101.011172	-	30	2	130	Z6	A	LDB 6	Finishing Flake	1	0.1	- -	- -	501	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	30	3	130	Z6	A	LUM 1	Unmodified Cobble	1	334.0	- -	- -	551	-	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	30	4	130	Z6	A	ACV 6	Body Sherd	1	2.4	- -	- -	20	-	- -	20	- -	- -	40	-	- -	9.92	-
A08101.011172	-	31	2	131	Z7	A	ZXP 1	Oyster/Clam		19.6	- -	- -	- -	- -	700	2	- -	- -	- -	- -	- -	11.97	-
A08101.011172	-	31	1	131	Z7	A	LDB 6	Finishing Flake	1	0.1	- -	- -	501	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	32	1	132	Z8	A	LUM 2	Unmodified Pebble	1	0.7	- -	- -	551	-	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	33	6	133	Z9	B	ZXP 1	Oyster/Clam		29.8	- -	- -	- -	- -	700	2	- -	- -	- -	- -	- -	11.97	-
A08101.011172	-	33	1	133	Z9	B	LBF 1	Projectile Point	1	3.8	- -	- -	531	-	- -	2	- -	- -	1	-	9.91	Susquehanna Broadspear (Ritchie1961:53), Terminal Archaic	
A08101.011172	-	33	2	133	Z9	B	LDB 3	Biface Reduction Flake	2	1.8	- -	- -	531	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	33	3	133	Z9	B	LDB 6	Finishing Flake	4	0.4	- -	- -	1	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	33	4	133	Z9	B	LDB 9	Flake Fragment	1	0.2	- -	- -	531	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	33	5	133	Z9	B	LFC 1	Fire-cracked Rock	1	22.3	- -	- -	551	-	- -	- -	- -	- -	- -	- -	- -	9.91	-
A08101.011172	-	34	3	134	Z11	A	LDB 2	Early Reduction Flake	1	3.7	- -	- -	551	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	34	1	134	Z11	A	SAF 6	Wire Nail	1	-	1880	- -	- -	624	-	414	2	- -	- -	- -	- -	2.12	-
A08101.011172	-	34	2	134	Z11	A	SOS 1	Unidentified Metal	1	2.1	- -	- -	624	-	- -	2	- -	- -	- -	- -	- -	0.0	-
A08101.011172	-	35	1	135	Z11	B	GBU 4	Unidentified Bottle/Fragment-Body	1	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	9	-	1.2	-
A08101.011172	-	35	2	135	Z11	B	SGB 33	Cartridge Casing - 45 Caliber	1	-	- -	340	604	-	321	2	- -	- -	- -	- -	- -	4.26	stamped "U.M.C./07"
A08101.011172	-	36	5	136	Z12	B	ZXP 1	Oyster/Clam		136.3	- -	- -	- -	- -	700	2	- -	- -	- -	- -	- -	11.97	-
A08101.011172	-	36	1	136	Z12	B	LDB 6	Finishing Flake	2	0.2	- -	- -	1	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	36	2	136	Z12	B	LDB 9	Flake Fragment	1	0.3	- -	- -	1	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	36	3	136	Z12	B	LDB 9	Flake Fragment	1	0.8	- -	- -	531	-	- -	- -	- -	- -	- -	1	-	9.91	-
A08101.011172	-	36	4	136	Z12	B	ACV 6	Body Sherd	3	3.9	- -	- -	2	-	- -	20	- -	- -	40	-	- -	9.92	-

Utilized Codes for XE 3810 Fort Totten, Queens Co, NY Ph. I

Lithics

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Point Type		Material	Termination	Flake Scars	Condition	Modification	Platform Type	Cortex	Temporal Affiliation	

Var6	Translation
2	Broken

Var3	Translation
1	Chert
501	Jasper
531	Quartz
551	Quartzite
681	Sedimentary
721	Metamorphic

Var9	Translation
1	Absent
4	Block

Prehistoric Ceramic

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Ware Type	Vessel Number	Exterior Surface	Exterior Decoration	Form/Shape	Interior Surface	Interior Decoration		Temper	Temporal Affiliation	

Var6	Translation
2	Eroded
20	Plain/Smoothed

Var3	Translation
2	Eroded
20	Plain/Smoothed

Var9	Translation
20	Shell
40	Sand

Historic Ceramic

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Maker's Mark	Vessel Number	Wear	Motif/Pattern	Form	Percent Complete	Part		Color		

Var7	Translation
1	Body
2	Rim
3	Base

Cmt	Comment Trans
99	Burned

Var4	Translation
102	Small Scale Floral

Var9	Translation
40	Green

Var5	Translation
77	Unidentified Tableware, Flatware
78	Unidentified Tableware, Hollowware
79	Unidentified Tableware
357	Miscellaneous Storage/Serving Vessel

Glass

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Maker's Mark	Vessel Number	Brand	Motif/Pattern	Manufacturing Technique	Percent Complete	Base	Finish	Color	Wear	Embossment/Label

Var7	Translation
99	Unidentified

Cmt	Comment Trans
93	Melted

Var8	Translation
245	Down-tooled Lip Above Rounded String Rim

Var9	Translation
1	Colorless
3	Emerald Green/Teal
7	Brown/Amber/Honey
9	Aquamarine (all shades)

Small Finds/Architectural

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Maker's Mark/Brand		Material	Decoration	Characteristic	Percent Complete			Color		BackMark

Var1	Translation
340	Union Metallic Cartridge Co.

Var3	Translation
1	Brick
216	Redware
220	Stoneware
320	Glass
420	Plastic
604	Brass
624	Ferrous Metal
631	Gold-plated

Var9	Translation
10	Colorless
11	Aqua

Var5	Translation
321	Center Fire
414	Common
598	Albany Slipped

Var6	Translation
2	Portion/Fragment

Cmt	Comment Trans
7	Discarded

Faunal

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
Butchering Type		Illustrated Meat Cut	Age/Fusion	Element	Portion	Burning	Gnawing	Weathering	MNU Type	

Var6	Translation
2	Fragment

Var5	Translation
700	Shell
999	Unidentified

Floral

Var1 Meaning	Var2 Meaning	Var3 Meaning	Var4 Meaning	Var5 Meaning	Var6 Meaning	Var7 Meaning	Var8 Meaning	Var9 Meaning	Var10 Meaning	Var11 Meaning
				Element	Percent Complete	Burning				

Var7	Translation
10	Carbonized

Var5	Translation
99	Unknown

Pattern and Function Translations

PatGrp	Pattern Analysis Group
0	Unidentified
1	Kitchen
2	Architecture
4	Arms
5	Clothing
9	Prehistoric
11	Faunal
12	Floral

PatCls	Pattern Analysis Class
0	Unidentified
2	Bottles
4	Tableware
7	Cookware/Cooking-Related
10	Kitchen - Other
11	Window Glass/Caming/Etc.
12	Nails, Spikes, Tacks, etc., and Misc. Construction Hardware
15	Plumbing/Toilet/Sink Fixtures
16	Misc. Building Materials/Floor Covering/Roofing Materials
26	Ammunition
35	Militaria
91	Prehistoric Lithics
92	Prehistoric Ceramics
97	Faunal/Floral Domestic/Exploited
99	Faunal/Floral - Other

Funct	Function Trans
2	Tablewares
9	Multifunction
28	Miscellaneous Bottle - Other

APPENDIX C

Site Form for the Little Bay Site
(Berger Temporary Site 3810-01,
OPRHP A08101.011172)



NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

NYS OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION

(518) 237-8643

For Office Use Only--Site Identifier

Project Identifier

Your Name The Louis Berger Group, Inc. Date September 2006
Address 20 Corporate Woods Blvd., Albany, New York 12211 Phone 518 432 9545
Organization (if any) _____

1. SITE IDENTIFIER(S) Berger Temporary Site 3810-01 (Little Bay Site)
2. COUNTY Queens One of the following: CITY New York
TOWNSHIP _____
INCORPORATED VILLAGE _____
UNINCORPORATED VILLAGE OR HAMLET Fort Totten

3. PRESENT OWNER HQ 77th Regional Support Command, UA Army Reserve
Address Building 200
Fort Totten, New York 11359

4. SITE DESCRIPTION (check all appropriate categories):

Site

<input type="checkbox"/> Stray Find	<input type="checkbox"/> Cave/Rockshelter	<input type="checkbox"/> Workshop
<input type="checkbox"/> Pictograph	<input type="checkbox"/> Quarry	<input type="checkbox"/> Mound
<input type="checkbox"/> Burial	<input checked="" type="checkbox"/> Shell Midden	<input type="checkbox"/> Village
<input type="checkbox"/> Surface Evidence	<input type="checkbox"/> Camp	<input checked="" type="checkbox"/> Material in plow zone
<input checked="" type="checkbox"/> Material below plow zone	<input checked="" type="checkbox"/> Buried evidence	<input type="checkbox"/> Intact Occupation floor
<input type="checkbox"/> Single component	<input type="checkbox"/> Evidence of features	<input type="checkbox"/> Stratified
	<input checked="" type="checkbox"/> Multicomponent	

Location

Under cultivation Sustaining erosion Woodland Upland
 Never cultivated Previously cultivated Floodplain Pastureland
Soil Drainage: excellent good fair poor _____
Distance to nearest water from structure (approx.) 125 feet to artificial pond, former wetland
Elevation: 50-40 feet amsl

5. Site Investigation (append additional sheets, if necessary):

Surface – date (s) August 8, 2006
 Site map (submit with form*)
 Collection

Subsurface – date (s) August 30 - September 1, 2006
Testing: shovel coring _____ other _____ unit size _____
no. units 79 (Submit plan of units with form*)
Excavation: unit size _____ no. of units _____
(Submit plan of units with form*)

* Submission should be 8 1/2" by 11", if feasible

Investigator The Louis Berger Group, Inc.
(Hope E. Luhman, Ph.D., Niels Rinehart, Rick Vernay, and Patrick Sabol)

Manuscript or published report (s) (reference fully):

The Louis Berger Group, Inc.

2006 Phase I Archaeological Survey of New Facility at Fort Totten, Queens County, New York. On file at

The Louis Berger Group, Inc., Albany, New York.

Present repository of materials The Louis Berger Group, Inc.

6. COMPONENT(S) (cultural affiliation/dates):

Late Archaic (4,000 - 3,500 B.P.)

Woodland Period (3,000 - 500 B.P.)

7. LIST OF MATERIAL REMAINS (be specific as possible in identifying object and material):

1 projectile point (Susquehanna Broad)

6 body sherds (non-diagnostic)

1 hammerstone, 6 fire-cracked rock, and 48 debitage

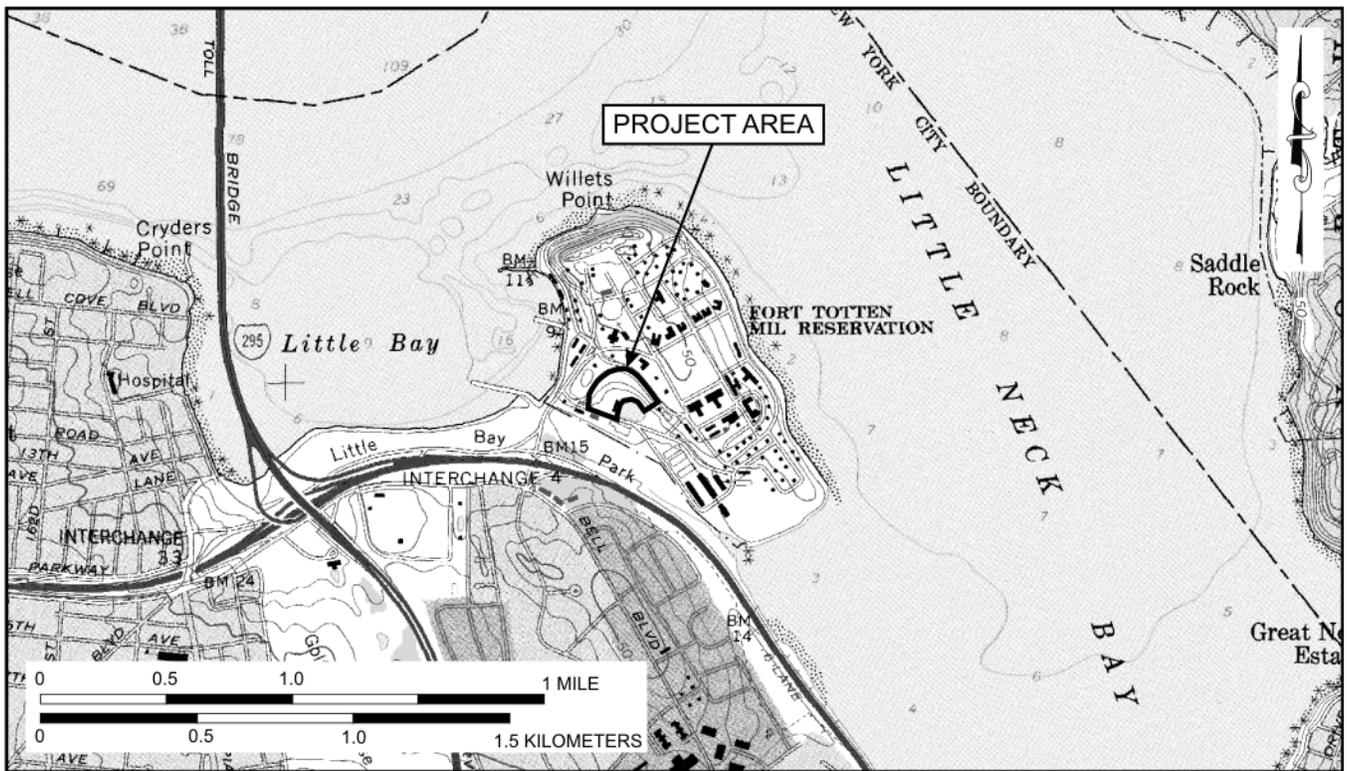
If historic materials are evident, check here and fill out historic site form. _____

8. MAP REFERENCES

USGS 7 1/2 Minute Series Quad. Name Flushing, New York 1966 (Photorevised 1979)

UTM Coordinates UTM18 602958E 4516072N (NAD 27)

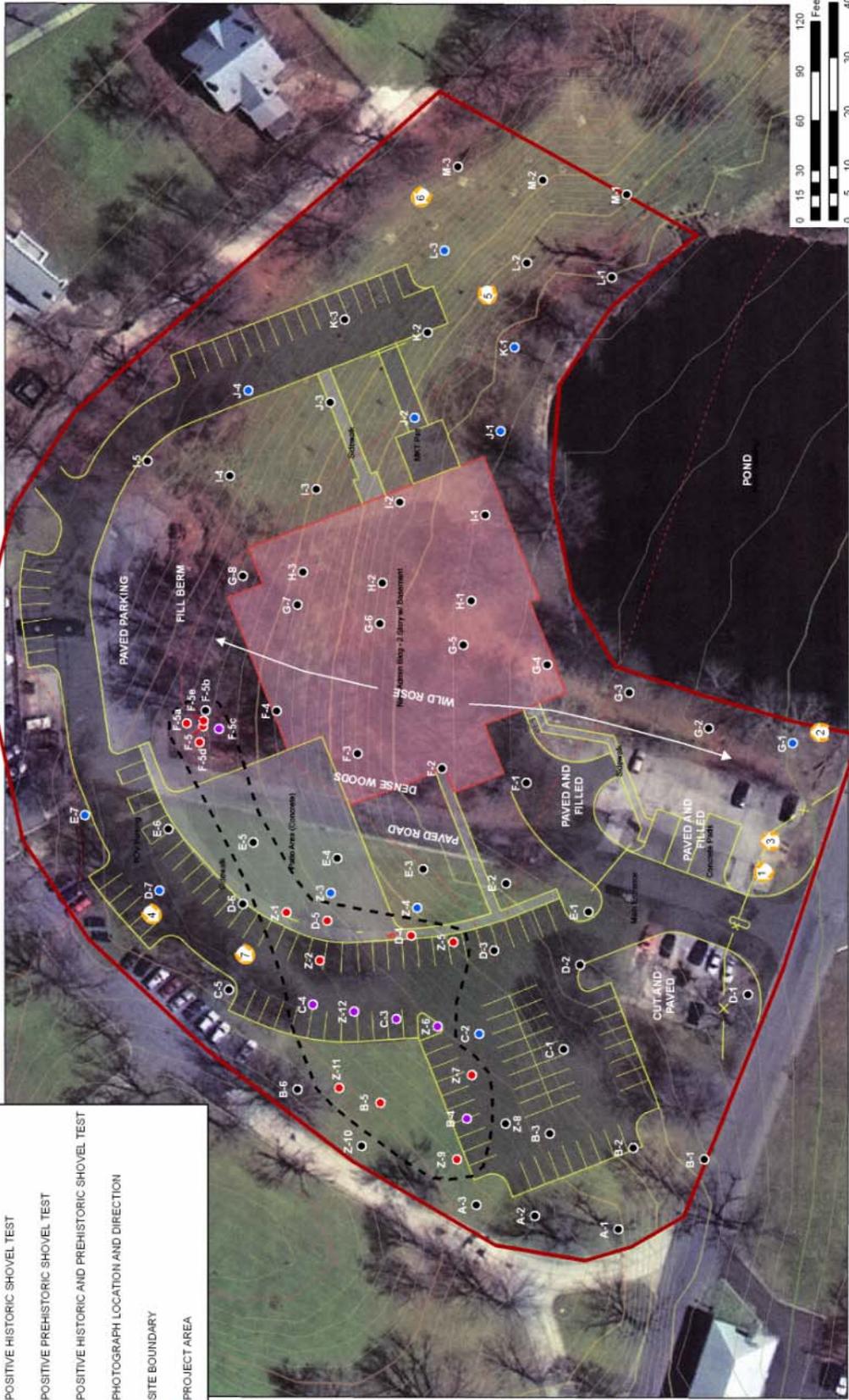
9. Photography



Proposed New Facility At Fort Totten, NY

LEGEND

- NEGATIVE SHOVEL TEST
- POSITIVE HISTORIC SHOVEL TEST
- POSITIVE PREHISTORIC SHOVEL TEST
- POSITIVE HISTORIC AND PREHISTORIC SHOVEL TEST
- 📍 PHOTOGRAPH LOCATION AND DIRECTION
- SITE BOUNDARY
- ▭ PROJECT AREA



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