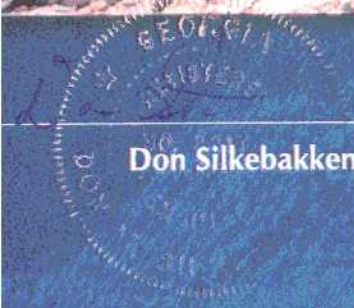
Draft Final
Engineering Evaluation/Cost Analysis
Former Camp Hero
Montauk, New York

Prepared by

PARSONS, INC.

U.S. Army Corps of Engineers
New York District
and
U.S. Corps of Engineers
Huntsville Center

Contract No. DACA87-00-D-0038
Task Order 0002



Don Silkebakken, P.E.

January 2002

739306

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January 25, 2002

U.S. Army Engineering & Support Center
ATTN: CEHNC-OE-DC (Roland Belew)
4820 University Square
Huntsville, AL 35816-1822
256-895-1553

Subject: Contract DACA87-00-D-0038, Delivery Order 0002
revised Draft Final EE/CA Report Deliverable for
Former Camp Hero, Montauk, New York

Dear Mr. Belew:

Enclosed please find two (2) copies of the revised Draft Final EE/CA Report for the former Camp Hero Project. All government comments and backcheck comments have been addressed and annotated in Appendix E. As this document represents the final deliverable, stakeholder comments and comments from the Public will be addressed in the Responsiveness Summary to be placed in the project repository. One (1) copy has been simultaneously forwarded to Ms. Luz Spann-LaBato, USACE New York District and one (2) copies to Tom Dess, Superintendent of the Montauk State Parks Complex and one (1) copy to Mr. John Eberhard, Director, Capital Programs, Office of Parks, Recreation, and Historic Preservation. One of the copies sent to Mr. Dess will serve as the library repository copy per Ms. Spann-LaBato. Additional copies will be prepared as requested. The document will be posted in its entirety in the public portion (without password protection) of the project website at www.projecthost.com following your approval.

If you have any questions regarding this letter or need additional information, please contact me at (678) 969-2384 or (404) 606-0346 (cell).

Sincerely,

PARSONS ENGINEERING SCIENCE, INC.

Don Silkebakken, P.E.
Project Manager

cc: Project File (739306)
Luz Spann-LaBato (CENAN, 1 copy)
Tom Dess (NY Parks, 2 copies)
John Eberhard (NY Parks, 1 copy)

DRAFT FINAL

ENGINEERING EVALUATION / COST ANALYSIS
FORMER CAMP HERO

MONTAUK, NEW YORK

Prepared For:

U.S. Army Corps of Engineers
New York District

and

U.S. Army Corps of Engineers
Huntsville Center

Contract No. DACA87-95-D-0038
Task Order No. 0002
FUDS Project Number CO2NY002404

Prepared By:

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January 2002

1/25/02

Don Silkebakken, PE

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LIST OF ACRONYMS AND ABBREVIATIONS

ACWS	Aircraft Control and Warning Squadron
AOI	Areas of Interest
AR	Army Regulation
ARAR	applicable or relevant and appropriate requirement
ASR	Archives Search Report
AAA	Anti-aircraft Artillery
bgs	Below Ground Surface
CDP	Census Designated Place
CENAN	Corps of Engineers, New York District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulation
CWM	Chemical Warfare Material
DA	Department of the Army
DERP	Defense Environmental Restoration Program
DGPS	Differential Global Positioning System
DID	Data Item Description
DoD	U.S. Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
FDE	Findings of Fact and Determination of Eligibility
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
HE	High Explosive
HTW	Hazardous and Toxic Waste
IA	Institutional Analysis
IC	Institutional Controls
ID	Identification

LIST OF ACRONYMS AND ABBREVIATIONS

MSD	Minimum Separation Distance
MPM	Most Probable Munition
NCP	National Contingency Plan
NDAI	No DoD Action Indicated (formerly NOFA)
OE	Ordnance and Explosives
OERIA	OE Risk Impact Assessment
PAE	Preliminary Assessment of Eligibility
Parsons	Parsons, Inc.
PM	Project Manager
PWD	Public Withdrawal Distance
ROE	Right-of-Entry
SCES	Suffolk County Emergency Services
SOW	Statement of Work
SI	Site Investigation
SUXOS	Senior UXO Supervisor
TBC	To Be Considered
TDMD	Time Domain Metal Detector
TPP	Technical Project Planning
USA	USA Environmental
USACE	U.S. Army Corps of Engineers
USAESCH	U.S. Army Engineering and Support Center, Huntsville
UXO	Unexploded Ordnance
WP	Work Plan
WW	World War

EXECUTIVE SUMMARY

ES1 The former Camp Hero is a 468.69-acre site located in Suffolk County in Montauk, New York and was utilized for various training activities during the Revolutionary War, the War of 1812, the Spanish American War, World War I, and World War II. During and after World War II it was utilized as a Coastal Defense Installation to defend approaches to New York via three self-sufficient batteries (Battery 112, Battery 113, and Battery 216) and supporting facilities. Guns included two M1903A2 6-inch shielded guns and four Navy MKIIM1 16-inch casemated guns. Additionally, 37mm weapons and .50-caliber antiaircraft weapon platoons were assigned to protect the Camp from air attack.

ES2 After facility closure and property transfers, a portion of the former Camp Hero land was transferred to the Department of the Air Force for an aircraft control and warning station. On January 24, 1951, the former Camp Hero was withdrawn from surplus and designated for use as a firing range and field exercise area for Anti-aircraft Artillery (AAA) from Fort Totten, NY. Ninety (90) mm and quad .50 caliber antiaircraft artillery began firing exercises from firing positions established in the southern bluff overlooking the Atlantic Ocean.

ES3 In 1952, the Air Force property was renamed the Montauk Air Force Station and was occupied by the 773rd Aircraft Control and Warning Squadron (ACWS). Training continued using 90mm and 120mm guns, 3.5-inch rockets, and .50 caliber guns until 1957. The facility was inactive until October 1958 when the 773rd ACWS was redesignated as the 773rd Radar Squadron with a new mission to provide surveillance data of air traffic in the area. In order to accomplish this mission, an advanced Specific Frequency Diversity Search Radar was built in late 1960. The facility was closed in 1982. Between 1974 and 1984 all site lands were transferred to state, local, and Federal agencies.

ES4 The majority of the former Camp property is under the jurisdiction of the Office of Parks, Recreation, and Historic Preservation. The Park is mostly undeveloped and open to the public for pedestrian-based passive recreation including bird watching, beach combing, walking/hiking, photography, and seasonal surf fishing (with permit). Vehicular traffic is restricted in most areas. Camping or overnight parking is not allowed within the Park without permit. Several areas, mostly due to safety concerns associated with old structures, are fenced and restricted from public access. Future land use is anticipated to be active and passive public recreational use with development consisting of infrastructure in support of this use. The town of East Hampton controls 46.19 acres within the former Camp, which are used for low-income housing, consisting of 27 former Air Force housing units. In addition, the U.S. Coast Guard operates an automated beacon

light atop the old lighthouse at Montauk Point. The property around the lighthouse is leased to the Montauk Historical Society (MHS) and includes the former Fire Control/37mm AAA Station. This area is regularly open to the public and future land use is anticipated to remain the same.

ES5 The Archives Search Report (ASR) initially subdivided the Camp into thirteen Areas of Interest (AOIs) based on physical attributes, homogeneity, and current and historical land use. These AOIs are identified in the ASR as Area A through Area M. The ASR evaluated each AOI to determine whether the presence of Ordnance and Explosives (OE) and Unexploded Ordnance (UXO) was "confirmed" or "potential" or the AOI was considered "uncontaminated." Confirmed ordnance presence was based on verifiable historical evidence, direct witness of ordnance items, or reliable indirect witness accounts. Potential ordnance presence was based on inferred presence of OE/UXO from records or indirect witness accounts when the presence of ordnance was not confirmed. For AOIs where there was no reasonable evidence, either direct or inferred, to suggest the presence of residual ordnance presence, the AOI was designated as uncontaminated.

ES6 The ASR classified eleven of the areas as uncontaminated. One of the areas, Area A (Fire Control/37mm AAA Station) was added to the sites for investigation based on post-ASR project meetings. Three other areas were considered to have potential ordnance presence including Area H (Ordnance Destruction Range), Area K (Near Shore Ordnance Area), and Area L (Off Shore Ordnance Area). Area L was excluded from the EE/CA investigation based on the lack of a viable exposure pathway to anyone at the site, as documented in the project Scope of Work.

ES7 Data collected during the EE/CA were used to estimate the OE-related hazard in the three AOIs, which was then compared with the current and future activities and anticipated users. Data collected from this characterization project were also used to develop OE response alternatives for each of the AOIs. These alternatives were then evaluated to determine their effectiveness, implementability, and cost.

ES8 As part of the evaluation of potential OE response actions for the project site, a number of institutional controls (IC) were considered. The goal of these IC components is to increase public awareness of potential dangers posed by OE through printed media, an ad-hoc committee, classroom education, visual media, and exhibits/displays in the local area. Brochures and fact sheets, distributed by the Park and MHS, were identified as the most effective complement to the proposed OE response actions.

ES9 For the approximately 6 acres comprising Area H (excluding the perennial wetland), an OE removal alternative was selected as the most appropriate response action. Although no UXO was encountered during the EE/CA investigation, OE scrap was present to a maximum depth of 18 inches below ground surface. The presence and distribution of OE scrap coupled with historical accounts of UXO findings at the site affirms the ASR determination that Area H was formerly used as a demolition area.

Furthermore, none of the OE scrap items showed evidence of being fired, consistent with items typically present in a demolition range and the belief that no impact ranges existed at the site. Based on the continued recreational land use and in accordance with U.S. Department of Defense (DoD) guidance for remediation of a site with end-use of public access, a subsurface clearance of OE to depth is recommended for Area H.

ES10 An OE removal action was also recommended for Area K. However, the data collected during the EE/CA investigation indicates that the primary source of the OE scrap within Area K is the result of extensive erosion of the common border with Area H. Therefore, only a portion of Area K (approximately 8.5 acres referred to as Revised Area K) was recommended for an OE removal action. Similar to Area H, a subsurface clearance of OE to depth is recommended for Revised Area K. However, an annual post-removal visual clearance is also recommended for a period of 5 years to confirm the absence of OE. The visual clearance should be conducted either after a severe storm event or prior to commencement of the fishing season. No OE removal action is proposed for the approximately 36 remaining acres of Area K. However, IC components as described above will be implemented.

ES11 Area A was considered safe in its current state and land use based on the results of the EE/CA investigation. No UXO or OE scrap was identified. However, as a result of historical military usage of the area and the presence of OE scrap nearby in Area H and Area K implementation of a simple institutional controls strategy is proposed for Area A. Similarly, in addition to the OE response actions proposed for Area H and Area K, institutional controls are recommended due to the anticipated high recreational use component and relative ease of implementation.

SECTION 1
INTRODUCTION

1.1 BACKGROUND

1.1.1 This Engineering Evaluation/Cost Analysis (EE/CA) report presents a characterization of ordnance and explosives (OE), an assessment of explosive safety risk to the public, and identification of feasible OE exposure reduction alternatives for three AOIs at the former Camp Hero site. The three areas covered in this EE/CA include: Fire Control/37mm AAA Station (Area A); Ordnance Destruction Range (Area H) and Near-Shore Ordnance Area (Area K).

1.1.2 The former Camp Hero site is located on the extreme eastern tip of the south fork of Long Island, New York, approximately five (5) miles east of the Village of Montauk. The site is bounded by Montauk Highway (State Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped nature preserve owned by the State to the west.

1.1.3 In August 1941, the Secretary of War acquired the 469-acre Camp Hero site for use as a harbor defense installation. A detailed description of the site and its historical use is presented in Section 2 of this report.

1.1.4 In 1999 and 2000, the U. S. Army Corps of Engineers (USACE), Rock Island District, conducted a records search and reconnaissance of the former Camp Hero. The findings are documented in the ASR dated February 2000 (USACE, 2000a,b). The ASR subdivided the site into thirteen areas of interest (AOIs) for evaluation and recommended that an EE/CA investigation be conducted at Area H and Area K. Area A was later added to the EE/CA scope of work based on subsequent stakeholder input. EE/CA investigation of the remaining ten sites was not recommended.

1.1.5 Ordnance used at the former Camp Hero included rockets, artillery rounds, and fragmentation bombs. UXO that may be encountered at the former Camp includes: 3.5-inch rockets (High Explosive [HE] and practice), 90mm to 120mm artillery rounds (HE and practice), 37mm to 40mm anti-aircraft artillery (AAA) projectiles (HE and practice), 20-pound HE fragmentation bombs, and seacoast artillery projectiles (6-inch and 16-inch). In addition, a variety of ordnance items may be present associated with use of the property prior during the Revolutionary War, War of 1812, and the Spanish-American War.

1.2 PROJECT AUTHORIZATION

Parsons, Inc. (Parsons) received Contract No. DACA87-00-D-0038, Task Order No. 0002, from the U.S. Army Engineering and Support Center, Huntsville (USAESCH) to conduct an EE/CA at three AOIs (Appendix A). This EE/CA has been performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Sections 104 and 121; Executive Order 12580; and the National Contingency Plan (NCP). All activities involving work in areas potentially containing unexploded ordnance hazards shall be conducted in accordance with USAESCH, USACE, DA (Department of the Army) and DoD requirements regarding personnel, equipment, and procedures. 29 Code of Federal Regulations (CFR) 1910.120 shall apply to all actions taken at this site.

1.3 PURPOSE AND SCOPE

The purpose of this EE/CA is to characterize the presence of OE, assess explosive safety risk to the public, and evaluate response alternatives for mitigating any risk that may be present at former Camp Hero. The scope of work conducted to achieve the objectives of this EE/CA included a review of existing documents, site visit, collection of geophysical data to identify potential OE, subsurface investigation of anomalies, and preparation of this report.

1.4 PROJECT TEAM

The technical project team consisted of USACE New York District (CENAN), USAESCH, Parsons, and USA Environmental, Inc. (USA). The roles of these team members are described below and depicted in Figure 1.1. A detailed description of the project team members can be found in Section 3 of the approved project Work Plan (WP, [Parsons, 2001a]).

1.4.1 U.S. Army Corps of Engineers, New York District

CENAN is the life cycle Project Manager (PM) and funding agency for this project. CENAN's responsibilities include review of project plans and documents, obtaining Right-of-Entry (ROE) to properties in the investigation areas, working with the news media and the public, and coordinating with State and local regulatory agencies on issues pertaining to protection of ecological and cultural resources.

1.4.2 U.S. Army Engineering and Support Center, Huntsville

USAESCH is the lead technical agency for this project. USAESCH responsibilities include procurement of architect/engineer services, direction of the EE/CA contractor, review and coordination of project plans and documents, and working with the news media and the public. USAESCH also provides technical expertise for OE activities. As the technical project manager, USAESCH is responsible for directing the EE/CA contractor and controlling the budget and schedule.

1.4.3 Parsons, Inc.

Parsons is the prime contractor to USAESCH and provides overall engineering support and services for the EE/CA. Parsons is responsible for performance of the activities detailed in the Statement of Work (SOW) (Appendix A). Parsons responsibility also included the control of project schedule and budget.

1.4.4 USA Environmental, Inc.

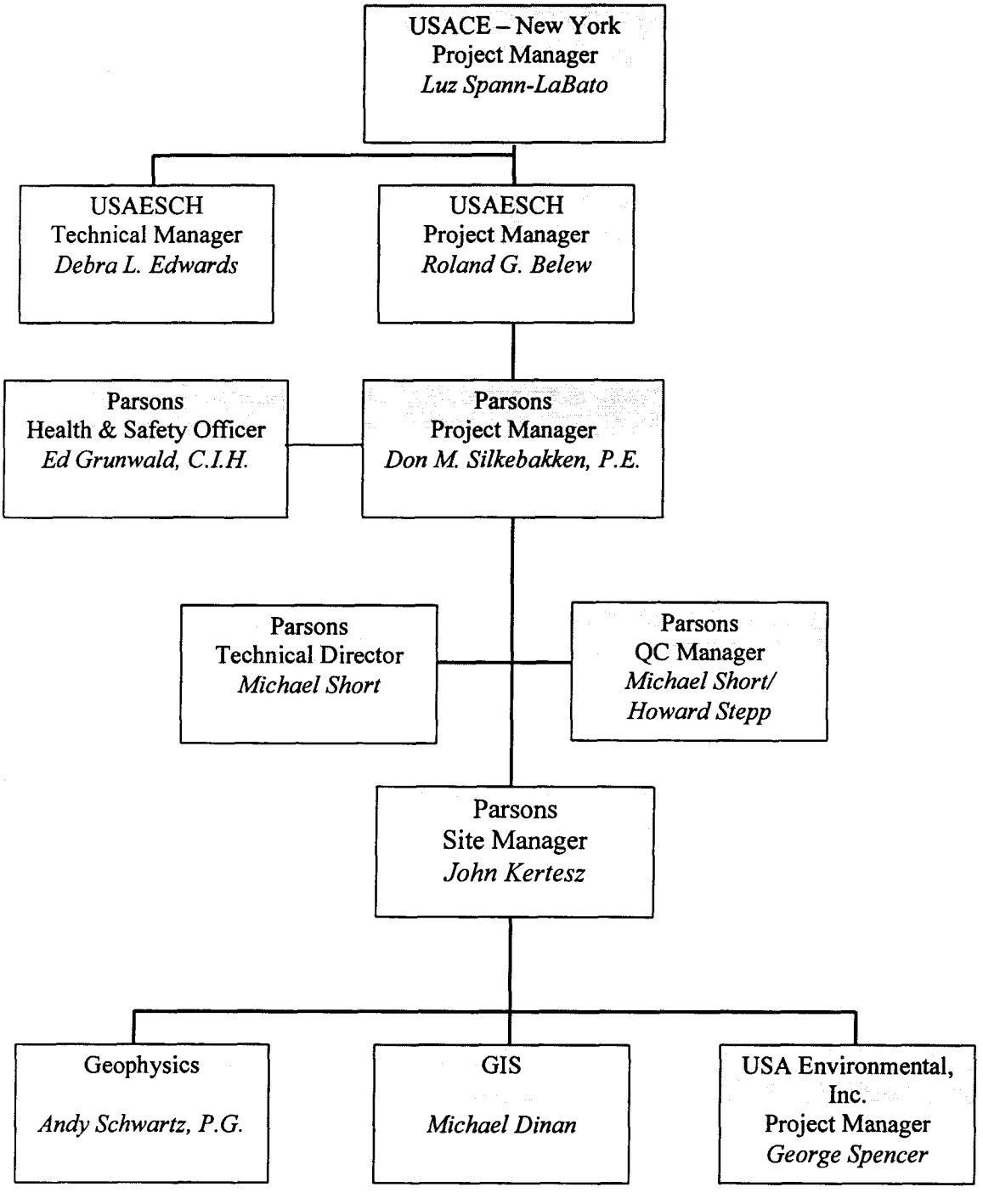
USA is the UXO subcontractor to Parsons. USA provided qualified UXO personnel needed to conduct the field investigation. Services provided by USA included escort and visual OE clearance of areas designated for geophysical investigation and access routes identified by Parsons, and performance of intrusive investigations of anomalies identified and reacquired by Parsons. USA was also responsible for all UXO operations, including handling, detonating, and disposing of OE and OE scrap.

1.5 PROJECT OBJECTIVES

The objective of this delivery order is for Parsons to prepare an EE/CA report (this document). The report shall:

- Document meaningful stakeholder participation.
- Characterize OE nature, location and concentration.
- Provide a description of the OE-related problems affecting human use of the site.
- Identify and analyze reasonable risk management alternatives.
- Provide a convenient record of the process for use in final decision-making and judicial review, if necessary.

FIGURE 1.1
ORGANIZATIONAL STRUCTURE FOR FORMER CAMP HERO EE/CA



SECTION 2
SITE DESCRIPTION AND HISTORY

2.1 LOCATION

The former Camp Hero (Camp) consists of approximately 468 acres and is located on the extreme eastern tip of the south fork of Long Island, New York, approximately 5 miles east of the Village of Montauk (Figure 2.1). The Camp is bounded by Montauk Highway (State Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped nature preserve owned by the state to the west. The Camp is located in Suffolk County, NY.

2.2 PHYSICAL DESCRIPTION

2.2.1 Terrain and Vegetation

2.2.2.1 The Fire Control/37mm AAA Station (Area A) and Near-Shore Ordnance Area (Area K) are located along the rocky beach and are bounded by the ocean and a steep bluff. The Ordnance Destruction Range (Area H) is located in the southern portion of the Camp. Area H is a combination of a rolling bluff area bisected by a perennial wetland and is locally heavily vegetated with scrub oak and a dense brush cover. The eastern portion of Area H is bounded by an eroding steep bluff and is adjacent to Area K. The entire project area rises abruptly along the oceanfront and then gradually slopes northward. Figure 2.2 presents the location of Area A, Area H, and Area K.

2.2.2.2 The terrain is influenced by extensive erosion from wave action and deposition from former ice margin landscapes. The current hummocky landscape results from debris that was abundant on the former glacier surface. In general, the topography consists of numerous ridges and depressions. These depressions are known as kettle holes. The depressions found in glacial deposits form when a piece of ice from a retreating glacier becomes embedded in soft glacial till.

2.2.2.3 Most of the drainages from the site feed into wetlands, situated throughout the area. There are approximately 5500 feet of man-made drainage ditches throughout the site. The entire area, with the exception of the developed structures, roadways, oceanfront, and southern bluff area, is covered with a dense growth of scrub oak and brush. Oyster Pond is situated to the north of the Camp, and larger Lake Montauk is to the west.

2.2.2 Geologic and Soil Conditions

The soils of Suffolk County are a complex mixture of rock, gravel, sand and silt-sized particles deposited by glacial action and are referred to as glacial till. The glacial till was formed during the episodic advances and retreats of glaciers that began during the Pleistocene epoch approximately 2.5 million years ago. The glacial till, together with the water or wind-deposited silt, clay, and sand, combined to form Suffolk County's soil. The following soil types are present in the former Camp: Bridgehampton, Escarpment, Montauk, Muck, Wallington, and Whitman series. In general, these soils range from poorly to well drained. The soil contains abundant amounts of ferrous minerals.

2.2.3 Climate

The Camp is subjected to warm, humid summers, and mild winters. The annual average rainfall is approximately 46 inches with the most rain falling in March, April, and August. The Camp is sometimes subject to coastal tropical storms occurring in the late summer or fall capable of producing high winds and heavy rains. Average yearly snowfall is 29 inches, with most of the snow falling from December through March. The average annual temperature is 52.2 °F. The average winter months (December through February) temperature is 30.9 °F, and the average summer months (June through August) temperature is 71.1 °F.

2.3 HISTORY

2.3.1 During the Revolutionary War and War of 1812, American and British warships reportedly used the "Montauk Bluffs" for firing practice with cannons. During the Spanish American War in 1898, Teddy Roosevelt and his Rough Riders, upon return from the Cuba, Puerto Rico, and Florida campaigns, camped in the Fort Pond Bay area of Montauk located approximately 2 miles west of Camp. Their camp was called Camp Wikoff and served as a quarantine station for these returning soldiers. Camp Wikoff was active for only a few months.

2.3.2 Between WWI and WWII, a Navy observation post housing two reconnaissance blimps were stationed at a hangar adjacent to the current Montauk Tower, and a number of oceangoing seaplanes were positioned at a Naval Base on Fort Pond Bay. From about 1921 until around 1923, thousands of soldiers from Regular Army, National Guard, and Citizen Military Training Corps Field Artillery units camped and trained in the Montauk area. A campsite on the east side of Fort Pond Bay, presumably named Camp Walsh, was chosen to accommodate the training units. From 1936 through the 1970s, Army Air Corps planes conducted bombing target practice on an island off of Montauk Point known as Gardiner's Point located approximately 15 miles west of Camp. This island also contained an abandoned Spanish American War Fort known as Fort Tyler. In 1942, the Department of the Navy built a facility on Fort Pond Bay to develop and test torpedo propulsion systems. This facility remained in existence until the end of WWII.

2.3.3 The Camp was established in early 1942 as a Coastal Defense Installation to defend the approaches to New York and was named in honor of Major General Andrew Hero. Three self sufficient batteries (Battery 112, Battery 113, and Battery 216) and supporting facilities were constructed which included barracks, mess halls, hospital facilities, a motor repair shop, a recreation facility, sentry boxes, and water supply and sewage facilities. A total of 600 enlisted men and 37 officers were stationed at the Camp. Battery 216 contained two M1903A2 6-inch shielded guns that were delivered to the battery in January 1943. Battery 113 (also known as Battery Dunn) consisted of two Navy MKIIM1 16-inch casemated guns that were completed on June 5, 1943. The guns of Battery 112 were identical to Battery 113 and were completed on January 12, 1944. Additionally, 37mm weapons and .50-caliber antiaircraft weapon platoons were assigned to protect the Camp from air attack. The Camp's weaponry was periodically fired to practice over water but was never fired as a result of an act of hostility. Ammunition for training exercises, when required, was stored in the internal bunkers of the now unused Battery 216 (USACE, 2000a,b).

2.3.4 The Camp was placed on inactive status on July 31, 1947 and ultimately declared surplus by the Department of the Army on December 31, 1949. Simultaneously, a portion of the Camp land was also transferred to the Department of the Air Force for an aircraft control and warning station. On January 24, 1951, the Camp was withdrawn from surplus and designated for use as a firing range and field exercise area for AAA from Fort Totten, NY. Arrangements were made for the permanent Army AAA cadre at the Camp. Ninety (90) mm and quad .50 caliber antiaircraft artillery began firing exercises from firing positions established in the southern bluff overlooking the Atlantic Ocean.

2.3.5 In 1952, the Air Force property was renamed the Montauk Air Force Station and was occupied by the 773rd ACWS. Training continued using 90 mm and 120 mm guns, 3.5-inch rockets, and .50 caliber guns until 1957. The facility was inactive until October 1958 when the 773rd ACWS was redesignated as the 773rd Radar Squadron with a new mission to provide surveillance data of air traffic in the area. In order to accomplish this mission, an advanced Specific Frequency Diversity Search Radar was built in late 1960. The facility was closed in 1982. Between 1974 and 1984 all site lands were transferred to State, Local, and other Federal agencies.

2.3.6 In summary, the site was used almost exclusively for protection of U.S. territory by shore batteries. The site was never utilized as an impact area or fuzing and ordnance test range during its operation as Camp Hero.

2.4 DEMOGRAPHIC PROFILE

The 2000 census (www.census.gov) estimates the population of Suffolk County at 1,419,369 persons of which Montauk Census Designated Place (CDP) County Subdivision has 3851 persons. According to the 2000 census estimates, the Montauk CDP County Subdivision has a population density of 108 to 303 persons per square mile,

which includes 265 persons/square mile for East Hampton Town. The 2000 census for the Montauk CDP indicates the ratio of men to women is approximately equal, caucasian is the predominant race, the average household size is 2.30 persons, and the majority of the population is from 25 to 54 years of age with the largest population from 35 to 44 years of age. The tourist population increases during the summer months.

2.5 CURRENT AND FUTURE LAND USE

2.5.1 The current landowners of the Camp are shown on Figure 2.3 and include:

- State of New York, New York State Parks Commission (415.35 acres);
- Town of East Hampton (46.19 acres);
- U.S. Coast Guard (7.5 acres); Montauk Historical Society Lighthouse Commission leases the lighthouse area (0.16 acres); and

2.5.2 The majority of the Camp consists of approximately 756,492 acres of offshore firing area. The State of New York, Office of Parks, Recreation, and Historic Preservation manages the largest land parcel, which is designated as public park land. Although a portion of the park is enclosed by an intact barrier fence and is periodically patrolled, the southern bluffs and oceanfront south of the entire span of bluffs are easily accessed by pedestrians, with the rocky shore area partially accessible by 4-wheel drive vehicles. Therefore, Areas H, K, and L may be freely accessed. During the EE/CA investigation, recreational users were observed in the study area hiking, biking, fishing, and surfing. The future use for the Park is for increased public recreational use.

2.5.3 The 46.19 acres within the Camp is owned by the Town of East Hampton are used for low-income housing, which consists of 27 former Air Force housing units, located approximately 0.6 miles north of Area H. The Town of East Hampton also owns some undeveloped property near the eastern tip of Montauk Point. Future land use is anticipated to remain the same.

2.5.4 The U.S. Coast Guard operates an automated beacon light atop the old lighthouse at Montauk Point. The property around the lighthouse is leased to the Montauk Historical Society and includes the Fire Control/37mm AAA Station (Area A). The area is regularly open to the public. Future land use is anticipated to remain the same.

2.6 PREVIOUS INVESTIGATIONS

2.6.1 DERP-FUDS Field Inspection for Preliminary Assessment

During October 1990, CENAN conducted a Preliminary Assessment of Eligibility (PAE) of the Camp (Site Number CO2NY002400) to gather data regarding potential applicability of DERP (Defense Environmental Restoration Program) FUDS (Formerly Used Defense Site). The PAE was revised in July 1998. At that time, it was confirmed

that the U.S. Army and Air Force formerly used the site and the property was eligible for investigation under DERP-FUDS.

2.6.2 Findings and Determination of Eligibility

The Findings of Fact and Determination of Eligibility (FDE) was signed on September 2, 1991 and concluded the following:

- The site consisted of approximately 468.49 acres used from August 1944 to April 1983 and was eligible for restoration under the purview of DERP-FUDS. However, the ASR discovered that the actual acreage was 468.69 acres.
- A use agreement, three leases, one permit, and numerous cable and utility easements outside of the 468.69-acre fee parcel of the Camp land were included in Camp Hero land acquisition. A 0.03-acre parcel in front of the Montauk Point Lighthouse in which a fire control tower housed a 37mm AAA weapons section (Area A) was the only addition to site land that had a significant OE relevance.
- In addition to use agreement lands, Off-Shore Ordnance Area (Area L) consisting of 756,491.75 acres and a Near-Shore Ordnance Area (Area K) consisting of 44.99 acres were determined to exist due to coastal defense and AAA firing activities at Camp Hero, and should be included with site acreage.
- The 756,491.75-acre ocean firing area (Area L), although FUDS qualified, was not included in this EE/CA investigation based on the lack of a viable exposure pathway to anyone at the site, as documented in the project SOW.

2.6.3 1998 Feasibility Study and Hazardous Materials Survey Preliminary Report

In June 1998, Cashin Associates, P.C. of Hauppauge, New York, conducted a Feasibility Study and Hazardous Materials Survey Preliminary Report for the New York Office of Parks, Recreation, and Historic Preservation, Babylon, New York (Cashin, 1998). The report identified several areas that had an actual or potential Hazardous and Toxic Waste (HTW) presence based on the presence of former military buildings and refuse found onsite. In addition to the HTW, projectile fragments were discovered along the southern bluffs of the site (Area K), indicating the potential presence of OE.

2.6.4 2000 Archives Search Report

2.6.4.1 In February of 2000, the USACE, Rock Island District, conducted a records search and reconnaissance for the Camp. The ASR documents the extent and nature of the reconnaissance findings relating to the presence of OE (USACE, 2000a,b). The Camp was divided into 13 AOIs (A through M) for evaluation purposes based on historical land use and other factors. Figure 2.2 presents the locations of Areas A through M within the Camp. The ASR reconnaissance team classified three areas as having

"confirmed" ordnance present as a result of physical OE evidence, credible interview accounts, or historical verification. The three areas are:

- Area H – Ordnance Destruction Range (8 acres);
- Area K – Near-Shore Ordnance Area (44.88 acres); and
- Area L – Off-Shore Ordnance Area (756,491.75 acres)

2.6.4.2 According to the ASR, OE scrap was observed weathering from the bluff on the southern edge of Area H to the Near-Shore Ordnance Area (Area K). These items included projectile fragments, functioned fuzes, .50 caliber casings, and .50 caliber bullets. In the northern portion of Area H additional OE was observed including a fragmentation bomb body, projectile fragments and bases, and a 3.5-inch rocket (USACE, 2000a,b). A cursory magnetometer survey by the reconnaissance team in Area H identified numerous subsurface ferrous materials. The ASR noted historical ordnance discoveries in the immediate area and the possible connection with the continuously eroding bluff separating Area H and Area K. No historical documentation of military activities could be located to substantiate the use of this area, however, the ASR team concluded that Area H was used for destruction of ammunition.

2.6.4.3 Items similar to those encountered in Area H were also observed in Near-Shore Ordnance Area (Area K) during the ASR, including projectile fragments, expended fuzes, .50 caliber bullets, and other OE scrap. The ASR cited a 1962 discovery of a 90mm projectile that led to an investigation and "clearance of over 200 OE items" including historic cannon balls, WWI/WWII vintage projectiles, fuzes, a hand grenade, and several unidentifiable OE scrap items (USACE, 2000a,b). Approximately 12 to 13 incidents involving OE scrap discoveries were reported over the years. A live 3.5-inch rocket was found in 1996 or 1997 in this area by a fisherman.

2.6.4.4 Off-Shore Ordnance Area (Area L) was not visually inspected as part of the ASR study. However, significant documentation exists to confirm the presence of OE within the area. Area L was determined to have "confirmed ordnance presence" based on the historical use of 6-inch and 16-inch coastal defense guns and AAA battalions in drone target practice. A 1993 National Ocean Service Coast and Geodetic Survey LORAN-C Map for Block Island displays three areas in the ocean south and southwest of the Camp shoreline, which are identified as an unexploded ordnance hazard. Despite the lack of field confirmation, the ASR concluded "a substantial OE presence certainly remains in this area, due to the volume of artillery fire which occurred and the numerous discoveries of OE items in the Near-Shore Ordnance Area (Area K) over the years, especially after severe storm events." However, as described in Subsection 2.6.2, Area L was not included in the scope for the current EE/CA investigation as it was discounted per Paragraph 2.4 of the SOW, which states that there is no viable exposure pathway for visitors at the site.

2.6.4.5 Areas B through G, I, J, and M were classified as "no ordnance presence" based on the absence of historical, interview, or physical evidence of remaining OE

presence in these areas since site closure. Areas B through G, I, J, and M were recommended as "No DoD Action Indicated" (NDAI) in the ASR (USACE, 2000b).

2.6.4.6 The ASR also classified Area A (Fire Control/37mm AAA Station) as "no ordnance presence" and an NDAI was recommended (USACE, 2000b). The small 0.03-acre flat parcel lies outside of the Camp reservation on lands gained through use agreement with the U.S Coast Guard and the Department of the Navy. Historical documents reflect the placement of a 37mm (later changed to 40mm) automatic weapons section on the roof of the fire control tower adjacent to, and immediately east of the lighthouse. The parcel was added to the EE/CA project scope based on stakeholder input and USAESCH concurrence (Parsons, 2001b).

2.6.4.7 The ASR identified a single historical excerpt, which described limited chemical warfare training at Camp Hero in 1945. The exact location was not specified. An Artillery Battalion held a Gas Identification Exercise during which men were sent into clouds of mustard, phosgene, and lewisite agents. The ASR team was unable to find additional interview, historical, or physical evidence of any other Chemical Warfare Material (CWM) usage at the Camp. The ASR concluded, "it was believed that this was a singular or infrequent training event at Camp Hero, conducted by a specialized, external training source" (USACE, 2000a,b).

2.6.5 2000 Site Visit

2.6.5.1 In December 2000, a reconnaissance team from Parsons visited the Camp (Parsons, 2001c). The purpose of the Site Visit was to survey the Camp for familiarity, visually inspect areas identified as "confirmed" ordnance present in the ASR (see Subsection 2.6.5), photograph the AOIs for potential EE/CA issues (access, terrain, etc.) and meet with local regulatory agencies.

2.6.5.2 During the site visit, an extensive reconnaissance of both Area H and Area K was conducted. Numerous OE scrap items were observed on the ground surface at both locations. The UXO-qualified and USAESCH-approved team escort performed a limited geophysical screening using a Schonstedt magnetic locator. Although nonintrusive, this screening indicated the presence of abundant rocks bearing ferrous minerals at the site.

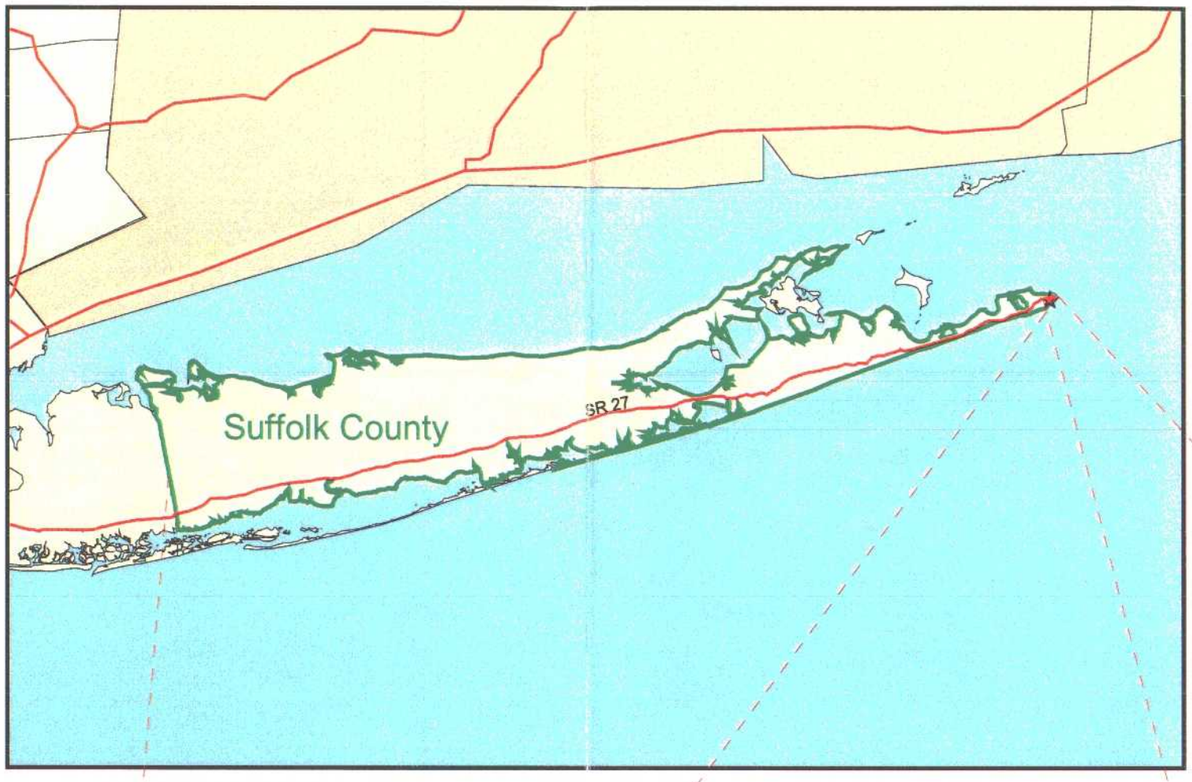
2.7 PREVIOUS REMOVAL ACTIONS

Except for the ASR citation regarding clearance of 200 OE items in 1962 (as described in Subsection 2.6.4), no other removal actions were conducted at the Camp.

Figure 2.1

General Location Map

Former Camp Hero
Suffolk County
Long Island, New York



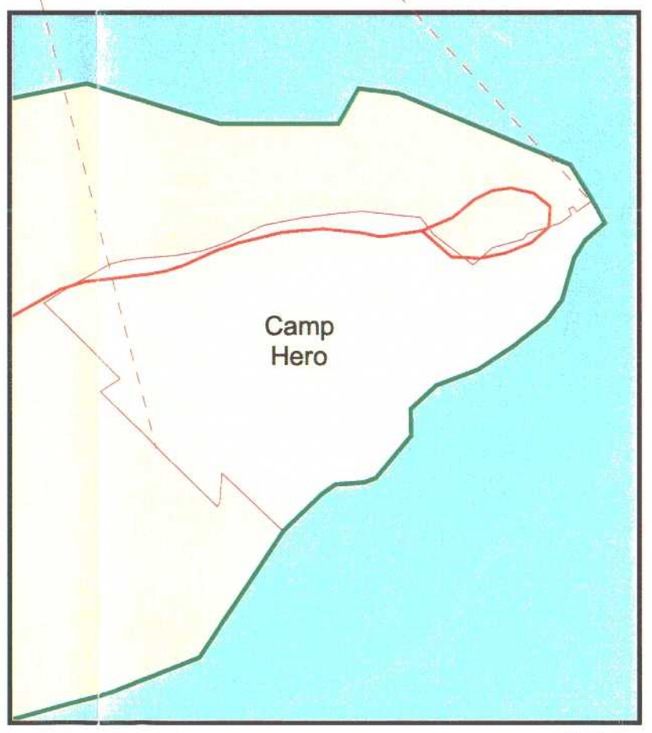


Figure 2.2

Areas of Interest
Former Camp Hero
Montauk, New York

Legend

- Area A
- Other ASR Site of Interest
- Site Boundary
- Area K
- Area H

700 350 0 700 1,400 Feet

PARSONS ENGINEERING SCIENCE, INC.	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER
DESIGNED BY: MAD	Former Camp Hero Montauk, New York
DRAWN BY: MAD	
CHECKED BY: DMS	SCALE: 1 inch equals 700 feet; PROJECT NUMBER: 739306
SUBMITTED BY: DMS	DATE: January 2002; PAGE NUMBER: 2-9
	FILE: j:\gis\739306\Maps\Fig2_2.mxd

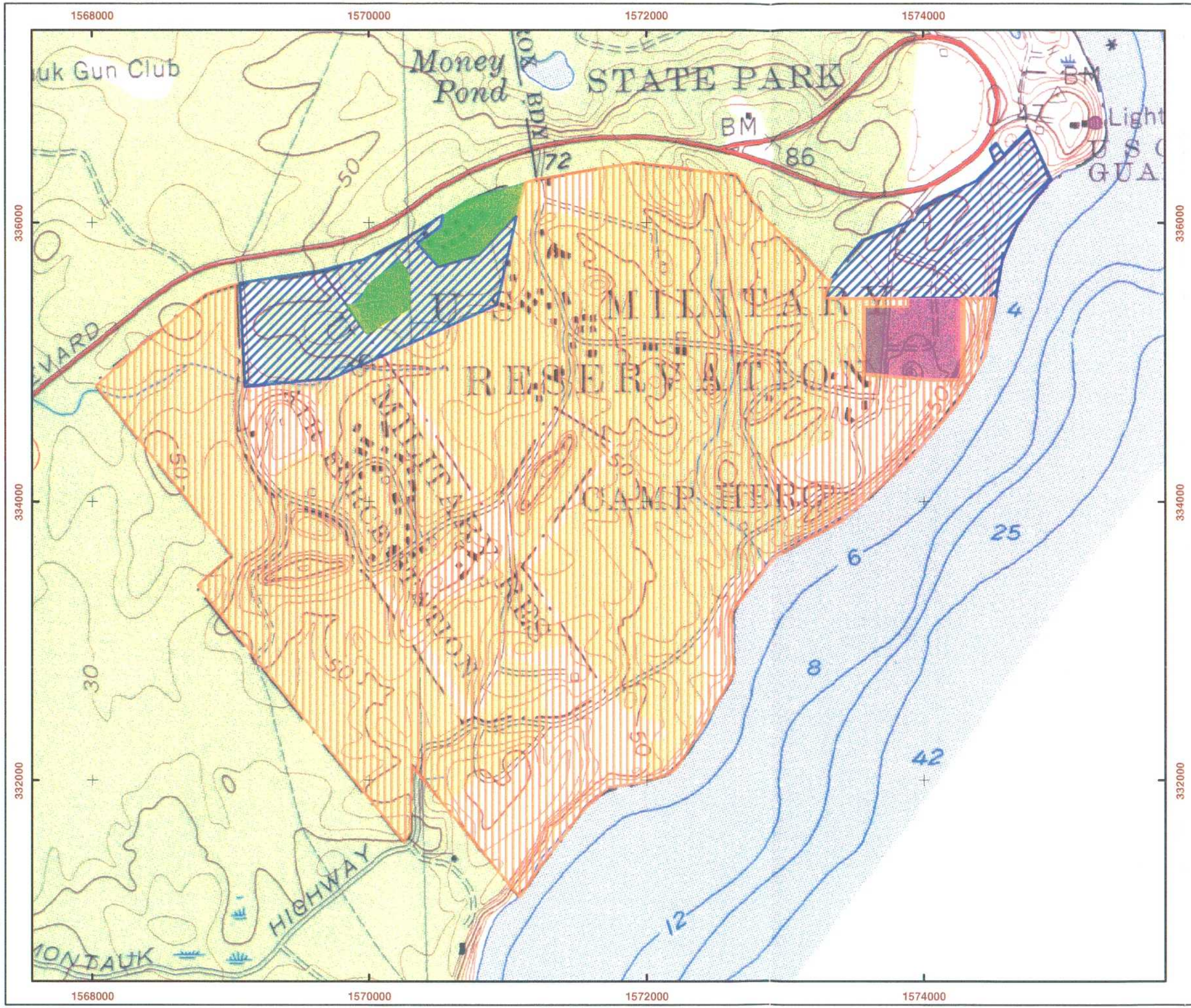


Figure 2.3

Property Owners
Former Camp Hero
Montauk, New York

Legend

OWNER

- Former Air Force Housing Units
- State of New York
- Town of East Hampton
- U.S. Coast Guard

700 350 0 700 1,400 Feet

PARSONS ENGINEERING SCIENCE, INC.	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: MAD	Former Camp Hero Montauk, New York	
DRAWN BY: MAD		
CHECKED BY: DMS	SCALE: 1 inch equals 700 feet	PROJECT NUMBER: 739306
SUBMITTED BY: DMS	DATE: January 2002	PAGE NUMBER: 2-10
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SECTION 3
SITE CHARACTERIZATION

3.1 SITE INVESTIGATION

3.1.1 Instrumentation

3.1.1.1 A site-specific geophysical prove-out was performed from March 5 to March 9, 2001 to identify the appropriate equipment to be used during the geophysical investigation (Parsons, 2001d,e). Two geophysical methods, time domain electromagnetics and magnetics, were tested for applicability at the Camp. The results of the site-specific geophysical prove-out indicated that the Geonics® EM61 Time Domain Metal Detector (TDMD) was the preferred instrument for use at the Camp based on a higher detection rate and lower false alarm rate. The Geometrics G-858 magnetometer was also found to be acceptable but was not used due to a greater likelihood of interference from ferrous rocks present at the site. The handheld Schonstedt GA-52Cx Magnetic Locator was used as a UXO/OE screening and avoidance tool by the UXO-qualified personnel for "mag and dig" clearance of the bluff face in Area K, as described in Subsection 3.1.3.

3.1.1.2 This section briefly describes the operating procedures for the geophysical and surveying equipment used for the EE/CA investigation.

3.1.1.1 Geonics® EM61 TDMD

The EM61 instrument is a high-sensitivity high-resolution TDMD, which is used to detect both ferrous and non-ferrous metallic objects. The device generates a pulsed primary magnetic field, which triggers eddy current in nearby metallic objects. The eddy current decay produces a secondary magnetic field that is monitored by a receiving coil and recorded by the attached data logger. The EM61 data logger collects data at automatic time intervals determined by the user (as used at the Camp) or at a pre-programmed distance interval measured by an attached set of wheels with all-terrain tires. During the EE/CA at the former Camp Hero, the EM61 was operated in a stretcher mode configuration (using automatic time intervals) for surveying grids and along meandering paths. Figure 3.1 presents a photograph showing the usage of the EM61 at the Camp. For meandering paths, the instrument was used in conjunction with a Trimble RTK 4700 Global Positioning System (GPS).

3.1.1.2 Schonstedt GA-52Cx Magnetic Locator

3.1.1.2.1 Schonstedt GA-52Cx Magnetic Locators (Schonstedt) are handheld magnetometers that will detect subsurface ferrous metal items. The Schonstedt is a

handheld unit that employs two fluxgate magnetometers that are aligned and mounted a fixed distance apart to detect changes in the earth's ambient magnetic field caused by ferrous metal (the sensors are fixed and aligned to eliminate a response to the earth's ambient field). The Magnetic Locators respond with an audio output when either of the two sensors is exposed to a disturbance of the earth's ambient field associated with a ferrous target or the presence of a permanent field associated with a ferrous target (in most cases, it will be a combination of both circumstances).

3.1.1.2.2 The Schonstedt was used at the Camp prior to advancement of any stakes, pin flags, or similar subsurface markers; to prescreen anomaly locations for subsequent reacquisition; and for "mag and dig" operations in the Area K bluffs.

3.1.1.3 Trimble® 4700 RTK Differential Global Positioning System

The Trimble 4700 RTK Differential Global Positioning System (DGPS) system is an integrated parallel channel GPS receiver with a built-in radio-modem communication system. A dedicated base station broadcasts real-time differential corrections to the rover units being used by the field crew. The field crew used the RTK by attaching the rover unit to the EM61 during both grid and meandering path geophysical surveys. The RTK was time-synchronized with the EM61 so that individual anomalies were associated with a time stamp, and could therefore be reacquired later. The RTK was also used to record grid corners in the field.

3.1.2 Quality Control of Geophysical Instruments

At the beginning and the end of each day, the field crew performed and recorded static and six-line QC tests on both EM61 units in order to insure consistent performance over the course of the day. The static test involved propping the EM61 up on stakes over a long nail, and recording the reading. Readings taken at the beginning and end of the day were compared, and if the end-of-the-day reading was more than 25% different than that taken at the day's beginning, then the data were reevaluated and, if necessary, the problem was corrected or the instrument was replaced. During the course of the geophysical investigation at the Camp no daily instrument readings varied above the comparison criteria. The six-line QC test involved running the EM61 over a 50-foot line six times. The first two passes do not involve a metal spike, and are at a "normal" walking pace. The next two passes are over a metal spike at the 25-foot point and are at the same walking pace. The last two passes are over the same metal spike at the same place, but one pass is at a slow walking rate, and the other is at a fast walking rate. The morning and afternoon data from the six-line QC test was compared, and units were either removed or repaired if there was a 25% or greater reading difference. Again, no instruments required replacement due to failure of QC tests.

3.1.3 Geophysical Survey

3.1.3.1 A geophysical survey to detect ferrous metal objects was performed at the former Camp Hero between April 23, 2001 and May 25, 2001. The surveying was

conducted at three areas (Area A, Area H, and Area K) located within the former Camp Hero. The total area surveyed was approximately 14.45 acres.

3.1.3.2 The geophysical survey was performed using a combination of meandering path and grid survey techniques. The meandering path surveys were conducted by using geophysical instruments in conjunction with the Trimble RTK GPS unit to record navigational information defining the paths selected by the geophysical team. Survey activities were conducted by carrying the EM61 TDMD in stretcher mode configuration for the collection of geophysical data while the time-synchronized GPS unit continuously recorded location information. A UXO-qualified technician provided visual surface UXO/OE clearance of the meandering path. The area covered by the meandering path was calculated as the distance traveled multiplied by the width of the geophysical instrument footprint (approximately 1 meter).

3.1.3.3 The grid surveys were conducted by first establishing sides of the square grid and recording the grid corners with the Trimble RTK GPS unit. Grid dimensions were generally a function of the area's available space. The grid was divided into parallel lines spaced 2.5 feet apart. The grid method relies on the geophysicist walking straight lines at a constant pace to achieve accurate reacquisition, since there is no GPS involved. The geophysical data were collected by traversing these lanes with an EM61 TDMD. During the establishment of each grid, an UXO-qualified technician visually cleared the surface for UXO/OE items and checked the stake locations for anomalies using a Schonstedt prior to inserting the stake into the ground.

3.1.3.4 In addition to the meandering path and grid survey techniques, a "mag and dig" method was also used during the geophysical investigation. At Camp Hero, the "mag and dig" method was used exclusively to scan the bluff in Area K from the base of the bluff face to a point approximately eight to ten feet above the base. The terrain, characterized by heavily eroded steep bluffs, precluded geophysical survey using conventional mapping techniques. Therefore, a Schonstedt magnetometer was used to locate metallic subsurface anomalies along the approximately 6500 linear feet of bluff face. Immediately after anomaly identification, UXO-qualified personnel excavated and identified the anomaly source. This method did not allow for data recording or mapping of excavated locations but was implemented strictly as a public safety measure. No UXO was identified in the bluff although some OE scrap was recovered, primarily below Area H. Approximately 1.5 acres were investigated using this survey technique.

3.1.3.5 The three AOIs were surveyed using a combination of grid and meandering path survey methods. Some grid surveys were initially planned but frequently grids were established as a result of conversion from meandering paths brought about by GPS navigational limitations. Significant vegetation removal was necessary in Area H and portions of Area K. All vegetation removal activities were coordinated with the Park to ensure minimal impact to desirable vegetation types. A large wetland area, loosely defined by a visually evident change in vegetation, was avoided and was neither brush

cut nor geophysically surveyed. Numerous pieces of inert ordnance-related scrap was recovered on the ground surface within Area H as part of the brush clearance operation.

3.1.4 Anomaly Identification

3.1.4.1 Data from the geophysical and DGPS surveys were downloaded from the data loggers to field laptop computer. At the end of each day, or the morning of the following workday, the data from the surveys were post-processed by combining the geophysical survey date and DGPS data into a single database. This data processing was performed in the DAT61™ computer program. After processing the positioning data and reviewing the geophysical data, all data from the geophysical surveys was exported from DAT61™ into Geosoft Oasis Montaj for anomaly identification. Once processing and review of the data were completed, anomalies were identified based on observed peaks in the data and compared to background readings and results obtained from the geophysical instrument prove-out. The initial selection of anomalies was conducted by the Parsons Site Geophysicist. The USAESCH provided an on-site Geophysicist to review and approve the geophysical data and anomaly selection. Only a portion of the identified anomalies were selected for intrusive investigation based on a comparison of the detected signals of anomalies to the geophysical prove-out signatures of known OE items. Those anomalies displaying similar characteristics were chosen for investigation. Further, this subset was augmented by a number of anomalies chosen to represent the entire spectrum of signal detections and distributed throughout the AOIs. The onsite USAESCH geophysicist and Parsons geophysicist collaborated to decide upon which of the OE-like anomalies picked would be selected for intrusive investigation.

3.1.4.2 The total area investigated at former Camp Hero was approximately 14.45 acres. The geophysical survey resulted in the identification of 1,513 anomalies in 3 AOIs (excluding the "mag and dig" anomalies). The total number of anomalies identified from the geophysically mapped data in each of the AOIs was 8 anomalies in Area A; 334 anomalies in Area H; and, 1171 anomalies in Area K.

3.1.5 Anomaly Dig Sheets

All the identified anomalies by the Parsons Site Geophysicist were uniquely numbered and listed on Anomaly Dig Sheets. The unique number included an anomaly identification (ID), which reflected the meandering path or grid ID with the geophysical survey date, and the sequential anomaly ID for that meandering path or grid. The Dig Sheet also included the name of the AOI, location of the anomaly in State Plane Coordinate System and as well as the amplitude of the peak signal associated with the anomaly. Appendix B presents the anomaly dig sheets for Areas A, H, and K.

3.1.6 Anomaly Reacquisition

Approximately 40% (553) of the total anomalies identified at the three AOIs were selected for reacquisition based on the selection process described in Subsection 3.1.4. The anomalies were reacquired in the grids with the use of a Trimble GPS unit and the EM61. The geophysical team found the general location of the anomaly with the DGPS,

and then refined its location with the EM61. A flag (displaying the anomaly ID) was then planted at the refined location for intrusive investigation.

3.1.7 Intrusive Investigation

3.1.7.1 The intrusive investigation at former Camp Hero was conducted from May 16, 2001 through May 19, 2001 and was streamlined to avoid impact with the opening of surf fishing season on Memorial Day. Of the 553 anomalies identified for intrusive investigation using the criteria described in Subsection 3.1.4, a total of 544 were reacquired and intrusively investigated in the three AOIs. Nine reacquired anomalies were not intrusively investigated due to physical obstacles or tidal constraints (Area K) and were thus deleted.

3.1.7.2 All the anomalies identified for intrusive investigation were excavated by UXO-qualified personnel. During the intrusive excavation, each anomaly was treated as a suspect UXO/OE item until it was determined otherwise. Occasionally, intrusive investigation teams could not identify any discernable metallic objects at a flagged location. These locations were designated as "false positives" (showed as "no contact" in the dig sheets). Site wide, 36 "false positives" were identified from the 544 anomalies, equivalent to 7% of the total anomalies intrusively investigated and well within the allowable limits (USACE, 2000g, para. 10.4.3). After an anomaly was excavated, the intrusive investigation team recorded the approximate distance the anomaly was recovered from the flagged reacquisition location and the anomaly type on the Anomaly Dig Sheet. The anomaly types were predetermined as UXO, Ordnance-Related Scrap, Non Ordnance-Related Scrap, Other, No Contact/False Positive, and Inaccessible. These anomaly types are briefly described in the following subsections.

3.1.7.1 Unexploded Ordnance

Anomalies are identified as UXO if the recovered item is "a military munition that contains explosive, pyrotechnic, or a chemical agent and has been primed, fuzed, armed, or otherwise prepared for action, and which has been fired, place, dropped, launched, projected, and remains unexploded by design or malfunction." (USACE, 2000c). ***No UXO items were identified during the intrusive investigation within the AOIs at the site.***

3.1.7.2 Ordnance-Related Scrap (OE Scrap)

Anomalies were identified as Ordnance-Related Scrap items (noted as "OS" in the dig sheets), if the recovered items were related to ammunition and/or ammunition components displaying evidence of previous detonation or demolition.

3.1.7.3 Non Ordnance-Related Scrap

Anomalies were identified as Non Ordnance-Related Scrap (noted as "S" in the dig sheets), if the recovered items were not related to any ammunition and/or ammunition

components. These items included metal scrap such as nails, chains, cables, metal wire, and pipes.

3.1.7.4 Other

Anomalies were identified as Other (noted as "O" in the dig sheets), if the recovered items were not related to ammunition nor were they metallic debris. These items included materials such as ferrous rock (ubiquitous in the area), ferrous soil with no visible metallic item, and any item not fitting one of the categories above.

3.1.7.5 No Contact/False Positive

Anomalies were identified as No Contact (noted as "N/C" in the dig sheets), if no discernable metallic objects were identified at the anomaly reacquisition or excavation location and the magnetometer did not display an audible signal either at the location or in the general vicinity (approximate 5 foot radius around the identified location). As previously explained, the "no contact" anomalies were counted as "false positives" for this EE/CA.

3.1.7.6 Inaccessible

Anomalies were identified as Inaccessible (noted as "IA" in the dig sheets), if the anomaly location was inaccessible for excavation due to physical barriers between reacquisition and the intrusive investigation.

3.1.8 Intrusive Investigation Findings

3.1.8.1 A total of 507 of the 544 anomalies intrusively investigated within the three AOIs contained items designated by the intrusive field teams as OE-related scrap, non ordnance-related scrap, and other. Twenty-nine anomalies contained at least one OE-related scrap item, 135 anomalies contained non ordnance-related scrap items, and 344 anomalies contained other items (mostly ferrous rocks). No UXO items were identified in any of the 3 AOIs investigated during this EE/CA. A detailed list of all anomalies and their post-intrusive characteristics (if selected for excavation) are presented in Appendix B.

3.1.8.2 Following the identification and removal of the anomaly, the excavated area was restored to its original pre-intrusive condition. Upon completing the intrusive investigation at the 3 AOIs, quality control checks were made at 10% of locations to ensure no metallic items are left at the previously excavated location. A table presenting the summary of quality control anomalies is also presented in Appendix B.

3.1.9 Recovered Ordnance-Related Scrap

Ordnance-related scrap recovered during the EE/CA investigation at the former Camp Hero included OE scrap items associated with 105mm M1 HE rounds, 3.5-inch practice rockets, and other unidentifiable large projectiles. Figure 3.2 presents photographs of some of the recovered OE scrap items.

3.1.10 Ordnance-Related Scrap Disposal

The recovered OE scrap items were turned in to Suffolk County Emergency Services (SCES) for offsite disposal at no charge to the government. This agency was selected by the UXO Subcontractor (USA) due to their inability to identify a scrap metal recycler on Long Island, New York willing to accept the material. Although a Department of Defense (DoD) Form 1348-1A was not available at the time of disposal, documentation was prepared to meet the substantive requirements and was signed by the USA Senior UXO Supervisor (SUXOS) and the Parsons Safety Officer (Appendix C).

3.2 SOURCE, NATURE, AND EXTENT OF OE

This section provides an overview of the areas investigated and results of the intrusive investigations performed at the former Camp Hero.

3.2.1 Area A – Fire Control/37mm AAA Station

3.2.1.1 Area A was identified in the ASR as a small 0.03-acre flat parcel that housed a fire control tower with a 37mm (later changed to 40 mm) automatic weapons section located on the roof of the tower. The fire tower is located adjacent to (immediately east of) the historic Montauk Point lighthouse. No UXO/OE items were discovered during the ASR reconnaissance and no historical data, interview information, or physical evidence could be found to indicate actual ordnance firing from this location or a remaining ordnance presence at this location. However, during a meeting in March 2001 with the representatives of the Montauk Historical Society, several undocumented OE discovery incidents were verbally conveyed that had taken place on the adjacent beach. Because of these findings, USAESCH added this area to the EE/CA project scope.

3.2.1.2 Figure 3.3 presents the area that was geophysically investigated near the fire tower. The entire area in the immediate vicinity around the base of the fire tower that could be geophysically surveyed (i.e. was not paved or otherwise obstructed) was investigated. All the geophysical data obtained during the survey was not processed for identification of anomalies because the data was affected by interference of nearby concrete and metallic structures located near the fire tower. The geophysical data obtained from 2 grids surveyed was processed for identification of anomalies. A total of 8 anomalies were identified from these 2 grids. All the identified anomalies in Area A were reacquired and intrusively investigated. Figure 3.4 presents the results of intrusive investigation results for Area A. No "false positive" or inaccessible anomalies were located in this area.

3.2.1.3 The recovered items from the intrusive investigation of anomaly locations included "non ordnance-related scrap" and "other" materials. The non ordnance-related scrap items included materials such as sign poles, nails, cables, wire, and a metal spike. Other items identified within this area included metal-bearing rock and small, unidentifiable debris. ***No UXO or "ordnance-related scrap" was recovered from this area.***

3.2.1.4 All available evidence indicated that this site does not pose any explosive safety risk to the public. The historical use of Camp Hero was primarily for shore battery protection of U.S. territories and did not contain any impact areas or fuzing and ordnance test ranges. In addition, the ASR findings concluded that for Area A, there was no historical data, interview information, or physical evidence that indicated actual ordnance firing from this location or a remaining ordnance presence. Furthermore, the site characterization performed during the EE/CA investigation included the entire area around the fire tower that potentially could be investigated and no OE was identified. These findings substantiate the ASR conclusion of No DoD Action Indicated (NDAI) for Area A and therefore it will not be further evaluated for OE response.

3.2.2 Area H – Ordnance Destruction Range

3.2.2.1 Area H encompasses an approximately 8-acre square area in the southeastern portion of the Camp and is bounded by a bluff overlooking the Atlantic Ocean adjacent to Area K. The area is characterized by a central wetland and heavy scrub oak vegetation. Area H was designated as an ordnance destruction range during the ASR, although no historical documentation was located to confirm past military usage (USACE, 2000a,b). The basis for this designation included the presence of a diversity of ordnance-related debris on the ground surface, most of which was not indicative of the types of ammunition used at the Camp. Furthermore, evaluation of the larger projectile fragments indicated the ammunition had not been fired.

3.2.2.2 Area H is entirely under the jurisdiction of the NY Office of Parks, Recreation, and Historic Preservation. The Park is mostly undeveloped and open to the public for pedestrian-based passive recreation including bird watching, beach combing, walking/hiking, photography, and seasonal surf fishing (with permit). Vehicular traffic is restricted in most areas. Camping or overnight parking is not allowed within the Park without permit and was observed during the EE/CA field work. Development is under consideration by the Park in support of increased recreational use such as construction of cabins.

3.2.2.3 The ASR recommended an EE/CA investigation be conducted in Area H based on the confirmed presence of OE items. These items included projectile fragments, functioned fuzes, and .50 caliber casings and bullets. In the northern portion of Area H additional OE was observed including a fragmentation bomb body, projectile fragments and bases, and a 3.5-inch rocket (USACE, 2000 a,b). An inspection of the southern portion of this area during the ASR reconnaissance revealed that OE items were moving to the adjacent Near-Shore Ordnance Area (Area K) as a result of bluff erosion.

3.2.2.4 Figure 3.5 presents the survey locations in Area H. Approximately 3.29 acres were surveyed during the EE/CA investigation in Area H. A large wetland area, approximately 2 acres in extent, occurs in the eastern and central portion and was not surveyed (see Section 7) . Difficult terrain in the north and a chain-link fence along the northwest corner restricted geophysical survey activities. A total of 334 anomalies were

identified from the geophysical data. Of this total, 127 anomalies (38%) were selected for reacquisition and intrusively investigated. One anomaly was reacquired but it was not intrusively investigated because it was located under an asphalt road. A total of 25 intrusively investigated anomalies were designated as "false positives" because no discernible metallic objects were found. The cause of the false positives is not known but is suspected to be related to the high concentration of ferrous rocks at the site since the review of the geophysical data did not identify any processing or data interpretation problems. Figure 3.6 presents the intrusive investigation results for Area H.

3.2.2.5 The recovered items from the intrusive investigation of anomaly locations at Area H included "ordnance-related scrap," "non ordnance-related scrap", and "other" material (Figure 3.6). A total of 21 OE scrap items (from 19 unique anomalies) were recovered from Area H. The items included OE scrap from 3.5-inch practice rockets and 105mm M1 HE projectiles. In addition to these OE scrap items, some unidentifiable fragments (suspected as OE scrap) were also recovered. All the OE scrap items were found between 0 and 18 inches below ground surface (bgs). Non ordnance-related scrap items including nails, metal wires, cables, and fence debris were recovered from anomaly locations at Area H. During the intrusive investigation, no UXO items were found at Area H. However, the presence of OE scrap items suggests the potential presence of OE in the area, and therefore a safety risk to the public may exist.

3.2.2.6 Area H was described in the ASR as used for ordnance demolition. Because the location of Area H is central to the three harbor defense batteries, (Battery 112, Battery 113 and Battery 216) it stands to reason that it could have potentially been used for demolition of misfired ordnance and other surplus ordnance in inventory (Figure 3.10). Characteristic features of demolition areas include the kick-out items from incomplete detonation, craters, large fragmentation debris, and possible evidence of burning. Typically demolition areas can be expected to have a relatively high density of debris with a large percentage present on the surface and shallow subsurface. Although no craters were observed in Area H, the ordnance-related debris recovered during the EE/CA is representative, both in density and distribution, of a typical demolition area.

3.2.2.7 All the OE scrap items identified in Area H during the EE/CA investigation were distributed generally in a straight-line fashion and concentrated in the south/southeastern portion of the AOI (Figure 3.7). This concentration of OE scrap items may indicate the location of the former demolition area(s). It is bounded by the ocean on one side and the nearby road could be blocked thereby restricting vehicular access from the east and west. Furthermore, the topography generally rises to the west thereby creating a natural barrier.

3.2.3 Area K – Near-Shore Ordnance Area

3.2.3.1 The Near-Shore Ordnance Area (Area K) encompasses the southern shore of the Camp lands northward to within approximately 500 feet of the lighthouse. Much of the approximately 44.88-acre parcel is a rocky beach. The ASR recommended an EE/CA

investigation of Area K based on the confirmed presence of OE items. These items included items similar to those encountered in Area H and also included a 90mm projectile, historic cannon balls, WWI/WWII vintage projectiles, fuzes, a hand grenade, a live 3.5-inch rocket, and several unidentifiable OE (USACE, 2000a,b). The majority of the OE scrap observed in Area K appears to have originated from erosion of the bluffs from the adjoining Area H and the remainder of the OE scrap is likely to have come from the ocean, Off-Shore Ordnance Area (Area L), after severe storms.

3.2.3.2 A total area of 9.58 acres were surveyed in Area K during this EE/CA investigation (excluding "mag and dig" survey). Figure 3.8 (Maps 1-6) presents the area surveyed in Area K. The geophysical survey resulted in the identification of 1171 anomalies. A total of 409 anomalies (35%) were reacquired and intrusively investigated using the selection process previously detailed in Subsection 3.1.4. Eight anomalies reacquired in Area K were not excavated due to physical barriers. Of the 409 anomalies intrusively investigated in Area K, 11 anomalies were identified as "false positive" because no metallic objects were found within an approximate 5-foot radius of the flagged anomaly location that could be attributed to the anomaly based on the recorded geophysical data. Figure 3.9 (Maps 1-6) presents the intrusive investigation results in Area K. Figure 3.10 depicts the entire lateral extent of Area K for reference with the project site.

3.2.3.3 Approximately 1.5 acres were geophysically surveyed along the steep bluff face within Area K. No UXO was identified and only a few small metal items were recovered directly below Area H. These items appeared to be from destruction of ordnance, although the type of ordnance could not be identified. The precise location of these findings was not recorded due to the nature of the "mag and dig" geophysical survey.

3.2.3.4 The recovered items from the intrusive investigation included ordnance-related scrap, "non ordnance-related scrap", and "other" material. A total of 16 OE scrap items were identified from ten unique anomaly locations. Nine of the ten locations are immediately adjacent to the bluffs adjoining and below Area H. The other OE scrap location was in the extreme northern portion of Area K. All the OE scrap items were found between 0 and 12 inches bgs. ***No UXO items were identified in Area K.*** Non ordnance-related scrap material identified consisted of pipes, wires, nails, rods, and sign posts. Other material identified in Area K included iron-bearing rock as discussed in previous subsections of this report.

3.2.3.5 The distribution of OE scrap items in Area K indicates that the OE presence is almost exclusively below the adjoining Area H bluff and is likely the result of displacement from erosion as opposed to an artifact of military training activity at the location. This speculation is supported by the lack of OE scrap items in other locations within Area K. This area in Area K (hereafter referred as Revised Area K) adjacent to Area H, as indicated by the OE scrap distribution, encompasses approximately 8.5 acres (Figure 3.7), with the exception of the one OE scrap item in the northern portion of Area

K. This one OE scrap item is likely due to redeposition after a storm associated with the former water target training within Area L.

3.3 UXO CALCULATOR APPLICATION

3.3.1 Although no UXO was found during the EE/CA investigation, the potential presence of OE in Area H and Area K may pose an explosive safety risk to the public due to the presence of ordnance items that may not have been destroyed during open detonation and possible washing up of ordnance from Area L following severe storm events.

3.3.2 The USAESCH-developed tool UXO Calculator was reviewed for applicability to determine the probabilistic UXO density estimate based on the size of the AOI, the area sampled, and the number of UXO items found during the field investigation. Use of UXO Calculator model was considered inappropriate for the site since the data obtained during this EE/CA investigation does not appear to be uniformly distributed, a key assumption for model applicability. Therefore, further consideration of this tool for assessment of potential UXO contamination and density was not warranted.

Figure 3.1
Site Photo of EM-61 Equipment in Operation

Picture 1: Single Cart EM61 Stretcher Mode Configuration.

Picture 2: EM61/GPS Geophysical Survey in Progress at the Near Shore Ordnance Area (Area K).

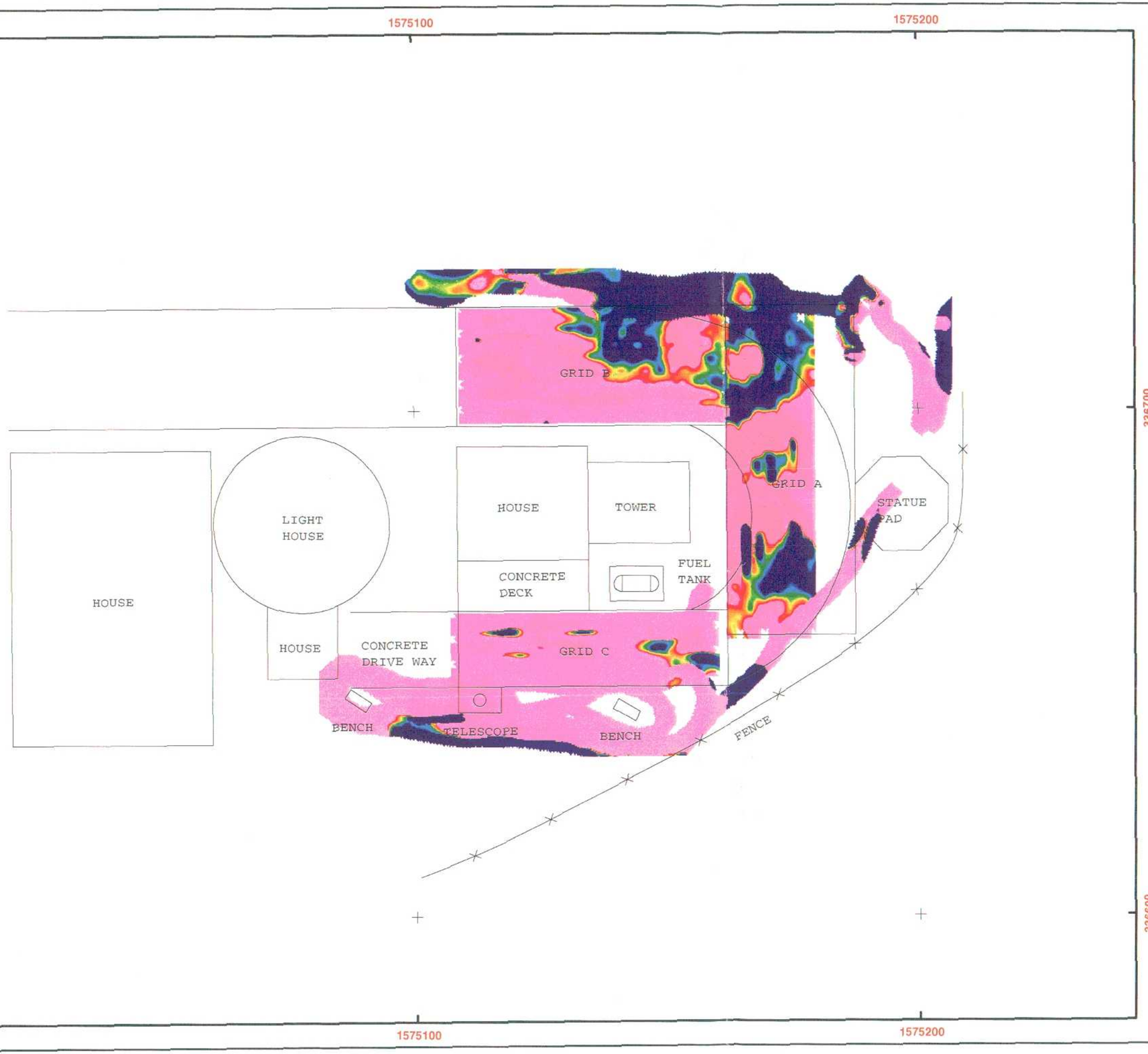
Figure 3.2
Recovered OE Items

Picture 1: 105 mm MI HE Projectile Scrap (inert).

Picture 2: 3.5-inch Practice Rocket Fragments Scrap (inert).

Figure 3.3

Area A
Geophysical Survey
Former Camp Hero
Montauk, New York



Legend

Geophysical Survey

N

20 10 0 20 40 Feet

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DESIGNED BY: MAD	Former Camp Hero Montauk, New York
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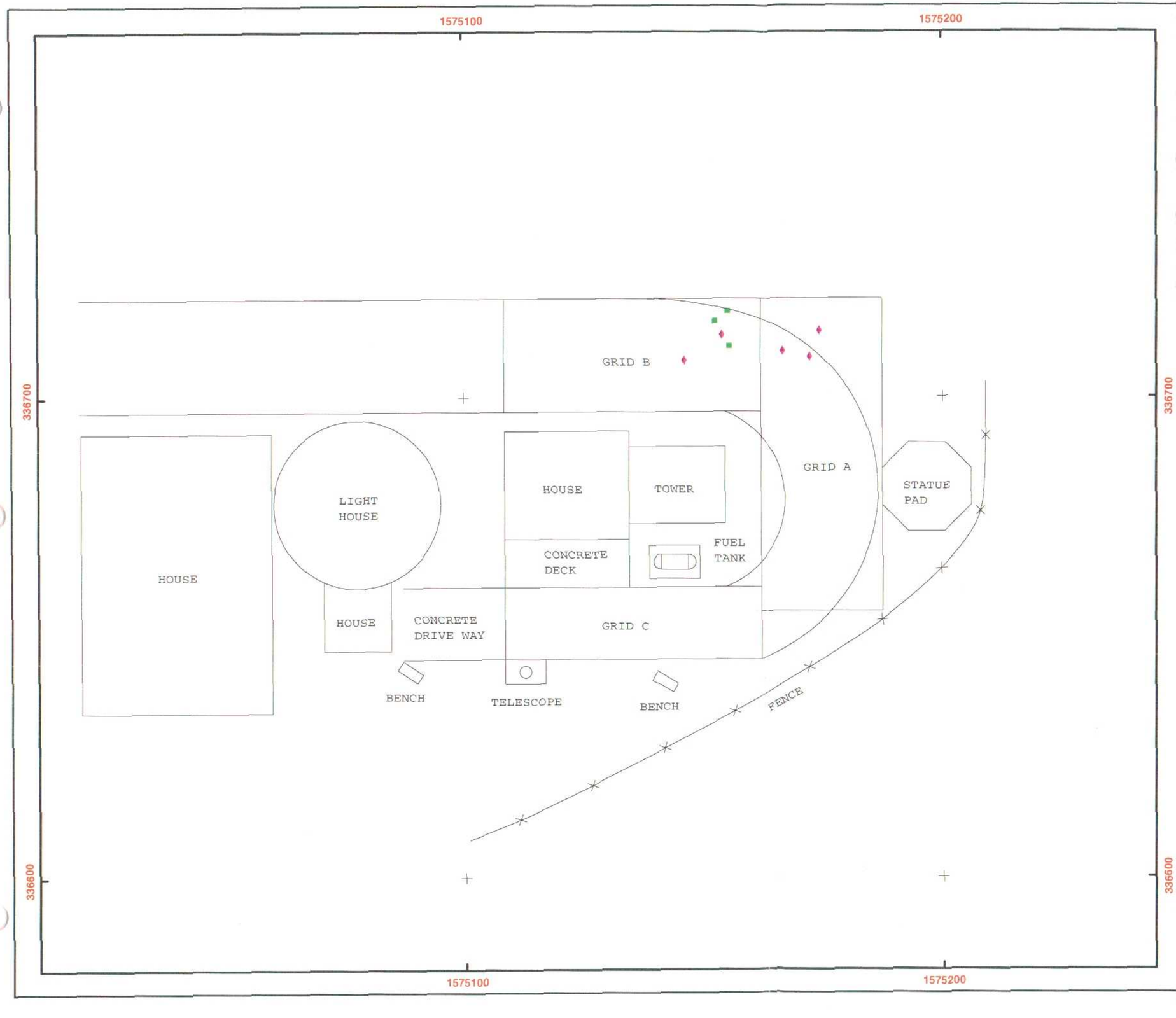
	FILE: j:\gis\739306\maps\fig3_3.mxd

Figure 3.4

Area A
Intrusive Investigation Results
Former Camp Hero
Montauk, New York



Legend

- Scrap
- Other

20 10 0 20 40 Feet

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	PROJECT NUMBER: 739306
	PAGE NUMBER: 3-15

1571500
1572000
1572500
333000
332500

Figure 3.5

Area H
Geophysical Survey
Former Camp Hero
Montauk, NY

Legend

- Area H
- Area K
- Wetland
- Geophysical Survey

N

100 50 0 100 200 Feet

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1571500
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1572500
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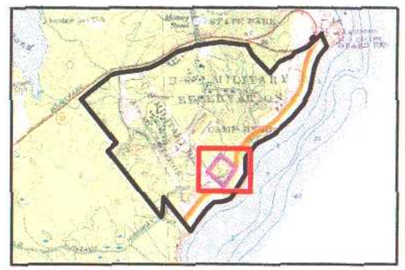
332500

Figure 3.6

Area H
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



Legend

- OE Scrap
- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area H
- Area K
- Wetland

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

[1] Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1572000

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8

37

1572000

1573000

Figure 3.7

Area H and Revised Area K Former Camp Hero Montauk, New York

Legend

- O/E Scrap
- Approximate Work Area Outside Original Boundary
- Area H
- Area K
- Revised Area K

N

200 100 0 200 Feet

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SUBMITTED BY: DMS	DATE: January 2002; PAGE NUMBER: 3-18
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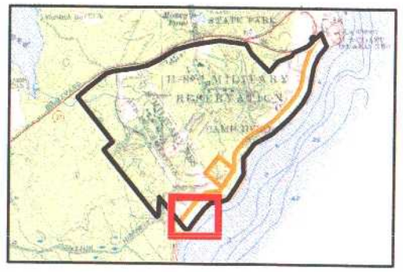
331500

Figure 3.8
Map 1 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY



Legend

Area K

Geophysical Survey

N

100 50 0 100 200 Feet

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1572000

1572500

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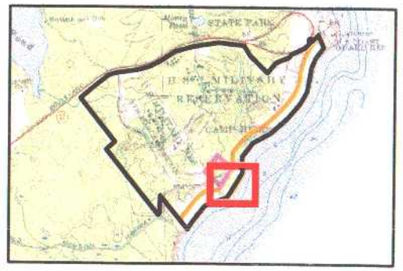
1572000

1572500

Figure 3.8

Map 2 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY



Legend

- Area K
- Area H
- Geophysical Survey

N

100 50 0 100 200 Feet

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1572500

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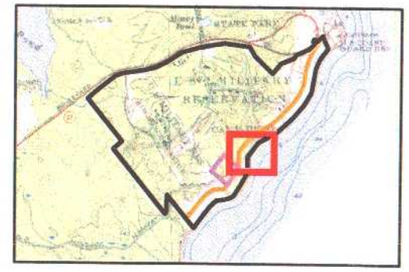
Figure 3.8
Map 3 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY



Legend

- Area K
- Area H
- Geophysical Survey

100 50 0 100 200 Feet

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1573500

1574000

334500

334000

Figure 3.8
Map 4 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY

Legend

- Area K
- Geophysical Survey

100 50 0 100 200 Feet

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1574000

1574500

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1574500

Figure 3.8
Map 5 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY

Legend

Area K

Geophysical Survey

N

100 50 0 100 200 Feet

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1574500

1575000

336500

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1574500

1575000

Figure 3.8
Map 6 of 6

Area K
Geophysical Survey
Former Camp Hero
Montauk, NY

Legend

Area K

Geophysical Survey

100 50 0 100 200 Feet

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1571000

1571500

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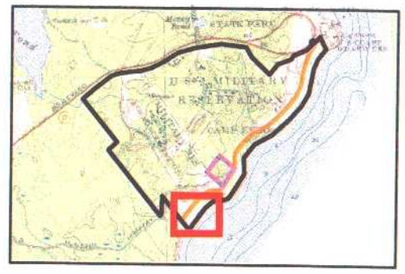
331500

Figure 3.9
Map 1 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



Legend

- OE Scrap
- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

[1] Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1572000

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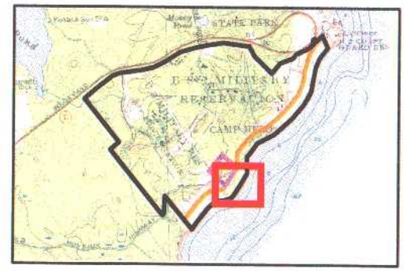
Figure 3.9
Map 2 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



Legend

- OE Scrap
- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K
- Area H

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

1 Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1572500

1573000

333500

333000

Figure 3.9
Map 3 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY

Legend

- OE Scrap
- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K
- Area H

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

1 Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1573500

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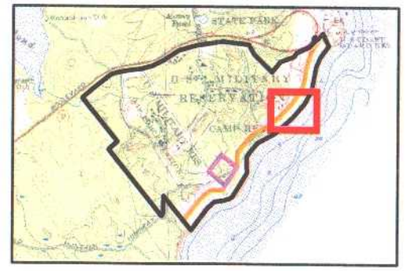
334000

1573500

1574000

Figure 3.9
Map 4 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



Legend

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- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

[1] Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1574000

1574500

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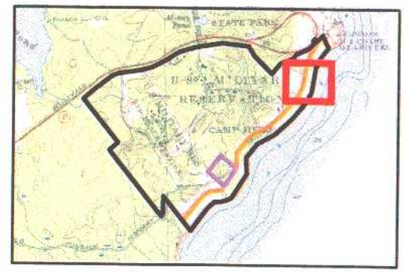
Figure 3.9
Map 5 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



Legend

- OE Scrap
- Inaccessible
- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

[1] Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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1574500

1575000

336500

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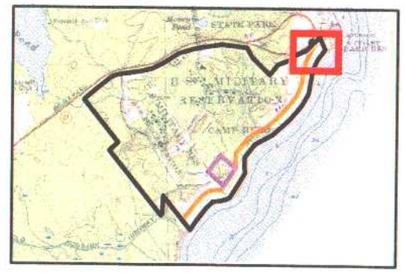
1575000

Figure 3.9
Map 6 of 6

Area K
Intrusive Investigation Results
Former Camp Hero
Montauk, NY



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- No Contact/False Positive
- Non-Ordnance Scrap
- Not Investigated[1]
- Other
- Area K

Note: See Subsection 3.1.7 for definitions for each of the post-intrusive anomaly classifications identified in the legend.

[1] Selection of anomalies for intrusive investigation was based on comparison of the anomalies' geophysical signature with the signature of items suspected at the site as detatiled in Subsection 3.1.4.

N

100 50 0 100 200 Feet

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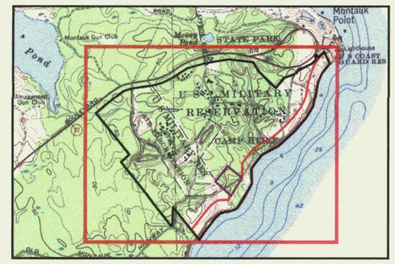
Figure 3.10

Former Camp Hero EE/CA Field Investigation



Area A
Area J
Area B
Battery No. 216
Area K
Area M
Area D
Area C
Area J
Area G
Area E
Battery Dunn 113
Area H
Area F
Battery No. 112
Wetland
Area L
Area I
Revised Area K
Area K

Legend

- Site
- Site Boundary
- Revised Area K
- Area K
- Area H
- Area A
- Geophysical Survey

N

300 150 0 300 600 900 Feet

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	PAGE NUMBER: 3-31

SECTION 4
RISK EVALUATION

4.1 INTRODUCTION

A qualitative risk evaluation was conducted using the OE Risk Impact Assessment (OERIA) for OE EE/CA Evaluations Interim Guidance document (USAESCH, 2001a) to assess explosive safety risk to public at the former Camp Hero. The risk evaluation presented herein is based on the site characterization findings presented in Section 3 for Area H and Revised Area K.

4.2 DEFINITION OF RISK EVALUATION FACTORS, CATEGORIES, AND SUBCATEGORIES

4.2.1 Introduction

The potential risk posed by OE was characterized qualitatively by evaluating three primary risk factors. The three primary risk factors include: 1) presence of OE, 2) site characteristics, and 3) human factors. By performing a qualitative assessment of these three factors, an overall assessment of the safety risk posed by OE was evaluated. The following paragraphs describe the components of each of the primary risk factors.

4.2.2 Presence of OE Factors

4.2.2.1 There are four categories that are evaluated within the presence of OE risk factor. These include the type, sensitivity, density, and depth distribution.

4.2.2.2 **Type**. The type affects the likelihood of injury and the severity of exposure. If multiple OE items are identified in an area, that item which poses the greatest risk to public health is selected for risk evaluation. There is a possibility of intact munitions being present at these sites, although the only OE items identified during the EE/CA were OE scrap items. In Area H, it is feasible that some "kick-out" ordnance was not destructed during demolition. In Area K, it is feasible that the same ordnance from Area H could erode from the bluffs and be deposited either in the steep bluff face or along the beach. Furthermore, fired ordnance associated with the adjacent Off-Shore Ordnance Area (Area L) firing range could be deposited on the beach as a result of wave action. There are four subcategories of OE type. These subcategories are presented in order from highest to lowest risk.

Table 4.1
OE Type Subcategories

Subcategory	OE Type Description
Most Severe	OE that may be lethal to an individual if detonated by an individual's activities
Moderate	OE that may cause major injury to an individual if detonated by an individual's activities
Least Severe	OE that may cause minor injury to an individual if detonated by an individual's activities
No injury	Inert OE scrap, will cause no injury

4.2.2.3 **Sensitivity.** Sensitivity affects the likelihood of detonation and the severity of exposure. Factors considered in evaluating sensitivity include fuzing and environmental factors such as weathering. There are four potential subcategories of OE sensitivity. The category of sensitivity is based on the results of the EE/CA field investigation as well as the results of archival searches. When multiple subcategories of OE types are discovered in an area, the highest risk subcategory has been used in the risk evaluation. The subcategories of sensitivity are defined and presented in order from highest to lowest in Table 4.2.

Table 4.2
OE Sensitivity Subcategories

Subcategory	OE Sensitivity
Very Sensitive	OE that is very sensitive
Less sensitive	OE that is less sensitive
Insensitive	OE that may have functioned correctly but still has a residual risk
Inert	Inert OE or scrap, will cause no injury

4.2.2.4 **Density.** OE density affects the likelihood that an individual will be exposed to OE. There exists a direct relationship between density and potential for harm. For example, the more ordnance per acre, the greater the likelihood of exposure to an OE item and thereby an opportunity to create an incident. The OE density may be

determined using the UXO Calculator. However, because the assumptions for the use of UXO Calculator were not met, UXO Calculator was not used to estimate OE density. OE density for Area H and Revised Area K are both unknown. OE scrap items identified in both Areas may indicate the presence of OE in these areas. However, a quantitative density estimate cannot be determined from the EE/CA field data.

4.2.2.5 **Depth Distribution.** The depth distribution refers to where the OE is located vertically in the subsurface. The OE depth distribution affects the likelihood that an individual will be exposed to OE. There exists a direct relationship between the depth at which OE are found and the likelihood of exposure to the OE. That is, the greater the depth where the OE are found, the lower the risk of exposure. There are two subcategories within the OE depth distribution category: surface and subsurface. The surface subcategory includes those items recovered from between 0 and 6 inches bgs. The subsurface subcategory includes those items recovered from greater than 6 inches bgs. Assessment of this risk category reflects the findings of the EE/CA field investigation.

4.2.3 Site Characteristics Factors

4.2.3.1 There are two categories that are evaluated in the site characteristic primary risk factor. These are site accessibility and site stability.

4.2.3.2 **Site Accessibility.** The accessibility of a site affects the likelihood of encountering OE. Natural or physical barriers can limit the accessibility. Natural barriers can include the terrain or topography of the site as well as the vegetation. Physical barriers can include walls and fences that limit the public's accessibility to the site. Both the physical and natural barriers found at a site are considered when evaluating this category. Site accessibility has three subcategories. These subcategories are presented in Table 4.3.

Table 4.3
Site Accessibility Subcategories

Subcategory	Accessibility Description
No Restriction to Site	No man-made barriers, gently sloping terrain, no vegetation that restricts access, no water that restricts access
Limited Restriction to Access	Man-made barriers, vegetation that restricts access, water, snow or ice cover, and/or terrain restricts access
Complete Restriction to Access	All points of entry are controlled

4.2.3.3 **Site Stability.** This category relates to the probability of being exposed to OE by natural processes. These natural processes include recurring natural events (e.g., frost heave, sand movement, erosion) or extreme natural events (e.g., tornadoes, hurricanes). The local soil type, topography, climate, and vegetation affect stability of the site. The soil type and climate primarily affects the depth of penetration of the OE. Over time, the soil type and climate will also affect the degree of erosion that takes place at a site. Topography and vegetation in the area will also affect the rate of erosion that takes place in an area. Site stability has three subcategories. Table 4.4 describes these subcategories.

Table 4.4
Site Stability Subcategory

Subcategory	Stability Description
Site Stable	OE should not be exposed by natural events
Moderately Stable Site	OE may be exposed by natural events
Site Unstable	OE most likely will be exposed by natural events

4.2.4 Human Factors

4.2.4.1 There are two categories that are evaluated in the primary human risk factor. These include activities and population.

4.2.4.2 **Site Activity.** The types of activities conducted at a site affect the likelihood of encountering OE. The types of activities may be generally classified as recreational and occupational. This category examines whether the impact from an activity on OE is significant, moderate or low. In order to assign such a score, the following general guidelines presented in the Table 4.5 below were considered. First, the type of activity should be identified. Then, the depth of the activity must also be considered. For example, at a site where OE is at the surface, all activities that can impact OE at the surface are considered activities that have significant impact. Conversely, if all OE is located at depths greater than 1 foot and only surface impact activities are being performed then the activities are considered as moderate or low impact. After the type of activity and depth of OE are identified, then a score of significant, moderate or low may be assigned.

Table 4.5
Activities OE Contact Probability Levels

Examples of Activities	Actual Depth of OE	Contact Level
Child Play, Short Cuts, Hunting, Fishing, Hiking, Swimming, Jogging, Ranching, Surveying, Off-Road Driving	0-6" 6"-12" >12"	Significant Low Low
Picnic, Camping, Metal Detecting	0-6" 6"-12" >12"	Significant Moderate Low
Construction, Archaeology, Crop Farming	0-6" 6"-12" >12"	Significant Significant Moderate

4.2.4.3 **Population.** This category refers to the number of people that potentially access the site on a daily basis. The number of people using the site affects the likelihood of encountering OE. A direct relationship exists between the number of people and the risk of exposure. An estimate of the number of people accessing the site on a daily basis was made using best professional judgement based on knowledge of the type of site, land use, access restrictions, population, and other demographics.

4.3 RISK EVALUATION

4.3.1 Introduction

Each of the primary risk factors identified above was evaluated using the data collected in during the EE/CA field investigation and the data presented in the ASR. The risk evaluation for Area H and Area K is presented in Table 4.6. The following sections discuss the risk evaluation by each primary risk factor.

4.3.2 Presence of OE Factor

4.3.2.1 Type

Area H: Table 4.6 lists the type of ordnance associated with the OE scrap recovered from Area H during the EE/CA and historic recoveries described in the ASR. Inert 105mm HE projectile scrap was identified during the EE/CA. The potential presence of this ordnance-related scrap and the inherent potential presence of a UXO poses the greatest risk. Although, ***only OE scrap of this munition was identified***, there is a reasonable possibility that an intact 105mm may occur in the area. The 105mm HE projectile was assigned a subcategory of "most severe" which indicates the OE may be lethal to an individual if detonated by an individual's activities.

Area K: Table 4.6 lists the type of ordnance recovered from Area K during the EE/CA and historic recoveries described in the ASR. A 90mm projectile (suspected as HE) was discovered by a skindiver in 1962 (USACE, 2000a,b) and is the OE that poses

the greatest risk. This discovery led to an OE removal of 200 OE and OE scrap items in this area. The 90mm projectile was assigned a subcategory of "most severe" which indicates the OE may be lethal to an individual if detonated by an individual's activities.

4.3.2.2 Sensitivity

Area H: A subcategory of 3 "very sensitive" was assigned for OE sensitivity based on the occurrence of the 105mm HE projectile scrap. Sensitivity affects the likelihood of detonation and the severity of exposure. Factors considered in evaluating sensitivity include fuzing and environmental factors such as weathering

Area K: A subcategory 3 "very sensitive" was assigned for OE sensitivity based on the historical discovery of a 90mm projectile suspected as containing HE.

4.3.2.3 Density

OE density affects the likelihood that an individual will be exposed to OE. There exists a direct relationship between density and potential for harm. For example, the more ordnance per acre, the greater the likelihood of exposure to an OE item and thereby an opportunity to create an incident. Density can be estimated either qualitatively or quantitatively. For Camp Hero, a qualitative evaluation was selected as appropriate since no OE was recovered during the EE/CA investigation yet ordnance-related scrap was present. The confirmed presence of ordnance-related scrap coupled with the number of reported historical accounts of OE findings, although generally unsubstantiated, suggest the potential presence of OE at the site. Therefore, the qualitative density category selected for both Area H and Revised Area K in their current state is " potential for OE exists, OE not expected."

4.3.2.4 Depth

The OE depth distribution affects the likelihood that an individual will be exposed to OE. There exists a direct relationship between the depth at which OE are found and the likelihood of exposure to the OE. There are two subcategories within the distribution depth category: surface (0 – 6 inches bgs) and subsurface (> 6 inches bgs). Table 4.6 summarizes the results of the EE/CA investigation in terms of the number of OE scrap items recovered in each area. A detailed discussion of the findings from the EE/CA investigation are contained in Section 3. The original dig sheets are presented in Appendix B.

4.3.3 Site Characteristics Factors

4.3.3.1 Site Accessibility

Both Area H and Area K are partially accessible to pedestrian traffic with thick vegetation and some fencing being the limiting factors. In addition, the ocean, coupled with the inhospitable rocky beach and steep bluff in the project area, is a natural barrier that limits easy access. However, the favorable surfing, fishing, and hiking conditions continue to increase the recreational user population within the sectors.

4.3.3.2 Site Stability

The site stability subcategory is "unstable" for both Area H and Area K. Suspect OE has been exposed over time in the bluffs through the significant erosional processes from storm events. In addition, OE can be washed onto the beach from the Off-Shore Ordnance Area (Area L) which is known to be contaminated with OE (USACE, 2000a).

TABLE 4.6
RISK EVALUATION

Area	Ordnance and Explosives Factors					Site Characteristics Factors		Human Factors	
	Type[1]		Sensitivity	UXO Density Range	Depth[2]	Accessibility	Stability	Activities	Population
Area H (Ordnance Destruction Range)	**EE/CA: 105mm HE projectile**; and other fragments; **SI:** projectile fragments, empty 17-23 lb. Fragmentation bomb body, 3.5-inch rocket; **ASR:** projectile fragments, 3.5-inch rocket	Most Severe	Very Sensitive	Not Applicable	Surface – 17 Subsurface – 4	Limited restriction	Unstable	Significant (Hiking, picnicng camping, short cuts)	20 –70
Area K (Near-Shore Ordnance Area)	**EE/CA:** Fragments, **SI:** projectile fragments; **ASR: 90mm projectile**, cannon balls, practice rockets, intact hand grenade, 3.5-inch rocket	Most Severe	Very Sensitive	Not Applicable	Surface – 3 Subsurface – 15	Limited restriction	Unstable	Significant (Fishing, hiking, picnicking, camping, short cuts)	20 –70

[1] Denotes items found during the EE/CA versus those noted in the ASR and SI. The bolded OE item was used to establish the Category.

[2] Denotes the number of OE items found at the surface (0 to 6 inches deep) and those found in the subsurface (>6 inches deep) during the EE/CA field investigation. Includes those items found on the surface during the brush cut effort and items found during the mag and dig of the Area K bluff face.

4.3.4 Human Factors

4.3.4.1 Site Activities

The type of activities conducted at a site in combination with the depth distribution of OE is related to the likelihood of individual encountering OE. Table 4.6 describes the type of activity performed in each sector based on the current and future planned land use. This information is based on the observed activities as well as activities likely to occur in an area based on its location, physical characteristics, and the characteristics of the surrounding population. With the exception of fishing in Area K, similar types of recreational activities are conducted in both areas. These activities combined with the detection of OE on the surface result in a significant contact level rating.

4.3.4.2 Population

Because of its unique location and scenery, a large number of recreational visitors in the fair weather months frequent the bluffs and beaches. In addition, nearby property owners visit the area. It is estimated, that approximately 20 – 70 people may visit each area on a daily basis. The low end represents offseason (winter) and the high number is representative of the summer months.

4.4 RISK ASSESSMENT SUMMARY

4.4.1 The risk to public safety associated with the potential presence of OE at Area H and Area K were evaluated in these two areas. The explosive safety risk is due to a combination of each of the primary risk factors that are presented above. The stability category is significant in terms of its contribution to potential explosive safety risk. Several OE scrap items have been identified in the bluffs and further erosion and future exposure to potentially present OE are considered moderately likely. This combined with the relatively unrestricted pedestrian site access and surface activities contribute to the presence of an explosive safety risk.

SECTION 5
INSTITUTIONAL ANALYSIS

5.1 INTRODUCTION

Parsons prepared an Institutional Analysis (IA) Report as part of the former Camp Hero EE/CA Report. The IA was performed in accordance with USACE guidance Data Item Description (DID) OE-100. The analysis was prepared to support the development of Institutional Control (IC) alternative plans of action that are included in this EE/CA Report (see Section 7). The IC plans of action are called institutional control strategies. These strategies rely on existing powers and authorities of other government agencies to protect the public at large from potential OE risks. The IA is included in this report as Appendix D.

5.2 METHODOLOGY

The methodology used to analyze potential IC strategies included the review of government institutions and non-government entities that exercise jurisdiction or ownership of the former Camp. The results of the study determined the primary governmental agency having control over the Camp is the State of New York Parks Commission. The Montauk Historical Society Lighthouse Commission exercise control over a small portion of the land. Representatives of these entities were contacted and interviewed. Based upon the representatives' interviews, an assessment was made regarding the representatives' capabilities and willingness to support and enforce short and long-term institutional control measures. The results of these discussions were considered when determining recommended IC strategies.

5.3 RECOMMENDATIONS

The recommended institutional control strategies were based on discussions with the USACE, local county officials, the professional experience of Parsons with IA, and overall knowledge of the site and conditions. The recommendations are considered to be appropriate methods for reducing potential OE risks to the public. The recommended IC strategies are considered to be an effective complement to the OE response activities discussed in this EE/CA. The following subsections discuss the recommended IC strategies. The alternatives are presented in the recommended order of importance.

5.3.1 Brochure/Fact Sheet

The existing fact sheet should be distributed to all property owners and residents in the area. In addition, brochures should be sent to the Montauk Point State Park and the Montauk Historical Society Lighthouse Commission to be provided to the public. The fact sheet would require periodic review and revision to capture any new information available on the amount and location of ordnance, plans for construction activities, or any other relevant information.

5.3.2 Exhibits/Displays

Placing exhibits/displays in high-traffic, public, or tourist areas can be an effective method of raising and preserving general awareness and educating the public on the possible risk associated with the ordnance on the former Camp property. The displays could be located at the Montauk Point State Park information centers and at the Montauk Point Lighthouse.

5.3.3 Visual and Audio Media

Visual and audio media is an effective way of educating a majority of the local population in the former Camp Hero area. Two visual media programs, one 30-minute television special and one 5 to 7 minute videotape, could be shown on television, in classrooms, and at civic clubs. The local radio station, WEHM 96.7, could provide broadcasts that educate the public about the history, current status, and future information concerning the presence of ordnance on the former range property.

5.3.4 Newspaper Articles/Interviews

Newspaper articles and interviews serve as an effective tool for educating the public at no cost to the USACE. "Public friendly" newspaper articles could be coordinated through journalists with the local newspapers, the East Hampton Independent and the East Hampton Star, that discuss the existence of ordnance, the potential danger, and how that danger can be minimized through education.

5.3.5 Ad hoc Committee

An ad hoc committee, comprised of concerned citizens, will oversee the public education process regarding the existence and potential danger of ordnance. This committee will be responsible for ensuring the other recommended public education programs are instituted and maintained.

5.3.6 Information Packages to Public Officials

The appropriate public officials at the State of New York Parks Commission and the Montauk Historical Society Lighthouse Commission should be provided with more detailed information to supplement the brochure and fact sheet regarding institutional controls and the extent of ordnance contamination. A report summarizing the final EE/CA report should also be included in the Master Plan and Management Plan of

Montauk Point State Park. This would ensure that future park superintendents are apprised of the issue. Local public officials will be invited to public presentations of the EE/CA and will receive copies of the EE/CA.

5.3.7 Internet Web Page

Parsons has established a project web page on the Internet to document the progress of the EE/CA investigation (www.projecthost.com). At the completion of the project, administration of this web site may be transferred to a local entity such as the State of New York Parks Commission. The creation of a supplemental web page could be used as a method of raising and preserving general awareness and educating the public about the presence of ordnance on the former Camp property. The web page would be designed to include the history of the site, the history of ordnance findings, and cleanup activities. The fact that ordnance exists on the site would also be explained together with how it is identified, procedures for dealing with ordnance discoveries, and contact telephone numbers.

5.3.8 Other

Other institutional control alternatives were evaluated but not recommended based on inappropriateness for this venue or inability to reach an adequate portion of the population. These alternatives are discussed in detail in Appendix D.

SECTION 6
IDENTIFICATION OF RESPONSE ACTION OBJECTIVES

6.1 RESPONSE ACTION GOAL

None of the AOIs within the former Camp Hero investigated as part of this EE/CA were identified as warranting an immediate (time-critical) OE response action. However, non-time-critical OE response actions were evaluated for applicability at Area H and Revised Area K. The goal of a non-time-critical OE response action is public safety, which can be achieved by reducing the explosive threat posed by the UXO that potentially remains on the property. This goal was achieved by determining the appropriateness of a potential OE response action for minimizing the public's exposure to UXO.

6.2 RESPONSE ACTION OBJECTIVES

6.2.1 A number of factors were considered for establishing the specific objectives for a response action. The objectives had to meet the requirements set forth in the applicable or relevant and appropriate requirements (ARARs) while still being realistic and achievable in terms of cost. To attain the goal of reducing the explosive threat posed by the potential for OE remaining at Area H and Revised Area K within the Camp, the objectives identified had to be effective, implementable, and economical. The criteria of effectiveness, implementability and cost were used to evaluate the potential OE response actions in accordance with USAESCH guidance.

6.2.2 The OE response action objectives guided the development of alternatives for Area H and Revised Area K and focused the comparison of potential OE response action alternatives. These objectives also assisted in clarifying the goal of minimizing the explosive risk and achieving an acceptable level of protection to public safety and the human environment. These objectives included:

- Identifying the degree and horizontal and vertical extent of OE presence;
- Evaluating the effectiveness of various response alternatives;
- Determining the ability to implement various response alternatives; and
- Determining the cost to implement the various response alternatives.

SECTION 7
IDENTIFICATION AND ANALYSIS OF RESPONSE ACTION ALTERNATIVES

7.1 INTRODUCTION

7.1.4 In this Section, response action alternatives are identified and analyzed for Area H and the portion of Area K adjacent to Area H (Revised Area K in Figure 3.7). As determined in Section 4, these areas pose a risk to public safety associated with the potential presence of OE. The identification of alternatives for Area H and Revised Area K includes two principal groups. The first group of alternatives includes non-intrusive approaches while the second group of alternatives includes intrusive approaches. Non-intrusive alternatives are comprised of the NDAI and institutional controls alternatives, while intrusive approaches include surface and subsurface clearance activities. This Section provides a brief, general description of OE clearance technologies. From this general description, six specific response action alternatives for Area H and Revised Area K are introduced.

7.1.6 For each of the OE response action alternative identified, an analysis and screening against the three general categories of effectiveness, implementability, and cost will be conducted to ensure that they meet the minimum standards within each of the criteria of the three categories. This screening will be performed on all potential OE response action alternatives for Area H and Revised Area K where potential OE risk was identified. The purpose of this screening was to ensure that only viable alternatives were ranked against each other in Section 8 of this report. Once this screening was completed, the remaining alternatives were compared against each other to identify the most appropriate response action for each sector.

7.2 DESCRIPTION OF OE CLEARANCE TECHNOLOGIES

7.2.1 Introduction

Various technologies and approaches exist for the clearance of OE. An OE clearance operation falls into three distinct areas: detection, recovery, and disposal. A discussion of the techniques used in each of these areas is presented in the following paragraphs.

7.2.2 OE Detection

7.2.2.1 The detection of OE includes those methods and instruments that can be used to locate OE. The selection of the best technology depends on the properties of the

OE to be located, including whether the ordnance is likely to be found on the surface or below the surface, and the characteristics of the location where the OE is located, such as topography, vegetation, and geology.

7.2.2.2 Detection technologies have two basic forms. One form, visual searching, has been successfully used on a number of sites where OE is located on the ground surface. When performing a visual search of a site, the area to be searched is divided into five-foot lanes that are then systematically inspected for OE. A metal detector is sometimes used to supplement the visual search in areas where ground vegetation may conceal OE. Typically, any OE found during these searches is flagged or marked on a grid sheet for later removal.

7.2.2.3 The other form of OE detection, geophysics, includes a family of detection instruments designed to locate OE. This family of instruments includes magnetic instruments, electromagnetic instruments, and ground-penetrating radar. Each piece of equipment has its own inherent advantages and disadvantages based on its operating characteristics, making the selection of the type of geophysical instrument to be used on an OE survey key to the success of the project. The equipment designed for OE geophysical surveys is lightweight, easily maintained, and very effective. However, there are limitations to geophysics. Geophysical equipment cannot usually distinguish OE items from other metallic objects located below the surface. "Cultural interference," such as underground utility lines, construction debris, or metal bearing rock can result in a similar signature as OE. Therefore, it is necessary for the geophysical survey team to carefully document any known cultural interference while in the survey area. Another limitation to the equipment is that metallic objects have to be much larger when at greater depths so that the geophysical equipment can obtain a reading.

7.2.2.4 Various pieces of geophysical equipment were used during the EE/CA field investigation of Area A, Area H, and Area K. This equipment included the Geonics® EM-61 TDMD (in stretcher mode) and Schonstedt® magnetometers, as selected during the site-specific geophysical equipment prove-out (Parsons, 2001d,e). While the technical characteristics and operating parameters of each of these pieces of equipment varied greatly, each was found to be effective in the specific application where the equipment was used in the field investigation of the Area A, Area H, and Area K.

7.2.3 OE Recovery

7.2.3.1 Once a site has been surveyed by either visual or geophysical means, the recovery of OE can begin. Recovery operations can take the form of a surface-only clearance of OE, an intrusive (subsurface) clearance of OE, or a combination of the two. The decision on the level of clearance operation to engage in is based on the nature and extent of the OE presence as well as the future use of the site.

7.2.3.2 During a surface clearance operation, exposed OE or suspected OE is identified during the detection phase. Then the OE are inspected, identified, and transported to a designated area for cataloging and eventual disposal. If it is determined

during the OE inspection that the item cannot be safely moved, it would be destroyed in place.

7.2.3.3 During a subsurface clearance operation, buried OE or suspected OE identified by the geophysical survey or other detection methods requires excavation for removal. Because the actual nature of the buried OE item cannot be determined without it being uncovered, non-essential personnel evacuations are necessary, as well as, the use of engineering controls to ensure the safety of the operation. The excavation of the OE item then takes place with either hand tools or mechanical equipment depending on the suspected depth of the object. Once the OE item has been exposed, it is then inspected, identified, and transported to a designated area for cataloging and eventual disposal. If it is determined during the OE inspection that the item cannot be safely moved, it would be destroyed in place.

7.2.3.4 Evacuations are sometimes necessary when conducting intrusive investigations to minimize the risk of the operation. The evacuation area will be within a predetermined Minimum Separation Distance (MSD) [formerly Public Withdrawal Distance (PWD)] to ensure the safety of the operation. The MSD is based on the actual identified UXO item. All non-essential/non-UXO personnel and the general public must be evacuated from and maintain their distance beyond the MSD during intrusive operations. The MSD may be reduced if appropriate engineering controls are applied, such as sandbag mounds and sandbag walls over and around the potential OE item. However, evacuations may be required if excavations take place close to inhabited areas and engineering controls cannot reduce the MSD to preclude the need to evacuate. Every possible option will be explored to minimize potential evacuations with the exception of compromising public safety.

7.2.4 OE Disposal

7.2.4.1 Disposal of recovered OE can take one of three different forms: off-site demolition and disposal; remote, on-site demolition and disposal; and in-place demolition and disposal. The decision regarding which of these techniques to use is based on the risk involved in employing the disposal option, as determined by the specific area's characteristics and the nature of the OE recovered.

7.2.4.2 If transported off-site for destruction, the OE would be transported by either Army personnel or by a qualified UXO subcontractor. The OE is typically transported to an active military installation where it can be safely destroyed. The transportation of OE is performed in accordance with the provisions of 49 CFR 100-199, TM 9-1300-206, and applicable state and local laws. A Transportation Plan detailing the route and procedures used during the transportation is prepared and approved prior to engaging in any off-site OE transport to ensure all safety aspects of the movement have been addressed. Off-site transportation of OE for destruction was not necessary during this investigation.

7.2.4.3 If OE is discovered in close proximity to occupied buildings it may not be possible to safely destroy the OE item in place without the use of engineering controls. If

the OE item is safe to move, it can be moved to a remote part of the project site where demolition and disposal can safely take place. A countercharge can be used to destroy the OE item or the OE item can be burned as a means of destruction. Burning an OE item is not as desirable as a countercharge, however, as the burning can produce secondary explosions or the item may not be completely destroyed, thus leaving the OE item in a more dangerous state than it was originally.

7.2.4.4 Finally, an OE item may be destroyed in place. This technique is typically employed when the OE item cannot be safely moved to a remote location or if the OE items are located in an area that is sufficiently remote. When employing this technique, procedures similar to those described above are used that will detonate the OE item or apply sufficient pressure and heat to neutralize the hazard. When this technique is employed, engineering controls such as sandbag mounds and sandbag walls over and around the OE item are often used to minimize the blast effects.

7.3 DESCRIPTION OF OE RESPONSE ACTION ALTERNATIVES

7.3.1 Introduction

7.3.1.1 The alternatives identified for evaluation were selected based on the results of the characterization activities performed at Area H and Area K. Six alternatives were developed to address the explosive safety risk that remains at the two Areas. These alternatives are as follows:

- Alternative 1 – No DOD Action Indicated (NDAI);
- Alternative 2 – Institutional Controls (ICs);
- Alternative 3 – Surface Clearance of OE;
- Alternative 4 – Surface Clearance of OE with ICs;
- Alternative 5 – Clearance of OE to Depth; and
- Alternative 6 – Clearance of OE to Depth with ICs.

7.3.1.2 Implementation of a recurring review program (see Section 10) was not evaluated as a separate alternative, but it will be an integral part of any alternative. The recurring review program will be used in conjunction with the OE clearance alternatives. As part of this program, visual surveys will be performed on a proposed schedule to ensure that the appropriate site safety and security measures remain in place and the integrity of any site controls is maintained. These visual surveys will also include: inspection of areas within AOIs to determine the effectiveness of the OE response action alternative implemented. During the periodic inspections, changes in the land uses will be assessed. The visual inspections will occur yearly for first five years after OE response action has been implemented. After five years, the inspections will continue at a five-year frequency beginning at the end of the first five-year duration and continuing every five years up to 25 years from the completion of OE response action. If the results of these inspections indicate that the conditions of the AOI have changed significantly, additional actions may be taken to address the public safety associated with the presence

of residual OE. Section 10 of this document provides additional details regarding the recurring review process.

7.3.2 Alternative 1 – No DOD Action Indicated

7.3.2.1 Alternative 1 is for the government to take no action in regards to locating, removing, and disposing of any potential OE present within a specific AOI at the former Camp. In addition, no public awareness or education training would be initiated with regards to the risk of OE. The NDAI alternative assumes continued use of the AOI in its present state. If the potential exposure and hazards associated with the AOI are compatible with current and future development in the area as well as the OE response action objectives, then NDAI may be warranted. It is important to note that the government will respond to any future UXO discovery on the Camp property regardless of whether the affected parcel was designated for NDAI. The NDAI alternative is a potential candidate alternative for each of the AOIs within the Camp. This alternative has already been recommended for Area A since no OE or OE scrap items were found within this AOI during the EE/CA field investigation. This recommendation corroborates the ASR's assignment of NDAI for the AOI.

7.3.3 Alternative 2 – Institutional Controls

Alternative 2, Institutional Controls, includes the implementation of various public awareness programs and administrative restrictions to increase public knowledge of the potential dangers posed by OE. This alternative consists of various public awareness components as presented in Section 5. These components include printed media, an ad-hoc committee, classroom education, visual media, and exhibits/displays in the local area. The full Institutional Analysis Plan for former Camp Hero is provided in Appendix D.

7.3.4 Alternative 3 – Surface Clearance of OE

7.3.4.1 Alternative 3 would entail a surface clearance of OE (including the first six inches below the ground surface). In the first phase of this clearance, a land surveyor would establish control points for the areas that require surface clearance. Brush clearing crews would clear enough undergrowth so that the surface clearance crews could adequately perform their work. Surface clearance would be completed by experienced UXO-qualified personnel who would visually search the ground surface for any OE. In addition, UXO-qualified personnel would also use metal detection devices for screening to ensure that any OE items that may be present under the existing ground cover (leaves and vegetation) are located during the sweep. The UXO-qualified personnel would perform the sweep in fixed width intervals depending on the sweep reach of the type of metal detection equipment used, to ensure complete surface coverage. All metallic contacts on the ground surface (or within the top 6") would then be visually identified.

7.3.4.2 Any OE located during the sweep would be inspected to ensure its stability. During this inspection, a determination would be made whether the uncovered OE item could be moved. If a determination is made that the OE item is not safe to move, then the OE would be destroyed in place, otherwise, the item would be removed to a remote

location for onsite destruction and disposal. If necessary, engineering controls would be used to minimize the need for evacuation of the public. All inert OE items would be removed from the area and transported offsite for disposal.

7.3.5 Alternative 4 – Surface Clearance of OE with Institutional Controls

Alternative 4 includes the surface clearance of OE (including the first six inches bgs), as described in Subsection 7.3.4, in combination with institutional controls, as described in Subsection 7.3.3.

7.3.6 Alternative 5 – Clearance of OE to Depth

7.3.6.1 Alternative 5 includes clearance of OE items to depth. This alternative would include the surface clearance of OE as described in Subsection 7.3.4. In addition, a geophysical survey would be performed over the entire area and each anomaly would be intrusively investigated until the anomaly is identified or until a specified depth has been reached. If the anomaly is not identified within the specified depth and the geophysical instrument continues to give a signal, USAESCH would be contacted to determine whether to investigate deeper.

7.3.6.2 As stated previously, no UXO was identified during investigation of either Area H or Area K. OE scrap was discovered in both areas, to a maximum depth of 18 inches bgs. The depth distribution of OE scrap is consistent with the use of Area H as a demolition area (see Subsection 3.2.2) with items present in Revised Area K attributable to migration via erosion of the steep bluff separating the areas. It is anticipated that any residual OE would similarly be within the OE scrap depth distribution observed during this EE/CA investigation. However, the data set may not be adequate to fully characterize the depth distribution. Therefore, based on the future land use for public recreation and in accordance with DoD guidance (DoD, 1999), the clearance to depth alternative will by synonymous with clearance to four feet bgs for Area H and Revised Area K.

7.3.6.3 Land surveying and brush clearing operations would be necessary as described in Alternative 3. Unlike Alternative 3, this alternative would be conducted in two phases: an investigation phase and a subsurface clearance phase. Both phases of this alternative would be performed by experienced UXO-qualified personnel.

7.3.6.4 During the investigation phase, a metal detection device capable of performing both the surface sweep and the subsurface survey will be used. In this way, both the surface and subsurface surveys can be performed simultaneously, saving the government time and money. The primary difference in performing this kind of survey over that described in Alternative 3 is that, instead of performing an immediate visual identification of all anomalies identified during the survey, a marking/locating system must be used to be able to relocate the subsurface anomaly at a later date to perform an intrusive investigation. All surface anomalies discovered during the performance of the

survey would be immediately identified and removed from the area to ensure that only subsurface anomalies remain at the site until the intrusive investigation.

7.3.6.5 The second phase to this alternative includes the intrusive investigation of all subsurface metallic anomalies identified during the metal detection survey to determine their exact nature. For Area H and Revised Area K, some mapped subsurface anomalies remain that were not previously investigated during the EE/CA. These anomalies shall be reacquired and intrusively investigated as part of this alternative. During this intrusive investigation phase, engineering controls may have to be used to decrease the evacuation distance that will be required during the conduct of these investigations. Evacuation distances are determined by USAESCH based on the Most Probable Munition (MPM) or worst-case scenario for the potential detonation of an ordnance item that could be found at the site. All non-essential personnel are evacuated based on this distance to maximize the safety of the operation. Engineering controls can be used during the OE clearance operations that can decrease this distance. During the intrusive investigation, each anomaly is excavated until the source of the geophysical instrument reading is identified or until a predetermined clearance depth (four feet as described above) has been reached.

7.3.7 Alternative 6 – Clearance of OE to Depth with Institutional Controls

Alternative 6 includes clearance of OE to depth, as described in Subsection 7.3.6, in combination with institutional controls, as described in Subsection 7.3.3.

7.4 INTRODUCTION OF SCREENING CRITERIA

7.4.1 In the EE/CA process, the alternatives described above must be analyzed and screened against the three general categories of effectiveness, implementability, and cost to ensure that they meet the minimum standards of the criteria within each category. This screening will be performed for all six alternatives identified above for Area H and Revised Area K. The three general categories are described below along with the specific evaluation criteria contained within each of the categories.

7.4.2 The effectiveness of an alternative refers to its ability to meet the clean-up objective within the scope of the response action. The effectiveness category is divided into four evaluation criteria. These include Overall Protection of Public Safety and the Human Environment; Compliance with ARARs; Long-Term Effectiveness; and Short-Term Effectiveness.

7.4.3 The implementability category includes the technical and administrative feasibility of implementing an alternative, the availability of various services and materials required during its implementation, and the acceptance of local residents and agencies. The implementability category is divided into six evaluation criteria including: Technical Feasibility; Administrative Feasibility; Availability of Services and Materials; Property Owner Acceptance; Local Agency Acceptance; and Community Acceptance.

7.4.4 Finally, each alternative is evaluated to determine it's projected overall implementation cost. Included in the cost calculation is an estimate as to the amount of time that will be necessary to complete the proposed alternative. Each of the evaluation criteria introduced above will be discussed in greater detail in the following paragraphs.

7.4.1 Effectiveness

7.4.1.1 **Overall Protection of Public Safety and the Human Environment:** Alternatives are evaluated under this criterion on how well they achieve and maintain protection of public safety and the human environment. A process known as impact analysis is applied in evaluating this criterion. At this stage of the EE/CA, impact analysis consists of an evaluation of whether the alternative will have an impact on the potential for harm and the level of protectiveness at the site if the alternative is implemented, as compared to the existing condition. The evaluation is based on the three risk factors used in the OERIA presented in Section 4. Table 7.1 and 7.2 presents the evaluation of these three risk factors for the six alternatives identified.

7.4.1.2 Compliance with ARARs: Evaluation under this criterion ensures that all requirements can be met without regulatory problems. The assessment may also include the to be considered (TBC) criteria. The applications of ARARs for each alternative will primarily focus on what ARARs apply as well as how they will be met.

7.4.1.3 Section 121(d)(1) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), requires that remedial actions must attain a degree of cleanup that assures protection of human health and the environment. Moreover, all potential ARARs must be outlined. ARARs include federal standards, requirements, criteria, and limitations under state environmental or facility siting regulations that are more stringent than federal standards.

7.4.1.4 Although the requirements of CERCLA Section 121 generally apply as a matter of law only to remedial actions, USEPA's policy for response actions is that ARARs will be identified and attained to the extent practicable. Three factors were applied to determine whether identifying and attaining ARARs at the Camp was practical in a particular removal situation. These factors included:

- The exigencies of the situation;
- The scope of the potential response action to be taken; and
- The effect of ARAR attainment on the statutory limits for potential response action duration and cost.

7.4.1.5 ARARs were identified on a site-specific basis and involved a two-part analysis: first, a determination was made whether a given requirement was applicable; then if it was not applicable, a determination was made of whether it was nevertheless both relevant and appropriate. When this analysis resulted in a determination that a

requirement was both relevant and appropriate, such a requirement was complied with to the same degree as if it were applicable.

7.4.1.6 "Applicable" requirements are those cleanup standards, control standards, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant or contaminant, remedial action, location, or other circumstance at a remedial action site. "Relevant and appropriate" requirements are cleanup standards and control standards, and the substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not "applicable" to ordnance, a remedial action, the location, or other circumstance at a remedial action site, address problems or situations sufficiently similar to those encountered at a site to where their use is well-suited.

7.4.1.7 Three categories of ARARs have generally been used in ordnance projects: chemical-specific, location-specific, and action-specific. According to the NCP, chemical-specific ARARs are usually health or risk-based numerical values that establish the acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Location-specific ARARs generally are restrictions placed upon the concentration of hazardous substance or the conduct of activities solely because they are in special locations. Some examples of special locations include flood plains, ***wetlands*** (present in Area H but not investigated), historic places, and sensitive ecosystems or habitats. Action-specific ARARs are usually technology or activity-based requirements or limitations placed on actions taken with respect to hazardous wastes, or requirements to conduct certain actions to address particular circumstances at a site. Table 7.3 summarizes the ARARs identified for the former Camp Hero.

7.4.1.8 Non-promulgated advisories or guidance documents issued by federal or state governments do not have the status of potential ARARs. However, these "to be considered" criteria (TBCs) may be used in determining the necessary level of cleanup for protection of public safety and the human environment. Potential ARARs and TBCs for each of the three categories (i.e., chemical-specific, location-specific, and action-specific) are listed in Table 7.3 and discussed in the following paragraphs.

7.4.1.9 No chemical-specific ARARs or TBCs were identified for the potential response actions that may applicable at the Camp because removal of UXO is the primary concern of this EE/CA and not residual contamination that may have occurred due to ordnance burial, detonation, or disposal. After selected OE response actions are implemented, an evaluation of potential chemical contamination, if warranted, will be conducted as part of an environmental investigation.

7.4.1.10 The EE/CA investigation at the Camp has been managed pursuant to CERCLA and the NCP. The NCP regulations require that all removal actions or

investigations on the site comply with the substantive requirements of federal, state, and local regulations. However, administrative permitting procedures are not required.

7.4.1.11 There are five potential location-specific ARARs that have been identified for review prior to implementation of an OE response action at an AOI within the Camp. These include the National Historic Preservation Act, Protection of Wetlands, Endangered Species Act, Protection of Archaeological Resources, and Preservation of American Antiquities. The ASR did not identify any significant historical/cultural resources or endangered species within the boundaries of the AOIs retained for EE/CA investigation (USACE, 2000a). However, a significant wetland was identified within Area H during the site visit (Parsons, 2001c). In order to comply with ARARs, no EE/CA activities were conducted within the wetlands.

7.4.1.12 Protection of wetlands is an important concern at the Camp. Wetland avoidance was practiced during the geophysical surveys during both the meandering path and grid geophysical survey techniques. Any OE response action must comply with 33 CFR (Code of Federal Regulations) 320 pursuant to the Clean Water Act (33 U.S.C. 1344 section 404). Executive Orders 11988 and 11990 as well as the Clean Water Act require that appropriate action be taken to minimize the loss of any wetlands. Moreover, section 404 of the Clean Water Act authorizes USACE to be the permitting office responsible for oversight of all actions that result in the discharge of dredged or fill materials into the waters of the U.S., including wetlands.

7.4.1.13 The action-specific TBC, AR 385-64 requires that safety measures be taken for the handling of explosive ordnance. Moreover, DoD 6055.9-STD requires that specialized personnel be employed to detect, remove, and dispose of ordnance. This standard also defines safety precautions and procedures for detonation or disposal of ordnance. These TBCs and ARARs that define excavation, disposal, and transportation requirements of OE are summarized in Table 7.3.

7.4.1.14 **Long Term Effectiveness:** This criterion measures how an alternative maintains the protection of human health and the environment after the response action objective has been met. The long-term effectiveness focuses on:

- the permanence of the response action alternative;
- the magnitude of residual risk following completion of the response action; and
- the adequacy and reliability of controls, if any, used to manage the treated residuals or untreated wastes that remain at the site following the response action.

7.4.1.15 **Short-Term Effectiveness:** This criterion addresses the effects of an alternative during the implementation phase. Alternatives are evaluated for their effects on human health and the environment prior to the response action objectives being met. More specifically, each alternative will be examined for:

- protection of the community and workers during the response action;
- adverse impacts resulting from construction and implementation; and
- the time required to meet the response objectives.

7.4.2 Implementability

7.4.2.1 **Technical Feasibility:** This criterion evaluates the ease of implementing a specific alternative. The analysis of the technical feasibility for each course of action focuses on difficulties in:

- the operation and construction of the response action;
- the reliability of the response action in relation to implementation; and
- the need and ease of conducting future removal actions/requirements following the initial undertaking.

7.4.2.2 **Administrative Feasibility:** This criterion focuses on the planning for a course of action. The evaluation of this criterion considers difficulties in:

- obtaining permits applicable to a proposed alternative;
- coordinating services needed to carry out an alternative; and
- arranging the delivery of services in a timely manner.

7.4.2.3 **Availability of Services and Materials:** This criterion primarily deals with the availability of services needed to carry out an alternative. Two issues are of primary importance under this criterion:

- can the services and materials be delivered conveniently; and
- are the quantities needed to implement the response action available in a timely manner.

7.4.2.4 **Property Owner Acceptance:** Each of the alternatives will have a varying degree of impact on the future use of the area. As a result, each alternative is rated based on the degree of acceptance expressed by the current property owner, as identified during the IA and during stakeholder meetings conducted throughout the course of the project.

7.4.2.5 **Local Agency Acceptance:** Each alternative is rated based on the degree of acceptance expressed by local county and state environmental government agencies towards the various alternatives examined in the analysis, as identified during the IA.

7.4.2.6 **Community Acceptance:** Each alternative is rated based on the degree of acceptance expressed by local community members toward each of the response actions that are being analyzed, as identified during the IA.

7.4.3 Cost

As the scope of work for each alternative is developed, an order of magnitude cost estimate is calculated for costs associated with the implementation of each response action alternative. These costs include the direct and indirect capital costs incurred in implementing the response action alternative. As part of this assessment, a time frame for completion of each of the proposed alternatives was also developed.

7.5 APPLICATION OF THE EVALUATION CRITERIA BY ALTERNATIVE

7.5.1 Alternative 1: No DOD Action Indicated

7.5.1.2 Effectiveness

The NDAI alternative does not have an impact on the overall protection of public safety and the human environment at either Area H or Revised Area K (see Table 7.1 and Table 7.2). As this alternative fails the Effectiveness category, no further analysis of this alternative will be performed.

7.5.2 Alternative 2: Institutional Controls (IC)

7.5.2.1 Effectiveness

7.5.2.1. IC is not a very effective alternative when used alone. IC is much more effective when used in combination with a clearance (either surface or to depth) action. The institutional analysis performed for former Camp Hero (Appendix D) recommended that distribution of brochures and fact sheets to the property owners of Camp and Park attendees would be effective in educating the public about the potential presence of OE at the site. The distribution of brochures and fact sheets will modify the public behavior with the activities they perform at the site. Therefore, the institutional controls alternative should result in increased awareness and behavior modification during site activities (see Table 7.1 and Table 7.2).

7.5.2.1.2 Distribution of brochures and fact sheets would comply with all the ARARs. The long-term effectiveness for this alternative would depend on updates of the brochures and fact sheets periodically and stocking of these brochures and fact sheets at the appropriate distribution sources at regularly scheduled intervals. No short-term effectiveness issues are associated with this alternative, as it does not involve any OE removal action.

7.5.2.2 Implementability

The Institutional Controls alternative is feasible from both the technical and administrative aspects and the materials and services to implement this alternative are both readily available.

7.5.2.3 Cost

The cost to perform this alternative is presented in Section 8. It will take approximately two months to prepare and distribute the printed material for this alternative.

7.5.3 Alternative 3: Surface Clearance of OE

7.5.3.1 Effectiveness

7.5.3.1.1 Implementation of this alternative for Area H and Revised Area K will provide limited protection of public safety and the human environment. For this alternative, qualified UXO clearance personnel would perform a one-time surface clearance of OE to a depth of six inches below the ground surface. If the source of the magnetic reading is not identified within the first six inches below the surface, the excavation will cease and the location will be restored to its original condition. OE scrap items were recovered from within six inches of the surface in Area H and Revised Area K. Overall, 66% of OE scrap recovered during the EE/CA field investigation was located within six inches of the surface. An OE clearance operation to a depth of six inches below the surface would address the risk from similarly buried OE items, but not from more deeply buried items.

7.5.3.1.2 In both Area H and Revised Area K, there is a concentration of OE scrap (see Figure 3.7). The scrap patterns suggest that there might be additional OE scrap located outside the original Area H and Revised Area K boundary. The surface clearance will include iterative anomaly removal, or "mag and dig," on all sides of the concentrated OE scrap areas in Area H and Revised Area K (see Figure 3.7). Iterations should be of nominal size, such as 20 feet, and each should continue outwards from the AOIs until no OE-related items are encountered in that particular direction.

7.5.3.1.3 This alternative will not be effective long-term because it will not remove the OE items likely remaining at depths greater than 6 inches in Area H and Revised Area K, and thereby leaving residual risk following the completion of this response action. These more deeply buried items may become exposed over time due to weathering and erosion. As this alternative fails the long-term effectiveness category, no further analysis of this alternative will be performed.

7.5.4 Alternative 4 – Surface Clearance of OE with Institutional Controls

7.5.4.1 Effectiveness

As described in Subsection 7.5.3.1, implementation of this surface clearance of OE items will have limited overall effectiveness. Although this response is better than surface clearance alone, it has limited overall effectiveness due to its poor long-term effectiveness (see Paragraph 7.5.3.1.2).

7.5.4.2 Implementability

This alternative is both technically and administratively feasible and the materials and services necessary to implement this alternative are readily available. However, the presence of extensive ferrousng rock clutter on the bluff and beach will significantly slow the production rate for completion of this alternative. Generally, clearance alternatives are acceptable to local agencies, property owners and the local community as a means to reduce the residual OE risk. Input received from these stakeholders as a part of the public response period for this draft EE/CA report will be incorporated into the final report and may affect this evaluation.

7.5.4.3 Cost

The cost to perform this alternative is presented in Section 8. This alternative will take approximately one month in the field to complete.

7.5.5 Alternative 5: Clearance of OE to Depth

7.5.5.1 Effectiveness

7.5.5.1.1 In this alternative, Qualified UXO clearance personnel would perform a one-time clearance of OE to depth. This clearance activity would address not only those OE items found within the first six inches below the surface, but also those found deeper. Almost all the OE scrap at Area H was recovered from 0 to 12 inches bgs, but approximately 10% was recovered from greater than 12 inches bgs. The deepest OE scrap item in Area H was recovered from 18 inches. All the OE scrap items in Revised Area K were recovered from 0 to 12 inches bgs. Because the requirements were not met for site-specific remediation depth clearance, both Area H and Revised Area K will be cleared to a depth of 4 feet, which is the default depth required for a site end-use of Public Access (DoD, 1999; USACE, 2000f). Clearance of OE to depth will include the same iterative sampling as described in paragraph 7.5.3.1.2, except that clearance will be to depth in each AOI.

7.5.5.1.2 This alternative has an impact on the overall protection of public safety and the human environment and would be effective in both the long term and short term. However, even though clearance will be performed to a depth coincident with the EE/CA OE scrap findings in each area, no clearance can ever assure complete removal of all OE. Furthermore, both Area H and Area K are susceptible to severe ongoing erosion. This phenomenon is not captured by the classic clearance to depth of OE alternative. Since the land continues to experience dramatic change, a visual surface clearance should also be implemented once a year (typically after a severe storm event or in advance of the surf fishing season) along the beaches of Revised Area K for a period of 5 years. This visual clearance would be conducted with the aid of simple geophysical instruments for gross screening.

7.5.5.1.3 In order to perform this alternative, any remaining brush and undergrowth not cleared in the EE/CA field effort, such as the western section of Revised Area K on

the bluff (see Figure 3.7), would need to be cleared. The wetland in the southeastern section of Area H, and any wetlands encountered in Revised Area K, will be avoided. The Park would identify existing trees and vegetation of significant natural value for avoidance.

7.5.5.2 Implementability

7.5.5.2.1 This alternative is both technically and administratively feasible and the materials and services necessary to implement this alternative are readily available. However, the presence of extensive metal-bearing rock clutter on the bluff and beach will significantly slow the production rate for completion of this alternative.

TABLE 7.1
IMPACT ANALYSIS
Area H

Alternative	Ordnance and Explosive Factors				Site Characteristics Factors		Human Factors	
	Type[1]	**Sensitivity**	**UXO Density Range**[2]	**Depth**[3]	**Accessibility**	**Stability**	**Activities**	**Population**
Existing Condition	**EE/CA:** OE items related to **105mm HE projectiles**, Fragments, **SI:** projectile fragments, functioned fuzes, fragmentation bomb body, and a 3.5-inch rocket	Very Sensitive	N/A	Surface – 4 Subsurface – 17	Limited restriction	Unstable	Significant (Fishing, hiking, picnicking, camping, short cuts)	20 –70
NDAI	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Institutional Controls	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	**Impact**	No Impact
Surface Clearance	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	No Impact	No Impact
Surface Clearance With ICs	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	**Impact**	No Impact
Clearance to Depth	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	No Impact	No Impact
Clearance to Depth with ICs	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	**Impact**	No Impact

[1] Denotes items found during the EE/CA and the SI, as indicated. The bolded OE item was used to establish the Category.

[2] Number of UXO items per acre as determined by UXO Calculator using data from the EE/CA field investigation. See Section 3 for a discussion on the assumptions used for calculating the UXO density.

[3] Denotes the number of OE scrap items found at the surface (0 to 6 inches deep) and those found in the subsurface (>6 inches deep) during the EE/CA field investigation. Includes those items found on the surface during the brush cut effort.

TABLE 7.2
IMPACT ANALYSIS
Revised Area K

Alternative	Ordnance and Explosive Factors				Site Characteristics Factors		Human Factors	
	Type[1]	**Sensitivity**	**UXO Density Range**[2]	**Depth**[3]	**Accessibility**	**Stability**	**Activities**	**Population**
Existing Condition	**EE/CA:** Fragments, **SI:** projectile fragments; **ASR: 90mm projectile**, cannon balls, practice rockets, intact hand grenade, live 3.5-inch rocket	Very Sensitive	N/A	Surface – 3 Subsurface – 15	Limited restriction	Unstable	Significant (Fishing, hiking, picnicking, camping, short cuts)	20 –70
NDAI	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Institutional Controls	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	**Impact**	No Impact
Surface Clearance	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	No Impact	No Impact
Surface Clearance With ICs	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	**Impact**	No Impact
Clearance to Depth	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	No Impact	No Impact
Clearance to Depth with ICs	No Impact	No Impact	**Impact**	**Impact**	No Impact	No Impact	**Impact**	No Impact

[1] Denotes items found during the EE/CA, the ASR, and SI, as indicated. The bolded OE item was used to establish the Category.

[2] Number of UXO items per acre as determined by UXO Calculator using data from the EE/CA field investigation. See Section 3 for a discussion on the assumptions used for calculating the UXO density.

[3] Denotes the number of OE scrap items found at the surface (0 to 6 inches deep) and those found in the subsurface (>6 inches deep) during the EE/CA field investigation. Includes those items found on the surface during the brush cut effort and items found during the mag and dig of the Area K bluff face.

7.5.5.2.2 Generally, clearance alternatives are acceptable to local agencies, property owners and the local community as a means to reduce the residual OE risk. Input received from these stakeholders as a part of the public response period for this draft EE/CA report will be incorporated into the final report and may affect this evaluation.

7.5.5.3 Cost

The cost to perform this alternative is presented in Section 8. This alternative will take approximately one month in the field to complete, with two additional days per year for each of the subsequent 5 years for visual confirmation of the absence of OE in Revised Area K, as described in Subsection 7.5.5.1.

7.5.6 Alternative 6 – Clearance of OE to depth with Institutional Controls

7.5.6.1 Effectiveness

This alternative is a combination of Alternatives 2 and 5. Therefore, the detailed discussions contained in Subsections 7.5.2 and 7.5.5 apply to this alternative as well. As indicated in those sections, this alternative would have an impact on the overall protection of public safety and the human environment and would be effective in both the long term and short term. Adding institutional controls to clearance to depth is the safest overall response action since the institutional controls will make the public aware of the former Camp's past so it can take precautions against any OE missed by the clearance (see paragraph 7.5.5.1.1).

7.5.6.2 Implementability

This alternative is both technically and administratively feasible and the materials and services necessary to implement this alternative are readily available. Generally, clearance alternatives are acceptable to local agencies, property owners and the local community as a means to reduce the residual OE risk. Public safety is of utmost importance to the Park and therefore they are amenable to any OE removal alternative that is warranted. The acceptance of the local community for the institutional controls alternative is likely to be favorable based on previous stakeholder meetings. Input received from these stakeholders as a part of the public response period for this draft EE/CA report will be incorporated into the final report.

7.5.6.3 Cost

The cost to perform this alternative is presented in Section 8. This alternative will take approximately two months in the field to complete.

7.6 SUMMARY OF REMAINING OE RESPONSE ACTION ALTERNATIVES

7.6.1 The OE response action alternatives for Area H and Revised Area K that remained after the initial screening of six response action alternatives against the three general categories of effectiveness, implementability, and cost include:

- Alternative 2 - Institutional Controls;

- Alternative 5 – Clearance of OE to Depth; and
- Alternative 6 – Clearance of OE to Depth with Institutional Controls.

7.6.2 Alternative 1, NDAI, was eliminated from further consideration for the Revised Area K because it is not protective of public safety and the human environment in this area where OE items have been recovered. Alternatives 3 and 4, which involve surface clearance of OE items, were eliminated from further consideration for Area H and Revised Area K because it would not comply with the long-term effectiveness. The remaining response alternatives will be evaluated against each other in Section 8 of this report to determine the best response action alternative for Area H and Revised Area K.

Table 7.3
Potential ARARs for OE Removal
Camp Hero, New York

Activity	ARAR/TBC	Citation	Applicability or Relevance
Chemical-Specific			
None			
Location-Specific			
Location of an action within an area where it may cause irreparable harm, loss or destruction of significant artifacts or historic landmarks	National Historic Preservation Act	36 CFR Part 65, and 800	During removal action, any material that may be considered historical will be reported pursuant to requirements
	Protection of Wetlands	33 CFR 320 et. seq. Executive Order 11988	Requires action to be taken to minimize loss or degradation of wetlands.
	Endangered Species Act	16 USC δ 1531 et. seq.	Requires that authorized actions do not jeopardize the continued existence of endangered or threatened species, or their habitats.
	Protection of Archaeological Resources	43 CFR Part 7 (also: 36 CFR Part 296, 32 CFR Part 229, and 18 CFR Part 1312 – same regulations)	Requires a permit to excavate, remove, or otherwise alter any archaeological resource
	Preservation of American Antiquities	43 CFR Part 3	Requires a permit for the examination of ruins, excavation of archaeological sites, and gathering of objects of antiquity

Table 7.3
Potential ARARs for OE Removal
Camp Hero, New York

Activity	ARAR/TBC	Citation	Applicability or Relevance
Action-Specific			
Excavation	Department of Defense Ordnance Safety Standards	DoD 6055.9-STD	Requires specialized personnel be employed in the detection, removal, and disposal of OE.
Transportation	D.O.T. Hazardous Material Transportation Regulations	49 CFR 107, 171-177, 100-199	Regulates transportation of hazardous materials such as ordnance.
	E.P.A. Hazardous Materials Manifesting Requirements	40 CFR 262, 263	Manifesting for transportation of ordnance items may be required pursuant to RCRA.
Disposal	Disposal of Ordnance Items	40 CFR 264, Subpart X	Established ordnance disposal requirements.
	D.O.T. Hazardous Material Transportation Regulations	49 CFR 107, 171-177	Regulates transportation of hazardous materials such as ordnance.
Action-Specific			
Excavation	Department of Defense Ordnance Safety Standards	DoD 6055.9-STD	Requires specialized personnel be employed in the detection, removal, and disposal of OE.
Transportation	D.O.T. Hazardous Material Transportation Regulations	49 CFR 107, 171-177, 100-199	Regulates transportation of hazardous materials such as ordnance.
	E.P.A. Hazardous Materials Manifesting Requirements	40 CFR 262, 263	Manifesting for transportation of ordnance items may be required pursuant to RCRA.

Table 7.3
Potential ARARs for OE Removal
Camp Hero, New York

Activity	ARAR/TBC	Citation	Applicability or Relevance
Disposal	Disposal of Ordnance Items	40 CFR 264, Subpart X	Established ordnance disposal requirements.
	D.O.T. Hazardous Material Transportation Regulations	49 CFR 107, 171-177	Regulates transportation of hazardous materials such as ordnance.

SECTION 8
COMPARATIVE ANALYSIS OF RESPONSE ACTION ALTERNATIVES

8.1 INTRODUCTION

8.1.1 The six alternatives identified for Area H and Revised Area K were analyzed in Section 7 with three evaluation criteria: effectiveness, implementability, and cost. The analysis was performed to screen the alternatives based on their compliance with the minimum requirements of the evaluation criteria. The results of the analysis indicated three alternatives, ICs in combination with other response action alternatives, Clearance of OE to Depth, and Clearance of OE to Depth with ICs are effective in reducing the OE risk posed by the two AOIs. All of these alternatives met the minimum requirements of the evaluation criteria.

8.1.2 A comparative analysis of the three alternatives is presented in this section to determine the relative performance of the alternatives in each of the evaluation criteria. The purpose of this comparison is to determine the advantages and disadvantages of each of the alternatives relative to one another. The comparison analysis was performed by ranking each alternative relative to the other alternatives for effectiveness, implementability, and cost. This comparison was used to support the selection of the most appropriate response actions to address the OE risks posed by Area H and Revised Area K.

8.1.3 The rankings under the effectiveness category involve the consideration of four criteria. These four criteria are protection of public safety and the human environment, compliance with ARARs, long-term effectiveness, and short-term effectiveness. The OERIA process was utilized to evaluate each alternative for protection of public safety and the human environment. For each of the criteria, a ranking value was assigned to each alternative, with 1 representing the best alternative. In the case of two or more alternatives being equal for a criterion, an average ranking value was used for each alternative that is of equal value in the criterion. Ranking values were totaled for each alternative and the one with the lowest overall score is the preferred alternative. The effectiveness criteria ranking values were used to determine the overall Effectiveness ranking. The overall Effectiveness ranking was then used in conjunction with the Implementability and Cost rankings to provide an overall ranking of the alternatives.

8.1.4 The rankings under the implementability category involve the consideration of six criteria. A ranking value was assigned to each alternative, with 1 representing the best alternative in the category. The property owner acceptance criteria was weighted by

a factor of two (i.e., the ranking values were multiplied by two). The implementability category ranking values were used to determine the overall implementability ranking. The lowest overall score indicates the most implementable alternative. The overall implementability rankings were then used in conjunction with the effectiveness and cost rankings to derive an overall ranking of the alternatives.

8.1.5 The cost estimate for each alternative is an order of magnitude estimate, which gives a general estimate of the level of effort that will be required to complete each alternative.

8.2 EFFECTIVENESS

8.2.1 Introduction

Each of the alternatives remaining after the screening in Section 7 was ranked under the effectiveness category. The results of this ranking process are outlined in Table 8.1 and Table 8.2. Based on this analysis, the clearance of OE to depth with institutional controls alternative ranked the highest in the effectiveness category for both Area H and Revised Area K. The logic behind the rankings for the evaluation criteria is provided in the following paragraphs.

8.2.2 Overall Protection of Public Safety and Human Environment

8.2.2.1 The OERIA process as described in "Interim Guidance, OE Risk Impact Assessment (USASCE, 2001a)" was used to evaluate each alternative for overall protection of public safety and the human environment. This process provided a qualitative indication of the change in the potential for harm and level of protectiveness at the sites for each of the remaining alternatives. The impact of each of the remaining alternatives was evaluated by assigning an impact evaluation score of 'No Impact' or an alphabetical rank of 'A', 'B', or 'C' – with 'A' being the highest impact in reducing the potential for harm and increasing the level of protectiveness at the site and a rank 'C' was used to notate the lowest impact. This evaluation included three primary OE risk factors that were used in the risk assessment presented in Section 4 and the screening of the alternatives presented in Section 7. This evaluation is illustrated in Table 8.3 and Table 8.4.

8.2.2.2 The institutional control alternative (distribution of brochures and fact sheets) as described in Section 7 would modify the behavior of the public with the activities they perform at former Camp Hero. This alternative was ranked as 'A' (significant impact) in Table 8.3 and Table 8.4 for the activities that will be performed at the site. However, an overall rank of 'C' (least impact) was assigned to this alternative because distribution of brochures/fact sheet will only provide knowledge of OE safety to public and modify their behavior with OE occurrence, however, it will not completely reduce the potential for harm with OE present at the site. Implementation of this alternative will not impact the OE and site characteristics factors.

8.2.2.3 The clearance of OE to depth alternative as described in Section 7 would remove all the OE items located at depths ranging from 0 to 4 feet bgs in Area H and

Revised Area K. This removal depth was selected as described in Subsection 7.5.5 (DOD, 1999; USACE, 2000f). These alternatives were ranked 'A' for density and depth categories in Table 8.3 and Table 8.4 because they will decrease the density of OE items found and remove the majority of OE items to depth at the two AOIs.

8.2.2.4 The clearance of OE to depth alternative will reduce the potential from harm and increase the level of protection in using the sites for hiking, picknicking, and camping. However, it will not reduce the harm or adequately provide protection with the recreational activities in the beach area which include fishing. The beach area in Revised Area K is adjacent to Offshore Ordnance Area (Area L) and there will always be a possibility of OE items redeposited on the beach from Off-shore Ordnance Area (Area L) after a storm event. Therefore, this alternative has a moderate impact (B) for site activities category in human risk factor. With this moderate impact for site activities, an overall rank of 'B' was assigned to clearance of OE to depth alternative (Table 8.3 and Table 8.4).

8.2.2.5 The combination of simple institutional controls (distribution of brochures and fact sheet) with the clearance of OE to depth (four feet) alternative will not only remove the majority of the potential OE and OE scrap that may be present within Area H and Revised Area K but will also prevent accidents through education. The clearance of OE to depth alternative will positively affect the residual OE depth and density within both areas (ranked 'A' in Table 8.3 and Table 8.4). Implementation of institutional controls (distribution of brochures and fact sheet) upon completion of clearance of OE to depth would help ensure any future ordnance-related finding, either missed by the clearance or redeposited on the beach from Off-shore Ordnance Area (Area L) after a storm event, is avoided and reported to the approriate agency. Because of this additional level of protection, the clearance of OE to depth with institutional controls was assigned an overall rank of 'A' in Table 8.3 and Table 8.4.

8.2.3 Compliance with ARARs

As described in Section 7, special consideration of ARARs that address activities within wetlands or areas exhibiting the characteristics of a wetland may be necessary for the clearance of OE to depth alternative. For the purpose of this evaluation it is being assumed that any steps necessary to comply with these ARARs would be addressed if one of these alternatives were to be implemented. Therefore, since all the remaining alternatives would comply with ARARs, they have been ranked equally.

8.2.4 Long-Term Effectiveness

The clearance of OE to depth with institutional controls alternative provides the best long-term effectiveness at both AOIs with evaluation of each of the other alternatives resulting in a decreasing degree of long-term effectiveness. The long-term effectiveness for institutional controls will depend on regular distribution of brochures to the Park recreational users. Furthermore, institutional controls will not remove the residual OE risk present. The clearance of OE to depth (four feet) alternative will not provide long-term effectiveness for the same reasoning as provided under the overall protection

criterion. Therefore, the three alternatives were ranked from one to three with the clearance of OE to depth with institutional controls alternative being ranked number one and the institutional controls alternative being ranked last.

8.2.5 Short-Term Effectiveness

In this criterion, the institutional controls alternative provides for the greatest protection of workers and local citizens during the implementation of the alternative with each of the subsequent alternatives providing for lesser degrees of protection. For this reason, this criterion has a rank order that has institutional controls as first and the other two clearance alternatives ranked equally.

TABLE 8.1
EFFECTIVENESS CRITERIA APPLICATION
AREA H

ALTERNATIVE	EFFECTIVENESS				SCORE	RANK
	Protection of Public Safety & Human Environment[1]	Compliance with ARARs	Long-Term Effectiveness	Short-Term Effectiveness		
Institutional Controls	3	3	3	1	10	3
Clearance of OE to Depth	2	3	2	2	9	2
Clearance of OE to Depth with Institutional Controls	1	3	1	2	7	1

Note: Ranking from best to worst; best = 1, worst = 3

[1] The ranks for Protection of Public Safety & Human Environment were obtained using Overall Rank in Table 8.3. An overall rank of 'A' in Table 8.3 was assumed as 1 for this table and similarly an overall rank of 'B' and 'C' in Table 8.3 were assumed as 2 and 3, respectively.

TABLE 8.2
EFFECTIVENESS CRITERIA APPLICATION
REVISED AREA K

ALTERNATIVE	EFFECTIVENESS				SCORE	RANK
	Protection of Public Safety & Human Environment[1]	Compliance with ARARs	Long-Term Effectiveness	Short-Term Effectiveness		
Institutional Controls	3	3	3	1	10	3
Clearance of OE to Depth	2	3	2	2	9	2
Clearance of OE to Depth with Institutional Controls	1	3	1	2	7	1

Note: Ranking from best to worst; best = 1, worst = 3

[1] The ranks for Protection of Public Safety & Human Environment were obtained using Overall Rank in Table 8.2. An overall rank of 'A' in Table 8.2 was assumed as 1 for this table and similarly an overall rank of 'B' and 'C' in Table 8.2 were assumed as 2 and 3, respectively.

TABLE 8.3
OE RISK IMPACT ANALYSIS
AREA H

Alternative	Ordnance				Site Characteristics		Human Factors		Overall Rank[4]
	Type[1]	Sensitivity	Density[2]	Depth[3]	Accessibility	Stability	Activities	Population	
Existing Condition	Fragments (EE/CA), projectile fragments, functioned fuzes, fragmentation bomb body, and a 3.5-inch rocket (SI)	Very Sensitive	N/A	Surface – 4 Subsurface – 17	Limited restriction	Unstable	Significant (Mountain biking, hiking, picnicking, camping, short cuts)	20 –70	
Institutional Controls	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	**B**	No Impact	**C**
Clearance to Depth	No Impact	No Impact	**A**	**A**	No Impact	No Impact	**B**	No Impact	**B**
Clearance to Depth with Institutional Controls	No Impact	No Impact	**A**	**A**	No Impact	No Impact	**A**	No Impact	**A**

[1] Denotes items found during the EE/CA.

[2] *UXO Calculator* not used in report because data failed to meet *UXO Calculator* presumptions.

[3] Denotes the number of OE items found at the surface (0 to 6 inches deep) and those found in the subsurface (>6 inches deep) during the EE/CA field investigation. Includes those items found on the surface during the brush cut effort.

[4] Overall Rank 'A' being the alternative with most significant impact in changing the potential for harm and level of protectiveness at the site and Rank 'C' is an alternative with least impact.

TABLE 8.4
OE RISK IMPACT ANALYSIS
REVISED AREA K

Alternative	Ordnance				Site Characteristics		Human Factors		Overall Rank[4]
	Type[1]	Sensitivity	Density[2]	Depth[3]	Accessibility	Stability	Activities	Population	
Existing Condition	Fragments (EE/CA), projectile fragments (SI); **90mm projectile**, cannon balls, practice rockets, intact hand grenade, live 3.5-inch rocket (ASR)	Very Sensitive	N/A	Surface – 3 Subsurface – 15	Limited restriction	Unstable	Significant (Fishing, hiking, picnicking, camping, short cuts)	20 –70	
Institutional Controls	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	**B**	No Impact	**C**
Clearance to Depth	No Impact	No Impact	**A**	**A**	No Impact	No Impact	**B**	No Impact	**B**
Clearance to Depth with Institutional Controls	No Impact	No Impact	**A**	**A**	No Impact	No Impact	**A**	No Impact	**A**

[1] Denotes items found during the EE/CA.

[2] *UXO Calculator* not used in Report because data failed to meet *UXO Calculator* presumptions.

[3] Denotes the number of OE items found at the surface (0 to 6 inches deep) and those found in the subsurface (>6 inches deep) during the EE/CA field investigation. Includes those items found on the surface during the brush cut effort and found during the mag and dig of the Area K bluff face.

[4] Overall Rank 'A' being the alternative with most significant impact in changing the potential for harm and level of protectiveness at the site and Rank 'C' is an alternative with least impact.

8.3 IMPLEMENTABILITY

8.3.1 Introduction

The remaining three alternatives for Area H and Revised Area K were ranked within each of the six criteria within the implementability category based on a subjective analysis of the merits of each alternative. The results of this analysis are presented in Table 8.5 and Table 8.6. Based on this comparative analysis, the institutional control alternative was ranked highest for both sites. The logic behind the rankings for the evaluation criteria is provided in the following paragraphs.

8.3.2 Technical Feasibility

In this criterion, the alternatives were ranked with the institutional controls alternative being the easiest to implement from a technical standpoint and the clearance of OE to depth alternatives being most difficult to implement from a technical standpoint.

8.3.3 Administrative Feasibility

The institutional controls alternative requires coordination amongst numerous agencies and all segments of the local population in order to be effectively implemented. This alternative also requires a long-term commitment, including annual reinforcement, from numerous agencies and the public to ensure that the controls remain effective. Administratively, the clearance alternatives are easier to implement than the institutional controls alternative. The clearance of OE to depth alternative is easier to implement administratively than the clearance of OE to depth with institutional controls.

8.3.4 Availability of Services and Materials

The institutional controls alternative requires the least amount of services and materials and as such was ranked number one. The remaining alternatives require increasing amounts of services and materials and were therefore rank ordered consecutively with the clearance of OE to depth alternative being ranked second and the clearance to depth with institutional controls alternative being ranked last.

8.3.5 Property Owner Acceptance

Each alternative is rated based on the degree of acceptance expressed by the property owner. As mentioned previously, the property owner's ranking is multiplied by a factor of two. Based on the Technical Project Planning (TPP) meetings conducted during the course of the project for stakeholder input and information dissemination, the New York State Parks Commission, the sole current landowner of Area H and Area K, is amenable to all remaining response alternatives. Their tantamount concern is safety for the recreational users of the Park. Vegetation removal is a secondary concern. As during the EE/CA investigation, any brush cutting efforts associated with a removal action would need to be as sympathetic to the natural beauty of the area without negatively impacting the integrity of the action. Therefore, ICs was ranked as the preferred alternative from the property owner's perspective, and the clearance to depth without ICs was ranked last.

TABLE 8.5
IMPLEMENTABILITY CRITERIA APPLICATION
AREA H

ALTERNATIVE	IMPLEMENTABILITY						SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner Acceptance[1,2]	Local Agency Acceptance[1]	Community Acceptance[1]		
Institutional Controls	1	3	1	2	3	3	17	3
Clearance of OE to Depth	2	1	2	6	2	2	13	2
Clearance of OE to Depth with Institutional Controls	3	2	3	4	1	1	12	1

Note: Ranking from best to worst; best = 1, worst = 3

1. Other than the willingness of local agencies to support institutional controls, input has not been received regarding property owner, local agency, and community acceptance of the response action alternatives. Generally, these stakeholders prefer the more ambitious response action alternative. However, input received from these stakeholders during the public comment period for this draft EE/CA report will be incorporated into the final EE/CA report and may affect this ranking.
2. Property Owner Acceptance multiplied by 2

TABLE 8.6
IMPLEMENTABILITY CRITERIA APPLICATION
REVISED AREA K

ALTERNATIVE	IMPLEMENTABILITY						SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner Acceptance[1,2]	Local Agency Acceptance[1]	Community Acceptance[1]		
Institutional Controls	1	3	1	2	3	3	17	3
Clearance of OE to Depth	2	1	2	6	2	2	13	2
Clearance of OE to Depth with Institutional Controls	3	2	3	4	1	1	12	1

Note: Ranking from best to worst; best = 1, worst = 3

1. Other than the willingness of local agencies to support institutional controls, input has not been received regarding property owner, local agency, and community acceptance of the response action alternatives. Generally, these stakeholders prefer the more ambitious response action alternative. However, input received from these stakeholders during the public comment period for this draft EE/CA report will be incorporated into the final EE/CA report and may affect this ranking.
2. Property Owner Acceptance multiplied by 2

8.3.6 Local Agency Acceptance

Each alternative is rated based on the degree of acceptance expressed by local agencies. The local agency acceptance of the remaining alternatives is unknown at this time, however generally local agencies prefer the most ambitious clearance alternative. A number of TPP and Public Meetings have been conducted during the course of the project, but to date local agencies have not been in attendance. Therefore, the clearance of OE to depth with institutional controls alternative was ranked as the preferred alternative from the local agencies' perspective and the institutional controls alternative was ranked last. Input received from local agencies as part of the public response period for this draft EE/CA report will be incorporated into the final report and may affect this evaluation.

8.3.7 Community Acceptance

Each alternative is rated based on the degree of acceptance expressed by the local community. The community acceptance of the remaining alternatives is somewhat divided based on the response at several Public Meetings conducted to date. Aside from some negative reaction to portential further vegetation removal, for the most part the public wants the maximum level of protection. Therefore, the clearance of OE to depth with institutional controls alternative was ranked as the preferred alternative from the community's perspective and the institutional controls alternative was ranked last. Input received from the community as part of the public response period for this draft EE/CA report will be incorporated into the final report and may affect this evaluation.

8.4 COST

The IA performed for the former Camp Hero (Appendix D) indicated the cost to implement simple institutional controls (design and distribution of brochures and fact sheet) is approximately $18,750. Tables 8.7 and 8.8 present the costs for clearance of OE to depth alternative. The least expensive alternative to implement is the Institutional Controls alternative while the most expensive alternative is the Clearance of OE to Depth with Institutional Controls alternative.

8.5 OVERALL RANKING

8.5.1 The overall rankings of the remaining alternatives for Area H and Revised Area K are presented in Table 8.9 and Table 8.10, respectively. These overall rankings are based on the three categories - Effectiveness, Implementability, and Cost as discussed above. Using the same methodology used in the previous categories, the preferred alternative is the one with the lowest overall score. Based on this analysis, the Clearance of OE to Depth with Institutional Controls alternative is the preferred alternative for both Area H and Revised Area K.

8.5.2 Further input from stakeholders will be solicited during subsequent Public Meetings and incorporated, were appropriate, into the recommended alternative for each area.

Table 8.7

Area H
Clearance to Depth of OE Cost Estimate
Former Camp Hero EE/CA

Field Time: 2 Weeks

Number of Teams and Composition: 1 Team: 5 UXO Tech II and 1 UXO Tech III per team. 1 SUXOS and 1 Safety/QC.

Item	Cost per acre	Acreage[1]	Total Costs
UXO Clearance Sub[2]	$5,000	7	$35,000
A-E Field Oversight[3]	$900	7	$6,300
A-E Project Management[4]	$480	7	$3,360
Land Survey[5]	$556	7	$3,892
Brush Cut[6]	$3,605	0.5	$1,803
		Subtotal	***$50,355***
USAESCH Costs Contracting & Oversight[7]			$7,553
		Total Cost Estimate:	**$57,908**
		Contingency (25%):	**$14,477**
			$72,385
		Approximate Cost per Acre =	***$10,340***

Notes:

[1]Acreage estimation includes the approximately 6 non-wetland acres in Area H. An additional 1 acre is has been allotted for iterative anomaly removal beyond the boundaries of Area H. The sum of the area for clearace to depth is 7 acres. Note that approximately 2 of the 8 acres within the confines of Area H are perennial wetlands and will be avoided by ARARs.

[2]Cost for UXO Clearance Subcontractor includes mobilization, 2 -week field effort, demobilization, and all field equipment/ODCs. Assumes two detonations requiring response of "on-call" explosives distributor. No onsite explosives will be stored. Team can clear nearly 1 acre per 8 hour work day.

3A-E Field Oversight estimated at 15% of UXO clearance costs. Includes documentation and reporting.

[4]A-E Project Management estimated at 8% of UXO clearance costs.

[5]Land survey will consist of marking AOI boundary and establishing grid system within site for clearance.

[6]Brush cutting will be inclusive of all onsite young saplings and disposal and will be coordinated with NY Parks.

[7]USAESCH Costs for Contracting and Oversight estimated at 15% of UXO clearance costs.

Geophysical instruments will be used and items up to 4 feet in depth will be removed, as stated in Subsection 7.5.5

A cost savings will be realized if both Area H and K are cleared simultaneously.

Assume 200 anomalies will be investigated per acre.

Annual post-removal visual surface clearance costs in Revised Area K, estimated a $10,000 per year, are not included in the figures presented above.

Table 8.8

Revised Area K
Clearance to Depth of OE Cost Estimate
Former Camp Hero EE/CA

Field Time: 2 Weeks

Number of Teams and Composition: 1 Team: 5 UXO Tech II and 1 UXO Tech III per team. 1 SUXOS and 1 Safety/QC.

Item	Cost per acre	Acreage	Total Costs
UXO Clearance Sub[1]	$5,500	9	$49,500
A-E Field Oversight[2]	$900	9	$8,100
A-E Project Management[3]	$480	9	$4,320
Land Survey[4]	$556	9	$5,000
Brush Cut[5]	$3,605	5	$18,025
		Subtotal	***$84,945***
CEHNC Costs Contracting & Oversight[6]			$12,741

Total Cost Estimate:	**$97,687**
Contingency (25%):	**$24,421**
	$122,108
Approximate Cost per Acre =	***$13,568***

Notes:

[1]Cost for UXO Clearance Subcontractor includes mobilization, 2 -week field effort, demobilization, and all field equipment/ODCs. Assumes two detonations requiring response of "on-call" explosives distributor. No onsite explosives will be stored. Additional cost per acre for Area K due to difficult terrain.

[2]A-E Field Oversight estimated at 15% of UXO clearance costs. Includes documentation and reporting.

[3]A-E Project Management estimated at 8% of UXO clearance costs.

[4]Land survey will consist of marking AOI boundary and establishing grid system within site for clearance.

[5]Brush cutting inclusive of all onsite young saplings and disposal disposal and will be coordinated with NY Parks.

[6]CEHNC Costs for Contracting and Oversight estimated at 15% of UXO clearance costs.

Geophysical instruments will be used and items up to 4 feet in depth will be removed, as stated in Subsection 7.5.5

A cost savings will be realized if both Area H and K are cleared simultaneously.

Assume 200 anomalies will be investigated per acre.

TABLE 8.9
SELECTION CRITERIA APPLICATION
AREA H

Alternatives	Effectiveness	Implementability	Cost	Total	Rank
Institutional Controls	3	3	1	7	3
Clearance of OE to Depth	2	2	2	6	2
Clearance of OE to Depth with Institutional Controls	1	1	3	5	1

Note: Ranking from best to worst; best = 1, worst = 3

TABLE 8.10
SELECTION CRITERIA APPLICATION
REVISED AREA K

Alternatives	Effectiveness	Implementability	Cost	Total	Rank
Institutional Controls	3	3	1	7	3
Clearance of OE to Depth	2	2	2	6	2
Clearance of OE to Depth with Institutional Controls	1	1	3	5	1

Note: Ranking from best to worst; best = 1, worst = 3

SECTION 9
RECOMMENDED RESPONSE ACTION ALTERNATIVES

9.1 INTRODUCTION

OE response action alternatives were evaluated for each of the three AOIs within the Camp that were investigated during this EE/CA investigation. Each potential alternative was initially screened against the general evaluation criteria of effectiveness, implementability, and cost. The screening of alternatives detailed in Section 7 was used to identify candidate OE response alternatives for further qualitative evaluation as tabulated in Section 8. As a result of the comprehensive evaluation of alternatives by AOI, the following paragraphs present the recommendations for implementation.

9.2 RECOMMENDATIONS

9.2.1 Fire Control/37mm Anti-aircraft Artillery (AAA) Station (Area A)

9.2.1.1 Area A is currently designated for use in support of the Montauk Point Lighthouse and is anticipated to remain as such for the foreseeable future. The area is partially fenced and access is somewhat controlled when not open for public tours. The lighthouse keeper's residence is regularly occupied. The AOI is completely covered by a combination of well-manicured grass and cement walkways. As a result of extensive erosion problems, the immediate oceanfront is inaccessible due to control measures and a steep bluff.

9.2.1.2 Approximately 0.08 acres associated with the site were geophysically mapped. Although significant cultural interference from rebar, utilities, and other similar cultural sources were present, eight well-defined anomalies were recorded and intrusively investigated. None of the metal debris recovered was determined to be military-related. However, Area A is on land that was once part of the former Camp Hero and receives high public visitation. Implementation of an IC strategy in concert with the IC strategy proposed for the Park sites (Area H and Revised Area K) is supported by the MHS and of negligible additional cost. ***Therefore, the Institutional Controls alternative is recommended as the OE response alternative for implementation at Area A. IC components including brochures, signs, and videos are recommended as detailed in Section 5 and Appendix D.***

9.2.2 Ordnance Destruction Range (Area H)

9.2.2.1 Area H is used exclusively for recreational purposes including bird watching, photography, walking, hiking and biking. Camping is available by permit.

Access to the bluff from the beach (Area K) can be gained via heavily eroded channels in the bluff face. Recreational use is expected to continue to increase. As a result, potential exposure to residual OE (if present) will also increase. Furthermore, the presence of the OE scrap items identified during the EE/CA investigation suggests that OE may be present. Large OE scrap items including pieces of both 3.5-inch rockets and 105mm projectiles confirm that, at a minimum, the southeastern portion of Area H (see Figure 3.7) was utilized for demolition operations. ***Therefore, Clearance of OE to Depth (maximum of four feet) with Institutional Controls as described in paragraph 7.3.7 (excluding the wetlands) is recommended as the OE response alternative for Area H. AOI-specific IC components including brochures, signs, and videos are also recommended, as detailed in Section 5, to educate fishermen and other recreational Park users.***

9.2.3 Near-Shore Ordnance Area (Revised Area K)

Area K is comprised of nearly 6,500 linear feet of rocky beach, bounded by a steep bluff. Area K is used recreationally for fishing and surfing. The future use is generally expected to remain the same, which will potentially could expose Park users to a public OE safety risk considering the OE scrap identified during the EE/CA investigation. The presence of a concentrated area containing highly corroded OE scrap below the heavily eroded Area H bluff (Figure 3.7, referred as Revised Area K) and nowhere else in Area K suggest the source of the OE scrap is primarily Area H. ***The Clearance to Depth (maximum of four feet) with Institutional Controls alternative is recommended, as described in paragraph 7.3.7, as the OE response alternative for implementation at Revised Area K. AOI-specific IC components including brochures, signs, and videos are also recommended (for all of Area K), as detailed in Section 5, to educate fishermen and other recreational users. Furthermore, to ensure effectiveness of the action, visual surface clearance will be conducted annually for a period of 5 years following implementation of the removal action.***

SECTION 10
RECURRING REVIEWS

10.1 FOLLOW-ON ACTIVITIES

10.1.1 Follow-on activities associated with the former Camp Hero will be conducted by the USACE in the form of recurring reviews. The recurring review process is consistent with Section 121(c) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Section 300.430 (f) (4) (ii) of the NCP. Recurring review as outlined by these statutes require that periodic (at least every five years) reviews be conducted for sites where hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure following the completion of all remedial actions.

10.1.2 Recurring reviews will be conducted at the Camp to:

- Ensure that public health, safety, and the environment are being protected by the response action that was implemented.
- Verify the integrity of any site controls.
- Determine if new information has become available that was not available for consideration during the EE/CA that may warrant further action.
- Determine if there is an immediate threat to the public or environment that may require an Accelerated Response.
- Review decision for Technical Impracticability to determine if new technology will address explosives safety risk.

10.1.3 The recurring review team will gather data to determine if any changes within AOIs are relevant and may affect the prior recommendations of the EE/CA. Changes to be evaluated consist of:

- Physical conditions of the AOI.
- Public accessibility and land use.
- New technology or techniques that have become available and may warrant reconsideration or the EE/CA recommendations.

- Effectiveness of the response action to reduce risk.

10.1.4 Data gathered during the review process will be used to determine if further action needs to be taken to protect public safety and the human environment. If no changes have taken place, the AOIs will continue to be monitored at the specified intervals. At the completion of the review, a Recurring Review Report will be prepared, a public notice will be placed in the local newspaper concerning the continued effectiveness of the OE response action, and a formal Decision Document referencing any actions taken will be prepared.

SECTION 11
REFERENCES

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APPENDIX A

SCOPE OF WORK
FOR
ORDNANCE AND EXPLOSIVE (OE)
ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)
AT
CAMP HERO, MONTAUK, NEW YORK
(Project Number C02NY002404)
A FORMERLY USED DEFENSE SITE
7 November 2000

1.0 BACKGROUND AND OBJECTIVE

1.1 The objective of this delivery order is for the Contractor to prepare an Engineering Evaluation/Cost Analysis (EE/CA) report. The report shall allow and document meaningful stakeholder participation that

- characterizes ordnance and explosives (OE) nature, location and concentration.
- provides a description of the OE related problems affecting human use of the site.
- that identifies and analyzes reasonable risk management alternatives.
- provides a convenient record of the process for use in final decision making and judicial review, if necessary.

The Contractor is expected to use geophysical techniques to identify anomalies in the subsurface for subsequent OE sampling. The Contractor shall conduct OE sampling and dispose of any uncovered UXO and dispose of the UXO and other scrap uncovered during the OE sampling effort.

1.2 OE is a safety hazard and may constitute an imminent and substantial endangerment to site personnel and the local population. This action will be performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Sections 104 and 121; Executive Order 12580; and the National Contingency Plan (NCP). All activities involving work in areas potentially containing unexploded ordnance hazards shall be conducted in accordance with CEHNC, USACE, DA and DoD requirements regarding personnel, equipment and procedures. 29 CFR 1910.120 shall apply to all actions taken at this site.

1.3 The work required under this Scope of Work (SOW) falls under the Defense Environmental Restoration Program (DERP) and the Formerly Used Defense Site (FUDS) program. Ordnance and Explosives (OE) may exist on property that was formerly owned, used or controlled by the Department of Defense. The framework underlying this response is the National Contingency Plan (NCP).

1.4 Others will accomplish the Archeological Survey to identify potential archeological sites. The Government will provide this survey for the Contractor to consider in preparing the Work Plan. The Contractor shall provide awareness training to all personnel involved with fieldwork, as outlined in the approved Work Plan. The archeological survey includes all areas that will be (or potentially could be) subjected to ground disturbing of any form which may require examination by qualified archeologists (provided by the Government). This will ideally take place prior to any ground disturbing taking into consideration safety issues and approval by the USACE OE Safety Specialist. Note on EECAs, the Huntsville Safety Specialist is not on site full time, only to initiate the field work. The location of archeological sites is confidential. Site locations will be provided to the Contractor for planning purposes. The Contractor will not disclose locations of archeological sites. The contractor shall refer all questions to the New York District PM, Mr. David Brouwer. A Government Archeologist will provide the Contractor with a briefing on cultural resources related to the project area. No Contractor personnel will remove any artifacts or bones from the property subject to penalties under federal law. The Government Archeologist will brief the Contractor accordingly. Archeological surveys may be performed in conjunction with field work performed by the Contractor. Efforts will be made, if safety allows, to re-locate UXO away from archeological sites. If detonation in-situ is necessary, Government Archeologists will examine the area post-disposal to record any possible damage to archeological sites. This site involves resources that are potentially eligible for listing in the National Register of Historic Places. Work shall comply with the National Historic Preservation Act. If any items of a historical nature are found with the exception of UXO, that item will be turned over to the SHPO.

1.5 Others will identify endangered/threatened species of concern. The Government will provide information

that identifies areas of concern. The Contractor shall consider this information in preparing the Work Plan. The Contractor shall provide awareness training to all personnel involved with the field investigation.

2.0 INTRODUCTION

2.1 Background. Former Camp Hero site lands are located on the extreme eastern tip of the south fork of Long Island, New York, approximately five (5) miles east of the Village of Montauk. The former site is bounded by Montauk Highway (Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped nature preserve owned by the state to the west.

On or about 26 August 1941, the Secretary of War determined that a military necessity existed for the acquisition of this site consisting of approximately 469 acres of land. The site was named Camp Hero and was to be used as a harbor defense installation.

Based on this necessity and 1941 Harbor Defenses of Long Island Sound modernization program guidelines, three (3) batteries and supporting facilities were constructed at Montauk Point (Camp Hero). Battery 112 contained two (2) 16-inch casemated guns, Battery 113 contained two (2) 16-inch casemated guns, and Battery 216 contained two (2) 6-inch shielded guns. Support facilities were also constructed consisting of barracks, mess halls, hospital facilities, administrative facilities, a motor repair shop, a recreation facility, sentry boxes, and water supply and sewerage facilities to accommodate 600 enlisted men, 37 officers, and their required equipment.

Projected future use of the former Camp Hero lands by the state includes opening the site for public uses that could include hiking, fishing, and lodging (in the form of cabins for rent). Some of the historic structures may also be renovated for public touring.

2.2 Not used.

2.3 Chemical Warfare Material (CWM). It is not likely that this site would contain Chemical Warfare Materiel (CWM). However, if suspect CWM is encountered during any phase of site activities the Contractor shall withdraw upwind from the work area, secure the site and contact CEHNC.

2.4 Areas To Be Evaluated. (Note, the contractor shall propose additional areas be included if warranted during the course of this work). The areas identified below are to be evaluated under this SOW. Evaluation efforts shall be completed in cooperation with project stakeholders. Project stakeholders include the landowners, the Government, interested regulatory agencies, and others that may be identified prior to work plan finalization. The total acreage for this site is approximately 757,005 acres, which includes a 756,492-acre offshore firing area . The ordnance in the offshore area is not a concern since there is no exposure pathway to anyone at the site. Based on the information contained in the Archives Search Report (Date: February 2000), approximately 461 acres of the remaining 514 acres lack confirmed or potential ordnance presence and no DOD action is indicated. Therefore, areas of confirmed ordnance to be investigated are areas H, K, and possibly A as follows:

1. Area A: 0.03 acres, Former Usage: Fire control/37 mm AAA, Current Ownership/usage: State of New York/state park.
2. Area H: 8.0 acres, Former Usage: Ordnance destruction range, Current ownership/usage: State of New York/state park.
3. Area K: 44.88 acres, Former Usage: Near shore ordnance area, Current Ownership/usage: State of New York/state park.

Total Acreage=52.91 more or less

3.0 SPECIFIC REQUIREMENTS

3.1 (Task 1) – Project Planning, Site Visit & Records Review.

3.1.1 (Task 1a) Site Visit & Records Review

The Contractor shall make a site visit, review pertinent records (see Paragraph 6.0) and interview personnel knowledgeable of site conditions. The purpose of this task is to permit the Contractor's staff with direct project responsibility to gain necessary information about site conditions. It is not intended that this task be a "records locating task " where new information is located or developed. Prior to the site visit the Contractor must submit, for Government approval, an abbreviated Site Safety and Health Plan (ASSHP). A qualified UXO specialist must escort site visitors to areas potentially contaminated with OE. The Contractor shall ensure that the site visit is fully coordinated and that all members of the site visit team maintain compliance with the ASSHP. A site visit letter report shall be provided to the Contracting Officer after the site visit.

3.1.2 (Task 1b) Work Task Proposal

The Contractor shall develop a work task proposal (WTP) to describe and plan the accomplishment of the related activities described in this SOW. Prior to initiating work on any task, the Contractor shall submit, for Government concurrence, a WTP. The proposal shall be submitted for Contracting Officer (CO) for review and concurrence. The WTP shall describe the work to be accomplished, recommendations on approach, coordination, organization, methods, personnel, schedule and estimated budget. The WTP shall identify the various elements of the work plans. The WTP is intended to be a brief description of the Contractor's understanding of the proposed work.

3.2 (Task 2) - Geophysical Test Plot.

The Contractor shall design and construct a test plot at the site to test various geophysical methods and equipment in order to establish the methods, equipment and procedures best suited to the site. This task is for mobilizing, constructing, removing and demobilizing the test plot. All other aspects of testing, evaluating and reporting of the geophysical equipment test shall be considered in 3.7 (Task 7).

3.3 (Task 3) Technical Project Planning .

The Contractor shall prepare a technical project-planning document for this project in accordance with EM 200 – 1 – 2 which can be found on the web at http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm. This effort will be accomplished in four phases. These phases are; Phase I Identify Current Project, Phase II Determine Data Needs, Phase III Develop Data Collection Options, and Phase IV Finalize Data Collection Program. **The goal of this effort is to start the project with all stakeholders agreeing on the end goal.** This task requires the Contractor to schedule and facilitate meetings and provide project worksheets for project team decision points. The Contractor shall provide the following requirements or seek the appropriate input from others. The Contractor shall consider all stakeholder input when developing the project recommendations. The Government will direct the Contractor on any issues not resolved upon task completion. The Government does not expect the length of this document to exceed 30 pages.

3.3.1 Phase I, Identify Current Project & Develop a Conceptual Site Model:

Using whatever past historical information that can be obtained, the Contractor shall identify;

- The decision makers (USACE, land owner(s), regulatory agencies.)
- Project Objectives, which includes the decision makers' perspectives and community needs and interests as it relates or might impact this project.
- Site constraints and dependencies.
- Legal and regulatory constraints.
- Conceptual Site Model (known impact areas, disposal sites, other OE issues; all potential types of UXO expected at the site; geological setting; estimate of maximum probable depth for sampling.)
- Site closeout statement for each land use category or sector as appropriate.

The closeout statement shall consider the current and future land use, current technology can't guarantee a "clean

site", incorporate local initiatives, enlist community support, and encourage recurring reviews. The closeout statement may identify more than one process to achieve site closure but must identify decision points associated with each process alternative.

3.3.2 Phase II, Data Needs:
The Contractor shall identify the data need requirements, intended use of the data, and appropriate sampling and analysis methods, and identify data quality objectives for each data type. Some general types of site data include; 1- physical nature of the site, 2- nature and extent of UXO, 3- regulatory framework, 4- demographics and land use. The Contractor must define the data needs, evaluate the usability of existing data, and identify the data gaps that must be filled. Generally this phase must document:

- "Who" needs the data?
- "What" data is needed?
- "What" project objectives will the data help to satisfy?
- "What" are the intended data uses?
- "What" number of samples is required to satisfy the intended uses?
- "What" are the performance requirements?
- "Where" is the priority/area/location/depth of interest?

3.3.3 Phase III, Data Collection Options:
The Contractor shall develop and document data sampling, gathering and analysis strategies. Items that should be presented include sampling strategy constraints, use of probabilistic or non-probabilistic sampling, and whether we intend to use field screening and analysis techniques. Data types and needs should be categorized as screening data or definitive data. Data quality should be defined for each data type that is based upon the intended use of the data and accepted practices. Once the data "world" is defined for the project each data set shall be classified as "basic" (required data), "optimum" (data would facilitate better decisions and is cost effective to gather), and "excessive" (data would be nice to have but may not be worth the cost to gather the data)

3.3.4 Phase IV, Data Collection Program Design:
The Contractor shall present the data collection program requirements as options and schedules with the budget affects for the various options. Other items such as constraints and uncertainties and regulatory factors must be presented. The Contractor must clearly present the "preferred" data collection plan that ties together the data need requirements, data sampling and analysis methods, and the intended use of the data in satisfying the closeout statements established in Phase I.

3.4 (Task 4) - EE/CA Work Plan.
The Contractor shall prepare an EE/CA Work Plan in accordance with DID OE-001. The Contractor shall include the following aspects in Chapter 10 of the work plan.

Quality Control Plan (QCP) and Quality Assurance, the Contractor shall describe the Contractor's Quality Control and the expected Government's Quality Assurance roles and responsibilities for this project. Note that the Contractor is responsible for developing and implementing only the project QCP. The Government will perform Quality Assurance. However, the plan shall describe both activities. The QCP shall specifically address digital data delivered in the OE GIS data standard format with communications, transmissions and receipt by the various participants. A flow chart may be used to identify the data collection, analysis, storage, transfer and QA/QC process to generate the final dig-sheets. The Contractor shall ensure that the corporate quality policy is understood, implemented, and maintained at all levels in the organization. The Contractor shall propose a system to manage, control, and document the performance of these tasks. The Quality Control Plan shall include:

- Location Surveying and Mapping QC,
- Geophysical QC,
- Data QC: digital data (communications; transmissions and receipt), along with all analog data

(administrative; contractual; survey and geophysical field notes).

- GIS System QC.
- Anomaly reacquisition QC.
- Variance of surface & subsurface influence on geophysical data output across the site.

The most critical component in this project is the geophysical data. The Contractor shall perform continuous tracking, checks, representations, adjustments and visualization of the field data daily for quality control and to establish efficient field procedures. In addition a portion (approximately 2 to 4%) of the site shall be resurveyed and analyzed and compared to the previous results by the Government. The methodology to accomplish the quality control shall be proposed in the WP in accordance with DID OE-005-11, which identifies the minimum QC activities. The QC activities shall be documented and included in the final investigation report.

3.5 (Task 5) - Location Surveys and Mapping.

The Contractor shall perform location surveys as described in the approved Work Plan and in accordance with DID OE-005-07. The Contractor shall supply a minimum base map information which identifies roads and highways, trails, sector boundaries, proposed grid sampling locations, and OE items found in each

3.6 (Task 6) - Establishment and Management of GIS.

The Contractor shall take the GIS Tri-Service Spatial Data Standard data, manual, file, and database structures from the Huntsville Center Ordnance GIS standard and apply it to this project. The standard will be used to create project-specific GIS for the specific OE investigative needs of this site. The GIS shall be assembled and used to direct the daily geophysical investigative activities and to compile and analyze the daily digital data into the GIS. Any changes from the standard shall be proposed to the Contracting Officer with fully documented changes and the reason or benefit of the proposed change. The Contractor shall establish and manage the GIS as described in the approved Work Plan and in accordance with DID OE-005-14.

3.7 (Task 7) Site Characterization.

The Contractor shall characterize the site by implementing the work described in the Project Work Plans. Activities include, but are not necessarily limited to, the following activities:

3.7.1 (Task 7a) Surface Preparation, OE Identification and Removal.

The Contractor shall provide all necessary qualified personnel and equipment to perform surface preparation, as well as surface OE identification, removal and disposal on the sampling grids (total sampling area will be proposed by the contractor, the Government is assuming approximately 50 acres for a basis of estimate) where subsequent site activities are scheduled to occur under this contract. The use of standard vehicles (pickup trucks, four wheel drive jeeps, etc...) may be strictly confined to existing roads. If practicable, OE personnel shall walk from existing roads to sampling grids. Where necessary because of unreasonable distances between roads and grids, small motorized carts (sometimes called gators) with wide rubber tires, minimally knobby treads and inflated to low pressure, may be used. The Contractor shall perform the minimum amount of vegetation clearance necessary to aid in identifying OE and OE scrap or to dispose of UXO where these impede the safety of the geophysical investigation team or other site personnel and activities. Certain plants and any trees two to three inches in diameter or greater shall not be cut for any reason arising from flagging and OE clearance procedures. The outright clearing of perennial vegetation from any tract of land, save the tiny area surrounding an OE item being prepared for demolition in place, may not be allowed. All OE-related activities shall be performed in accordance with applicable sections of the approved work plan

3.7.2 Geophysical Equipment Test and Investigation.

The Contractor shall implement geophysical investigations as described in the approved Work Plan.

3.7.2.1 (Task 7b) Geophysical Equipment Test

The Contractor shall test various geophysical methods and equipment in order to establish the methods, equipment and procedures best suited to the site. During prove out, the Contractor shall coordinate with CEHNC to ensure that a CEHNC representative will be on site for verification and quality assurance. The Contractor shall use the information gathered in this phase of work to evaluate the relative efficiencies of potentially appropriate geophysical investigation procedures. Various procedures must be defined such as, but not limited to, daily equipment standardization, data quality checks and data error resolution process. Afterwards, the Contractor shall propose specific geophysical methods, equipment and personnel appropriate and necessary to accomplish the required geophysical investigations. The results of the test shall be documented in a letter report and submitted to the Government for concurrence. The Contractor shall incorporate the appropriate methods and equipment into the work plan once Government concurrence is received.

3.7.2.2 (Task 7c) Investigation.

The total cumulative area to be geophysically investigated and evaluated under this SOW shall be proposed in the work task proposal by the contractor (the Government assumes approximately 50 acres for basis of estimate.) The size and distribution of the individual grids and/or meandering paths shall be proposed by the contractor and approved by the Government. Actual number and location of grids and/or meandering paths may increase or decrease based upon conditions encountered in the field, if so directed by the Contracting Officer. All aspects of anomaly evaluation, selection, and dig-sheet production shall be routinely reported in a weekly status report per DID OE-085. See Section 4.0 for additional reporting requirements and schedule.

3.7.2.2.1 Evaluation.

After the site is geophysically mapped, the Contractor shall utilize a qualified geophysicist to check and evaluate the geophysical data collected. The geophysicist shall make a professional determination regarding the identification of anomalies at the site. Based on this determination, the Contractor shall provide a "dig-sheet" showing predicted location and character of all suspected anomalies to the CEHNC Project Manager. In addition, the Contractor shall continually compare predicted results with actual results so that the Contractor's geophysical evaluation methodology is constantly refined over the life of the project.

3.7.2.2.2 Anomaly Selection.

Note that not all geophysical anomalies meeting the criteria to be considered a potential UXO will be dug. Representative anomalies will be excavated in order to characterize geophysical anomalies and to provide information necessary to estimate location, concentration and nature of UXO present at the site. The Contractor shall propose methodology for selection of anomalies to be excavated. This might be based on OE calculator, percentages of anomalies, a specific number of excavations, anomaly apparent size, work-days, statistical approaches, or some other approach or combination of approaches. Also, the approach for individual anomalies might differ from the approach used for pits/trenches. Generally the Government expects more anomalies selected for sampling at the beginning of the effort with the amount of samples selected for digging reduced over the duration of the sampling effort. The particular approach for this project shall be described in the work plan.

3.7.2.2.3 Data Format and Storage.

The Contractor shall utilize an appropriate data format and storage system for geophysical mapping data that is consistentwith CEHNC computer/CADD systems in accordance with DID OE-005-05 and as described in the approved WorkPlan. In addition the Contractor shall maintain the data in such a way that the Government can remotely access any individual file or multiple files as necessary without day or time restrictions. See Section 4.0 for additional data requirements.

3.8 (Task 8)-Intrusive Investigations (OE Sampling).

The Contractor shall, utilizing qualified personnel, implement site OE sampling as specified in the approved work plan. All aspects of the activities related to this task shall be reported in a weekly field activity report including

DRMO turn in forms. This task shall be accomplished as follows:

3.8.1 OE Access, Evaluation and Management.

The Contractor shall, utilizing qualified personnel, implement site OE sampling as described in the approved Work Plan. The Contractor shall provide all necessary qualified personnel and equipment to perform surface and subsurface OE access, evaluation and management.

3.8.2 Accessing Anomalies.

The Contractor shall investigate anomalies identified by the geophysical investigations and as directed by the Contracting Officer. The Contractor shall, using qualified UXO personnel, determine whether the OE can be moved or destroyed in-place. This is a safety-driven decision that will be based solely on DoD munitions safety standards and requirements. Fuzed OE shall not be moved and shall be blown in place.

3.8.3 OE Destruction.

The Contractor shall be responsible for the destruction, if required, of all OE including UXO and scrap encountered during site investigations and characterizations utilizing qualified personnel and in accordance with all aspects of the project Work Plan. The Contractor shall establish in the Work Plan a method of disposal, if required, for all OE.

3.8.4 Backfilling Excavations.

All access/excavation/detonation holes shall be backfilled by the Contractor. The Contractor shall restore such areas to their prior condition.

3.8.5 OE Accountability.

The Contractor shall maintain a detailed accounting of all OE items/components encountered. This accounting shall include the amounts of OE, the identification and condition, depth located, disposition and location. The accounting system shall also account for all demolition materials utilized to detonate OE on-site. This accounting shall be a part of an appendix to the EE/CA report.

3.8.5.1 DD Form 1348-1A.

The Contractor shall complete a DD Form 1348-1A as turn-in documentation. Instructions for completing this form are contained in the Defense Utilization and Disposal Manual, DoD 4160.21-M. The Senior UXO Supervisor and UXO QC Specialist shall sign a certificate as follows:

"This certifies and verifies that the AEDA residue, Range Residue and/or Explosive Contaminated property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials."

DRMO turn-in documentation receipts shall be submitted as an appendix to the EE/CA Report.

3.8.5.2 UXO Quality Control (QC) Specialist.

UXO QC shall be a separate function and is not envisioned as a full-time position. The UXO QC Specialist shall meet the minimum prerequisites of a Senior UXO Supervisor and have the training, knowledge and experience necessary to implement the Contractor's QC plan as outlined in DID OE-025. The Contracting Officer must approve any exceptions.

3.8.6 Quality Assurance Sampling Areas.

In order to evaluate the effectiveness of the geophysical investigation and evaluation methods utilized by the Contractor, the Contracting Officer may direct an independent contractor provided by the Government or Government personnel to independently map, locate and access some detected subsurface anomalies as deemed

necessary.

3.9 NOT USED

3.10 (Task 9) Prepare Institutional Analysis, Impact Analysis and EE/CA Report.

3.10.1 (Task 9a) Institutional Analysis

The Contractor shall perform an institutional analysis, using as much of the existing data collected for the TPP process, in accordance with DID OE-100. This report, which should be submitted in draft form for review by the Government, with the final report included in the EE/CA Report, will be a brief report presenting site conditions, in relation to ownership, zoning, future development plans (including replenishment) and Local and State participation in planning activities.

3.10.2 (Task 9b) Impact Analysis.

The Contractor shall refine the Qualitative Impact Analysis (QIA) model CEHNC developed for the Jefferson Proving Ground EE/CA to determine the base line public exposure and the predicted risk reduction for the selected risk reduction option for any areas recommended for removal action as a result of the EE/CA. These refinements may be include but are not limited to developing numerical scales (i.e., rather than using qualitative terms) and adapting the QIA model to address site-specific conditions at the site. These refinements will be provided CEHNC for approval before use. Although OECert will not be used for this task, the Contractor shall write a risk report in accordance with the OECert Standing Operating Procedure that supports the EE/CA report and that determines the base line public exposure and the resultant public exposure for each alternative under consideration.

3.10.2.1 Site UXO Statistical Report. As part of the risk evaluation report the Contractor shall write a statistical report that shows how the UXO densities were determined. The Contractor may use the current version of "UXO "Calculator" software which may be provided by the CEHNC Project Manager. Other statistical approached may be used, if approved by the Contracting Officer.

3.10.3 (Task 9c) EE/CA Report

The Contractor shall prepare and submit an EE/CA report, per DID OE-010 fully documenting the field work and subsequent evaluations and recommendations made by the Contractor. The textual portions of the report shall be fully supported with accompanying maps, charts, and tables as necessary to fully describe and document all work performed and all conclusions and recommendations presented.

3.11 (Task 10) Prepare Action Memorandum.

The Contractor shall, based upon close consultation with the Contracting Officer, prepare an Action Memorandum in accordance with applicable CEHNC guidance documents.

3.12 (Task 11) Community Relations Support.

The Contractor shall plan to attend and participate in three (3) public meetings as directed by the Contract Officer. Additional meetings may be added by modifications to this task order. The support shall include preparation and delivery of briefings, graphics and presentations, and participation in site visits. The actions are independent of the field activities that involve interaction with the community.

3.13 (Task 12) Meetings and Project Management

The Contractor shall perform project management functions, as necessary to maintain project control and to meet required reporting requirements. The contractor shall plan on 4 meetings at CENAN and 2 status meetings in Huntsville. These meetings are in addition to public meetings under Task 11.

3.14 (Task 13) Project Documentation Project documentation will be given to the contractor quarterly to scan onto CDs. This scanning is in addition to any documents that the contractor produces. The documentation will

consist of but not be limited to all project correspondence both formal and email, contracts, modifications, and deliverables of all types. The purpose is to have a set of CDs at the end of the project that can be sorted to search for any document created on this project. The contractor shall propose in the work task proposal an estimate of pages that will be scanned based on past projects plus a unit price for any pages required about the estimate.

4.0 SUBMITTALS AND CORRESPONDENCE

4.1 Format and Content of Engineering Reports.

Engineering Reports presenting all data, analyses, and recommendations shall be prepared and submitted by the Contractor. All drawings shall be of engineering quality in drafted form with sufficient detail to show interrelations of major features. The contents and format of the engineering reports shall be arranged in accordance with all pertinent guidance documents. When drawings are required, data may be combined to reduce the number of drawings. Reports shall consist of 8-1/2 inch by 11-inch pages with drawings other than the construction drawing folded, if necessary, to this size. A decimal paragraphing system shall be used, with each section and paragraph of the reports having a unique decimal designation. The report covers for each submittal shall consist of durable 3-ring binders and shall hold pages firmly while allowing easy removal, addition, or replacement of pages. A report title page shall identify the site, the Contractor, the Corps of Engineers District, Huntsville Center, and the date. The Contractor identification shall not dominate the title page. All data, including raw analytical and electronic data, generated under this delivery order are the property of the DoD and the government has unlimited rights regarding its use.

4.2 Computer Files.

All final text files generated by the Contractor under this contract shall be furnished to the Contract Officer in MS Word 6.0 or higher software, IBM PC compatible format. All final CADD/GIS data, design drawings and survey data generated by the Contractor under this delivery order shall be submitted in the proper format and media that will permit their loading, storage, and use without modification or additional software on the Huntsville Center CADD/GIS workstations.

4.3 HTML Deliverables.

In addition to the paper and digital copies of submittals identified above, the final version of the EE/CA and the Action Memorandum shall be submitted, uncompressed, on one floppy disk or CD ROM in hypertext markup language (HTML) along with a linked table of contents, linked tables, linked photographs, linked graphs and linked figures included and suitable for viewing on the Internet.

4.4 Review Comments.

Various reviewers will have the opportunity to review submittals made by the Contractor under this contract. The Contractor shall review all comments received through the CEHNC Project Manager and evaluate their appropriateness based upon their merit and the requirements of the SOW. The Contractor shall issue to the Project Manager a formal, annotated response to each in accordance with the schedule in paragraph 4.13

4.5 Draft Reports.

Each page of draft reports shall be stamped "DRAFT". Submittals shall include incorporation and notation of all previous review comments accepted by the Contractor.

4.6 Identification of Responsible Personnel.

Each report shall identify the specific members and title of the Contractor's staff and subcontractors that had significant, specific input into the reports' preparation or review. All final submittals shall be sealed by the registered Professional Engineer-In-Charge.

4.7 Minutes of Meetings.

Following the presentation, the Contractor shall prepare and submit minutes of all meetings attended to the Contract Officer or his representative within 10 calendar days .

4.8 Correspondence.

The Contractor shall keep a record of each phone conversation and written correspondence affecting decisions relating to the performance of this IDO. A summary of the phone conversations and written correspondence shall be submitted with the monthly progress report to the Contract Officer.

4.9 Project Control and Reporting.

The Contractor shall prepare and submit a master network schedule (using Microsoft "Project" software), cost and manpower plan, monthly progress reports, technical progress reports, monthly individual performance reports and cost/schedule variance report, work task proposal plan, and a program control plan.

4.10 Monthly Status Report.

The Contractor shall prepare and submit a monthly status report according to DID OE-080 describing the work performed since the previous report, work currently underway and work anticipated. This report shall show the earned value curves for the amount of funds obligated, planned and actually spent to date on the project. This will allow the continuous tracking of the actual cost versus the proposed cost oat the beginning of the project. The report shall state whether current work is on schedule. If the work is not on schedule, the Contractor shall state what actions are anticipated in order to get back on-schedule. The report shall be submitted not later than the 10th day of the following month.

4.11 Public Affairs.

The Contractor shall not publicly disclose any data generated or reviewed under this contract. The Contractor shall refer all requests for information concerning site conditions to the local Corps District's Public Affairs Office, with a copy furnished to the CEHNC Project Manager. Reports and data generated under this contract are the property of the DoD and distribution to any other source by the Contractor, unless authorized by the Contract Officer, is prohibited.

4.12 Addresses.

The following addresses shall be used in mailing submittals:

ADDRESSEE	QUANTITY
Commander US Army Corps of Engineers, Huntsville Center ATTN: CEHNC-OE-DC (Roland Belew) P.O. Box 1600 Huntsville, Alabama 35807-4301	6
Commander U.S. Army Corps of Engineers, New York District ATTN: CENAN-PP-E(Luz Spann-LaBato)State Highway 18, Turnpike Metroplex Building, Suite 205 East Brunswick, NJ 08816	10
Names and addresses to be determined at a later date	20

4.13 Schedule and Submittals.
The Contractor shall submit all deliverable data to the Contract Officer and other reviewers shown in Paragraph 4.12 in accordance with the following schedule. All submittals shall be delivered to all addressees no later than the close of business on the day indicated in this paragraph. In addition, submittals to regulatory reviewers shall be shipped by registered mail or other method where a signed receipt is obtained indicating the date received and the individual accepting the submittal.

DOCUMENT	DATE DUE
WTP	20 Days after NTP
ASSHP	Prior to site visit
Site Visit Letter Report	3 working days after site visit
Draft Geophysical Test Plot Plan	35 days after NTP
Final Geophysical Test Plot Plan	10 days after receipt of Gov. comments
TPP Phase I & II Partnering Meeting	TBD
TPP Phase I Worksheet(s)	14 days after site visit
TPP Phase II Worksheet(s)	14 days after site visit
TPP Phase III & IV Partnering meeting	TBD
TPP Phase III Summary Table(s)	14 days after receipt of GOV comments on Phase I & II worksheets
TPP Phase IV Data Collection Program Design	14 days after receipt of GOV comments on Phase III Summary Table(s).
TPP Final Meeting	TBD
EE/CA Work Plan, Draft	45 days after receipt of GOV comments on TPP Phase IV
EE/CA Work Plan, Draft Final	10 working days after receipt of Gov. comments
Geophysical Equipment Test Report	2 working days after field test
EE/CA Work Plan, Final	5 working days after Geo. Equipment Test Report
Government Grants approval to commence field work.	TBD
Weekly Field Report *	Every Monday for the previous week
Monthly Progress Report	NLT 10th of the following month
EE/CA Report, Draft	TBD
EE/CA Report, Final	TBD
Draft Action Memorandum	TBD
Public Meeting	TBD
Final Action Memorandum & Responsiveness Summary	TBD
Project Meeting, Alabama	TBD
Project Meeting, New York	TBD
Minutes of Meetings	NLT 10 days after each meeting

The overall completion date of this delivery order is TBD.

5.0 SAFETY AND HEALTH PROGRAM

The Contractor shall develop and maintain a Health and Safety Program (HSP) in compliance with the requirements of OSHA standards 29CFR1910.120(b)(1) through (b) (4). The Contractor shall provide written certification the HSP has been submitted to the CO and make the HSP available upon request by the Government. The SSHP required by 29CFR1910.120(b)/29CFR1926.65(b)(4), and as defined by DID OE-005-06, shall be prepared and

submitted with the Work Plan for approval. On-site activities shall not commence until the plan has been reviewed and accepted. The Contractor's Site Safety and Health Officer (SSHO) shall have the training, knowledge and experience necessary to implement the SSHP and have the same minimum qualifications as an UXO Supervisor.

6.0 REFERENCES.

6.1 National Contingency Plan, 40 CFR 300.
6.2 Federal Acquisition Regulation, F.A.R. Clause 52.236-13: Accident Prevention.
6.3 Army Corps of Engineers Safety and Health Requirements Manual, EM-385-1-1, 3 September 1996.
6.4 Not used.
6.5 Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910 and Construction Industry Standards, 29 CFR 1926; especially 1910.120/29CFR1926.65-"Hazardous Waste Site Operations and Emergency Response."
6.6 NIOSH/OSHA/USCG/EPA, "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities", October 1985. (DHHS(NIOSH) Publication No. 85-115).
6.7 CEHNC 1115-3-86, "Ordnance and Explosives Cost-Estimating Risk Tool (OECert) Standing Operating Procedure (SOP)", November 1996.
6.8 Not used.

The following references are available on the CEHNC Web Page at http://www.hnd.usace.army.mil/oew/policy/dids/didindx.html

6.9 Not Used.
6.10 CEHNC Data Item Description OE-001 000303 Type I Work Plan
6.11 CEHNC Data Item Description OE-005-02 000303 Technical Management Plan
6.12 CEHNC Data Item Description OE-005-03 000303 Explosives Management Plan
6.13 CEHNC Data Item Description OE-005-04 000303 Explosives Siting Plan
6.14 CEHNC Data Item Description OE-005-05 000303 Geophysical Mapping Plan
6.15 CEHNC Data Item Description OE-005-06 000303 Site Safety and Health Plan
6.16 CEHNC Data Item Description OE-005-07 000303 Location Surveys and Mapping Plan
6.17 CEHNC Data Item Description OE-005-08 000303 Work, Data, and Cost Management
6.18 CEHNC Data Item Description OE-005-09 000303 Property Management Plan
6.19 CEHNC Data Item Description OE-005-10 000303 Sampling and Analysis Plan
6.20 CEHNC Data Item Description OE-005-11 000303 Quality Control Plan
6.21 CEHNC Data Item Description OE-005-12 000303 Environmental Protection Plan
6.22 CEHNC Data Item Description OE-005-13 000303 Investigative Derived Waste Plan
6.23 CEHNC Data Item Description OE-005-14 000320 Geographical Information System Plan
6.24 CEHNC Data Item Description OE-010 000303 Engineering Evaluation/Cost Analysis (EE/CA) Report
6.25 CEHNC Data Item Description OE-015 000303 Accidents/Incidents Reports
6.26 CEHNC Data Item Description OE-025 000303 Personnel/Work Standards
6.27 Not used.
6.28 CEHNC Data Item Description OE-040 000303 Disposal Feasibility Report
6.29 CEHNC Data Item Description OE-045 000303 Report/Minutes, Record of Meetings
6.30 CEHNC Data Item Description OE-055 000303 Telephone Conversation/Correspondence Records
6.31 Not used.
6.32 CEHNC Data Item Description OE-080 000303 Monthly Status Report
6.33 CEHNC Data Item Description OE-085 000303 Weekly Status Report
6.34 Not used.
6.35 CEHNC Data Item Description OE-100 000303 Analysis of Institutional Controls

7.0 GOVERNMENT-FURNISHED.

ASSUMPTIONS COST PROPOSAL
TASK ORDER TO
CONTRACT NO. DACA87-00-D-0038,
ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) AT
FORMER CAMP HERO
MONTAUK, NEW YORK

The following assumptions were used in the preparation of this cost proposal:

General

- Per phone conversation from USAESCH PM (Mr. Roland Belew) and Debbie Edwards, the vegetation in the area is extremely thick scrub oak. The State Park representative does not want to clear cut the area and ruin the natural state. As such meandering path is preferred but will require mechanized clearing of traverses. Forestation is young hardwood and should accommodate GPS lock in fall and winter months while the leaves are down. If grids are deemed necessary, the State prefers cutting minimal access paths from primary trails to less visible areas to establish grids. The State is not receptive to conducting a 100% clearance of the 52.91 acres during the EE/CA phase. **For cost estimating purposes, Parsons assumes a maximum of 12.5 acres will be geophysically surveyed based on a review of UXO Calculator output for the site.**
- Per 10/18/00 Email, USAESCH PM anticipates a combination Site Visit and dual project meetings (not public meetings) on this project and the Cold Springs EE/CA project in West Point, New York. As such, the level of effort for these meetings was divided equally among the two proposals.
- Parsons assumes an RV type mobile trailer will be used as the project field office due to the short field duration. This mobile office will accommodate the Site Manager, UXO SUXOS, QC/Safety, and USAESCH field representative (if assigned). An equipment storage locker will also be provided.
- No onsite explosive magazines will be placed at the site. The UXO Subcontractor has arranged "on-call" delivery as necessary.
- The work week will consist of four 10-hour days not to exceed 40 hours per work week (Monday-Sunday). Workdays may be extended over the weekend (Saturday and Sunday) if significant rain delay occurs during the weekdays
- Parsons will provide temporary toilet facilities for all personnel on site.

- The value of the scrap is assumed to pay for disposal costs
- Ordnance scrap and recovered metal debris may temporarily remain on site during the course of the project at a location designated by the property owner and approved by USAESCH. This location will be easily accessible by vehicle.
- No permits are required for performance of this work per the SOW.
- The government will provide Parsons with copies of all relevant reports, data, maps, photos, and other information in their possession and which is readily attainable and relevant to the project. Such information will be provided in electronic format, if available.

TASK 1 PROJECT PLANNING, SITE VISIT 7 RECORDS REVIEW

Task 1a Site Visit & Records Review

- The Project Manager, proposed Site Manager, and UXO Safety will attend the Site Visit.
- A Schonstedt will be provided during the Site Visit.
- Parsons assumes a Site Visit of two full days onsite with 1 combined day of travel and field coordination. Per USAESCH PM, the Site Visit for the former Cold Springs Site in West Point, New York will be conducted during the same week, therefore a cost savings for airfare and other associated costs will be achieved. The travel costs will be divided equally among the two proposals. If the Site Visits are not conducted during the same week, additional funds will be required.
- An Abbreviated Site Safety and Health Plan will be prepared and approved prior to mobilization to the field.
- A Site Visit Report will be prepared following completion of the Site Visit and submitted to USAESCH

Task 1b Work Task Proposal

Parsons will prepare a WTP per USAESCH guidance.

TASK 2 GEOPHYSICAL INVESTIGATION TEST PLOT AND PROVE-OUT

Parsons will provide a qualified UXO Safety Officer and a Geophysicist (one day) to assist with the construction of a test plot which will be used to test various geophysical methods and equipment. Parsons will provide all required materials. The specific location of the test plot will be selected in coordination with USAESCH. All other aspect of testing, evaluating, and reporting of the geophysical equipment test is included in Task 7b.

TASK 3 TECHNICAL PROJECT PLANNING

- Technical project planning (TPP) will be conducted in accordance with Engineer

Manual 200-1-2 (August 31, 1998). The overall goal of TPP is to ensure data quality objectives of all interested parties are met.

- Technical project planning will be accomplished in four phases: I) Identify the current project; II) Determine data needs; III) Develop data collection options; IV) Finalize data collection program.
- The following tasks will be completed during Phase I:
    - Decision-makers and the TPP team and their roles will be identified. Decision-makers will include representatives from the USACE, regulatory agencies, State of New York, and representatives of other appropriate federal, state, and local agencies. It is anticipated that coordination with several agencies will be necessary to identify appropriate individuals and to identify legal and regulatory constraints. Private landowners in the area will be identified through coordination with local agencies.
    - Project goals and objectives will also be identified during Phase I. Future land use by government agencies as well as adjacent private landowners will be considered. This will be accomplished through discussions with federal, state, and local agencies, either in-person or over the phone. Project objectives must also be discussed with adjacent private landowners. This would best be accomplished at a public meeting. Therefore, **a one-day public meeting** will take place prior to preparation of the Technical Planning Project document.
    - Site constraints and dependencies will be identified during Phase I. Potential constraints include access agreements; real estate easements; funding constraints; physical constraints such as geology, vegetation, buildings, pavement; climate-related constraints, legal and regulatory requirements.
    - A site closeout statement will be documented for reference throughout the life of the project. The site closeout definition will include a description of the physical appearance of the site at closeout, actions required to achieve site closeout, phasing and timing constraints associated with closeout, and the necessity for operations and maintenance and/or future monitoring.
    - A conceptual site model will be prepared using information obtained during the site visit, as well as additional information. The conceptual model will include site maps or drawings that depict critical site features (e.g., historical land use, buildings, tanks, topography, surface water bodies, property lines, site access, existing well locations, disposal/storage/staging areas), aerial photographs, geology, hydrogeology, hydrology, climatology, ecology, demographic information, current and future land use information about the site and the surrounding area, and results of previous site studies.
    - A Phase I Memorandum for Record (MFR) will be prepared generally following the format provided in Appendix F of EM 200-1-2. A draft and final MFR will be prepared.
- The goal of Phase II is to ensure that all data needed to satisfy a site's project objectives are identified. Phase II will include the following activities:
    - Data needs related to regulatory framework, demographics and land use, the

physical nature of the site, and the nature and extent of UXO will be identified. The usability of existing data will be evaluated and data gaps that must be filled will be identified.

- Data needs will be evaluated from several perspectives: risk data user perspective, compliance data user perspective, remedy data user perspective, responsibility data user perspective.
- Data needs will be documented using worksheets provided in Appendix F of EM 200-1-2 for general format and content guidelines. Adjustments to the worksheet format may be necessary to address site-specific issues.

- The goal of Phase III is to plan sampling and analysis approaches that meet the data needs identified during Phase II. Data quality will be defined for each data type that is based on the intended use of the data and standard practices. Phase III will include the following activities:
  - Data needs will be sorted by location to identify overlapping data needs at a particular location and unique data needs from common locations at the site. Quality objectives for the data needs will also be evaluated.
  - Sampling strategies will be developed and documented, and constraints associated with these strategies will be identified. The use of probabilistic sampling, non-probabilistic sampling, and field screening will be discussed and evaluated. Strategies will be evaluated for their ability to meet data quality objectives, cost, schedule implications, and technical feasibility.
  - Data collection options will also be categorized as "Basic", "Optimum", or "Excessive." Order-of-magnitude costs for each of the options will also be estimated.
  - Data collection options will be documented using worksheets provided in Appendix F of EM 200-1-2, or a comparable format that includes the same information.
- During Phase IV, data collection options are discussed and a data collection program that best meets short and long-term goals for the site are identified. Phase IV will include the following activities:
  - The optimum data collection plan that ties together the data need requirements, sampling and analysis methods, and the intended use of the data to satisfy the requirements of the closeout statements will be determined. Flow charts or decision trees may be prepared to illustrate data collection options and recommendations.
  - During Phase IV, a teleconference will be held with USAESCH. CENAN, and Parsons to select the data collection options.
  - A **second public meeting** will be held during Phase IV so that the rationale for the planned site activities can be relayed to stakeholders.
  - Decisions made during TPP efforts will be documented through data quality objective statements. DQO worksheets in Appendix F of EM 200-1-2 will be used as a guideline for preparing the statements.

- It is assumed that the worksheets prepared as part of Phases I through IV will result in a total document of 30 pages or less in length. It will be submitted as a draft and final.
- GIS staff (coordinated with PM) will digitize and rectify the information gathered during the TPP and incorporate it into the GIS database for the project.

TASK 4 EE/CA WORK PLAN

- The Work Plan and associated subplans will be prepared in accordance with the SOW and current USAESCH guidance (DID OE-001).
- The cost estimate is based on assumptions provided in the SOW. The actual acreage and distribution of transect (and/or grid) acreage to be geophysically surveyed will be refined during development of the Work Plan.
- A combined 72 copies of the Draft, Draft-Final, and Final Work Plan will be produced for distribution according to the revised SOW. Approximately six additional copies of each version will also be prepared for internal use and the project file. In addition, the documents will also be posted on an Internet web site with password protection.
- GIS-CADD maps will be developed for incorporation into the Work Plan. The maps will be developed from digital aerial photographs and topographic maps and other sources to develop figures required in the Work Plan and for other planning documents.
- Parsons assumes USAESCH will provide the archaeology survey and endangered/threatened species of concern reports performed by others in electronic format and prior to Work Plan preparation.
- Parsons will include details in the Work Plan of awareness training to be provided to all personnel involved in the field work pertaining to archaeology concerns and endangered/threatened species of concern.

TASK 5 LOCATION SURVEYS AND MAPPING

- The planimetric and location surveys will be prepared in accordance with DID OE-005-07.
- Parsons is assuming that there is an existing survey monument near by.
- Parsons is assuming that most or all the sample acreage will be geophysically surveyed using the meandering path method. As a result, minimal land survey will be required.
- A GPS unit will be used to located the approximate proposed transect locations presented in the approved Work Plan. Actual transect locations will vary as a result of avoidance of mature trees and other obstacles. The goal for each transect is to proceed in a relatively straight line approach from the designated start coordinate and end at the designated stop coordinate.
- We have assumed the deliverables on mylar and blueline prints of each final

map as stated in the DID are not required.

- We assume negatives for aerial photos and three sets of prints as stated in the DID are not required. All aerial photography is acquired from USGS either digitally on CD ROM or as a hard copy photograph from which Parsons creates a digital output. These digital aerial photographs are submitted with the final report.

TSAK 6 ESTABLISHMENT AND MANAGEMENT OF GIS

- The GIS will be established and managed in accordance with DID OE-005-14.
- This task includes establishment of the GIS and entry into the GIS of aerial photography, topographic maps, existing site maps, and other appropriate data that will be used to develop the Work Plan and EE/CA Report(s), support the field effort, and maintain the database.
- Includes final project closeout and GIS database submittals on CD ROM.
- Includes support real estate map production and inclusion into the GIS database.
- This task includes USGS quad sheets and a digital elevation model, which will provide the base map for the GIS system. The task also includes building the GIS file by piecing the maps and photographs together and setting up a database in TSSDS format.

TASK 7 SITE CHARACTERIZATION

Task 7a Surface Preparation, OE Identification and Removal

- Parsons and its Subcontractors will provide all necessary qualified personnel and equipment to perform surface preparation, as well as surface OE identification, removal and disposal on the specified areas where subsequent site activities are scheduled to occur under this contract.
- SOW, Paragraph 3.7.1 EXCEPTION: Every effort will be made to minimize brush clearing activities. However, discussions with USAESCH representatives regarding the vegetation indicate that moderate brush cutting activities will be necessary in order to accommodate geophysical instruments for both meandering path and grid surveys. Parsons will coordinate with property owners representatives (State of New York) through USAESCH prior to commencement of brush cutting activities.
- Parsons and its Subcontractors will perform the work necessary to clear the areas of dense vegetation (as described by USAESCH via telephone conversation) to accommodate the meandering path geophysical methodology. Parsons estimates clearance of up to 10 acres of dense vegetation using mechanized equipment and operator. Three-foot wide paths will be cleared in locations proposed by Parsons and approved by USAESCH and the property owner (State of New York). A UXO-qualified individual will provide visual clearance of OE concurrently during the brush clearing effort and subsequent UXO escort in these areas is

assumed to not be required. All surface OE and OE scrap will be removed where these impede the progress, effectiveness or safety of the geophysical investigation team.

- The total area to be geophysically investigated consists of **12.5 acres or less** spread over approximately 52.91 acres.
- The Task 5 surveyed transect endpoints will be used to located the approximate proposed transect locations presented in the approved Work Plan. Actual transect locations will vary as a result of avoidance of mature trees and other obstacles. The goal for each transect is to proceed in a relatively straight line approach from the designated start coordinate and end at the designated stop coordinate.
- For the purpose of this cost proposal, We assume that up to 10 acres will require significant brush clearance and up to 2.5 acres will either require only limited brush clearance or no brush clearance. Parsons assumes that the current hiking trails can be included in the geophysical investigation.
- Access routes to areas designated for transects will also be visually cleared of OE items by the UXO-qualified individual prior to geophysical investigation.

Task 7b Geophysical Equipment Test

All aspect of testing, evaluating, and reporting of the geophysical equipment test is included in this Task.

Task 7c Investigation

- One 2-man geophysical team from Parsons plus Site Manager, Geophysical Coordinator, and a UXO QC/Safety will be needed for 3 weeks. As a result of volume of data collected and SOW requirement to provide processed data to USAESCH in a timely fashion, one Geophysical Coordinator will process data during the field effort. Due to the amount of geophysical data generated by the single field geophysical survey team, the Geophysical Coordinator position will be a dedicated part time position conducted from the Atlanta office. The Geophysical Coordinator will produce Anomaly Dig Sheets, interpret remaining data, and QC the data, and discuss with USAESCH prior to providing to the UXO Subcontractor. The onsite Geophysicist will troubleshoot for and serve as a member of the geophysical team and coordinate with the Site Manager to ensure production rates. For all Parsons personnel one roundtrip airfare will be provided during the course of the fieldwork. Parsons assumes field tasks will overlap to reduce the overall duration of the field effort (see Figure 1).
- Parsons will utilize the existed equipment test area established in support of the geophysical prove-out to test equipment. The geophysical equipment will be checked on the test grid daily and readings documented. Equipment will be replaced as necessary depending on the test results.
- Significant brush clearance is anticipated for this project. The brush clearance effort will be conducted prior to the geophysical survey as part of Task 7a. Since visual OE clearance will be conducted as part of the brush cutting task and

the meandering paths will be well defined, no additional UXO support or escort is anticipated for the geophysical survey.

- No contingencies for weather delays have been included in the schedule.
- DID OE-005-05, Section 10.4.1 EXCEPTION: Parsons has significant experience with both EM and Magnetometry tools for conducting geophysical surveys, and with the assessment tools for the data (such as GEOSOFT). Parsons will achieve industry standards for detection of ordnance using these tools, but believes the 99% detection standard listed in the SOW performance goals (DIDs) may be too strict for certain targets. For items greater than 40mm in diameter, the metric defined by Functions 1 and 2 in this DIDs can probably be met. For items between 25mm and 40mm in diameter, it is anticipated that up to three misses per each 100 UXO recovered may occur. For items that are less than 25mm in diameter, it is anticipated that up to ten misses per each 100 UXO recovered may occur. These anticipated misses are based upon professional judgement, past experiences, and review of controlled demonstration site results.
- DID OE-005-05, Section 10.4.2 EXCEPTION: Data that will be collected using the meandering path methodology. It will not be possible to state that the positional accuracy of anomaly locations will be any better than the sum of one half of the inter-line spacing (up to a maximum of 10 feet) and the GPS instrument accuracy (±2 feet). This is due to the ability of the candidate instrument (the EM-61) to detect large buried objects at distances of up to 10 feet from the center of its sensor coils. Note that errors inherent in either EM or magnetic surveys, including those performed under optimum conditions, yield a positional accuracy that can not be any better than the sum of the navigational error and one half of the interline spacing used to collect the data. Parsons significantly minimizes the effect of positional error by providing our reacquisition teams with metal detecting devices and by giving them the information they need to quickly and effectively reacquire targets in the field.
- It is anticipated that many of the areas investigated at Camp Hero will have small UXO items, and that many of these targets will present themselves at levels that are just above the instrument noise level. In such instances, the false positive rate may be as high as one in three (33%). For larger UXO items (e.g. items over 50mm in diameter or greater than 12 inches in length) the false positive rate is expected to be well below 15%, and may be as low as 1% to 2%.
- The raw (or draft) data that is collected in the field can be transmitted to USAESCH within 36 hours of collection, however, this data will not be in a tabular ASCII format. As we anticipate using an independent GPS system to provide positional data, several processing steps must be performed before the geophysical and positioning data are merged. The process we use is very efficient and minimizes data handling, but requires a review of all pertinent data collected, including field notes. As field notes sometimes require explanation from the field crews, the processing of some data can be held up until the information is clarified. Therefore, some data may take up to five working days

after collection before a usable XYZ file is generated. Parsons will make every effort to transmit "draft-final" XYZ data files to USAESCH within three working days of collection, but some may take up to five days before it can be transmitted. Note that this data is considered "draft-final", and most, if not all, will be deemed final shortly after transmission to USAESCH.

- Parsons will make every effort to provide USAESCH with a digital planimetric base map(s) of the sites investigated in conjunction with the "draft-final" geophysical data submittal. However, it has been our experience that accurate base maps are not always available during the data collection phase of the project, and sometimes errors are detected in some portions of the base map(s) during the field effort. Therefore, if the initial base map(s) does not accurately depict site conditions, it (they) will be re-worked and submitted when complete, but no later than the final report submission.

TASK 8 INTRUSIVE INVESTIGATIONS (OE SAMPLING)

- One 2-man reacquistion team will mobilize to the site 2 weeks after the initiation of the geophysical survey. This team will reacquire the anomalies selected by the Geophysical Coordinator for intrusive investigation. This team will be independent of the initial geophysical survey team due to concurrent scheduling. Parsons assumes no UXO escort are needed as the transects will be well defined and previously visually cleared of OE.
- Following the geophysical investigation and the first week of reacquisition, intrusive investigations will be initiated on selected anomalies. The anomalies to be investigated will be selected by the Project Geophysicist. It is estimated an average of 30 anomalies per geophysical-acre will be intrusively investigated. Therefore, it is expected that approximately 375 anomalies will be investigated.
- The reacquisition is anticipated to take approximately 2 weeks. The intrusive effort is anticipated to take 2 weeks and commence one week after initiation of the reacquisition task. Parsons will reacquire anomalies using GPS and will mark the locations with flags for the intrusive teams.
- The Geophysical Coordinator will select anomalies for investigation based on professional judgment. The SiteStats/GridStats program for anomaly selection will not be used on this project. The Geophysical Coordinator may choose to intrusively investigate all site anomalies if the average number of anomalies is less than the estimated 30 excavations per geophysical acre used in the cost proposal.
- A 10% QC will be performed by Parsons. The QC shall consist of revisiting the location of a randomly selected 10% (per transect) of the intrusively excavated anomalies. Magnetometers will be used to confirm that the anomaly recorded and presented on the anomaly dig sheets was in fact removed.
- No provisions have been included to close automobile traffic off-site. Road closures may be necessary to perform work in areas near highways. It is assumed that Corps of Engineers will be responsible for making security and

traffic control arrangements.

- UXO items will be "blown in place". However, no demolitions shall be performed that may jeopardize any historical or archaeological structure or location. In these instances, USAESCH will be contacted for guidance of how to proceed. Parsons assumes that one UXO demolition will be required during the intrusive investigation.
- Locations of UXO and other excavated anomalies will be identified/recorded by the UXO Subcontractor using tape measurements from location flagged during the Parsons reacquisition.
- Ordnance scrap and recovered metal debris may be temporarily stored on site at a location designated by a property owner and approved by USAESCH and will be easily accessible by vehicle.
- Inert ordnance items will be vented prior to final staging as refuse for turn-in as described in the SOW (DID).
- No permits are required for on site explosive disposal of UXO.
- UXO items rendered safe on-site and all scrap recovered will be disposed off site through a local scrap dealer. Parsons has not included cost required for offsite disposal of scrap should there be an associated cost.
- Form DD 1348-1A will be completed as described in SOW (DID).
- Turn-in documentation receipts shall be submitted as a component of the EE/CA Report.
- All access/excavation/detonation holes shall be backfilled by the Subcontractor.

TASK 9 PREPARE INSTITUTIONAL ANALYSIS, IMPACT ANALYSIS, AND EE/CA REPORT

Task 9a Institutional Analysis

- Parsons will perform the Institutional Analysis in accordance with USAESCH guidance and associated DIDs (DID OE-100).

Task 9b Impact analysis

- Qualitative Impact Analysis (QIA) model will be provided by USAESCH and refined by Parsons. Prior to implementation, the refined model will be provided to USAESCH and CENAN for approval.
- The refined QIA model will be used to determine the baseline public exposure and the predicted risk reduction for the proposed remedial options.
- A Site UXO Statistical Report will be prepared documenting the determination of the UXO density estimates. This report will be included as part of the risk report and included in the EE/CA Report submittal.

Task 9c Prepare EE/CA Report

- All areas discussed in Site Visit Report and referenced in SOW will be discussed in EE/CA Report. Areas previously determined to be NDAI by USAESCH will be discussed as such.
- Archaeological and Ecological data (endangered species, etc.) will be summarized from data provided be USAESCH.
- A combined 72 copies of the Draft, Draft-Final, and Final EE/CA Report will be produced for distribution according to the revised SOW. Approximately six additional copies of each version will also be prepared for internal use and the project file. In addition, the documents will also be posted on an Internet web site with password protection. The number of copies may be reduced at USAESCH's discretion due to availability of the Internet web page.

TASK 10 PREPARE ACTION MEMORANDUM

- After approval of the Final EE/CA Report an Action Memorandum with be prepared and submitted to USAESCH for review. Comments will be addressed and final Action Memorandum prepared in accordance with USAESCH guidance.

TASK 11 COMMUNITY RELATIONS SUPPORT

- Although this EE/CA project and the Cold Springs EE/CA project in West Point, New York will be conducted concurrently and involve the same Corps District as well as State Agencies as described in Task 12, the public meetings will not be combined due to different regional considerations. As such, Parsons assumes that all public meetings under this task will be specifically Camp Hero related and the logistics of scheduling a public meeting for the Cold Springs site during the same week is prohibitive.
- As per the revised SOW, Parsons will provide two key project personnel at 2 meetings at site location in Montauk, New York. Each meeting is assumed to be one day but will require an overnight stay. It is assumed that there will be technical preparation work before each meeting and GIS time to prepare display figures/maps. Parsons assumes that no additional public meetings other than those specified will be required under this task

TASK 12 MEETINGS AND PROJECT MANAGEMENT

- Based on conversations with the USAESCH Project Manager (Mr. Roland Belew) this EE/CA project and the Cold Springs EE/CA project in West Point, New York will be conducted concurrently and involve the same Corps District as well as State Agencies. As such, Parsons assumes that all project meetings under this task will involve discussions and issues for both sites. Therefore, for the purposes of this proposal, the costs associated with the SOW-required meetings (4 in New York and 2 in Huntsville) have been split equally between the two project proposals (2 in New York and 1 in Huntsville). Parsons assumes

that no additional meetings other than those specified will be required under this task.

- As discussed above, Parsons assumes one one-day meetings in Huntsville with PM and SM or Geo Coordinator to discuss and address comments on draft reports with individual reviewers and to discuss geophysical results and how will proceed with intrusive effort. Assume Parsons will drive to Huntsville. Each meeting is assumed to be one day but will require an overnight stay. It is assumed that there will be technical preparation work before each meeting and GIS time to prepare display figures/maps.
- As discussed above, Parsons assumes two one-day meetings in New York with USAESCH PM, Parsons PM and additional key project personnel, and CENAN to discuss various project issues. Each meeting is assumed to be one day but will require an overnight stay. It is assumed that there will be technical preparation work before each meeting and GIS time to prepare display figures/maps.
- Other internal project meetings will be held by the Parsons project team in Atlanta.
- Minutes from all formal Meetings will be prepared in accordance with the SOW (DID OE-045) and included in the appropriate monthly progress reports.
- Assume one week site visit for PM during geophysical/intrusive portion of the project to ensure project field work is progressing appropriately and as planned.
- The task also includes hours to prepare the monthly reports, provide direction to the technical team, and regularly correspond with USAESCH. It is assumed that the duration of the task will be 14 months.

TASK 13 PROJECT DOCUMENTATION

- Project documentation will be incorporated monthly on CD-ROM and submitted to USAESCH. If received prior to the monthly report submittal, the CD will be included with the monthly report submission.
- Parsons assumes approximately 100 8.5"x11" pages per month from USAESCH. Any 11"x17" shall be broken into two pages. No larger maps unless provided in digital format. All information generated by Parsons will be uploaded electronically from the company network.
- One person will coordinate and ensure the information is scanned (as necessary) onto a CD each month. Each subsequent monthly CD will be labeled and include only the data generated during that month.

APPENDIX B
ANOMALY DIG SHEETS

Area A - Light House
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0508LHa	0508LHa-1	1575174.23	336713.91	2.0	S	Metal 1" x 1/4" - 12" from flag	1	2"	1 oz		Removed
0508LHa	0508LHa-2	1575172.25	336708.43	3.0	S	Metal Wire - 12" from flag	1	3"	Unknown		Removed
0508LHa	0508LHa-3	1575166.62	336709.65	99.0	S	Metal Pipe - 24" from flag	1	6-12"	Unknown		Left in place
0508LHb	0508LHb-1	1575155.16	336717.88	22.9	O	Too small to find - 8" from flag	1	0-6"			Left in place
0508LHb	0508LHb-2	1575153.89	336713.08	35.9	S	Nail 1" - 8" from flag	1	1"			
0508LHb	0508LHb-3	1575155.54	336710.67	20.8	O	Too small to find - 1' from flag	2	1"			
0508LHb	0508LHb-4	1575146.05	336707.77	10.3	S	Nails - 1' from flag	2	1"			
0508LHb	0508LHb-5	1575152.50	336715.86	24.2	O	Too small to find - 12" from flag	1	2"			

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.
U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area H
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0509H1	0509H1-1	1572262.30	332866.91	14.9							
0509H1	0509H1-2	1572243.27	332868.59	12.1	S	Wire Cable 40' long	1	Surface	Unknown	5/19/01	Moved
0509H1	0509H1-3	1572302.04	332873.63	39.8							
0509H1	0509H1-4	1572272.94	332885.95	21.8							
0509H1	0509H1-5	1572186.17	332902.74	19.4	F	Frag	1	Surface	1 lb	5/19/01	Removed
0509H1	0509H1-6	1572196.81	332906.10	79.1							
0509H1	0509H1-7	1572293.07	332907.25	34.1							
0509H1	0509H1-8	1572209.12	332913.38	47.7	S	Bolt, Eyelet 15" x 1" - 10" from flag	1	2"	1 lb	5/19/01	Moved
0509H1	0509H1-9	1572186.73	332922.89	31.4							
0509H1	0509H1-10	1572205.77	332923.45	30.0							
0509H1	0509H1-11	1572217.52	332933.53	38.7	O	Hot Rock - 20" from flag	1	10"	1/2 lb	5/19/01	Removed
0509H1	0509H1-12	1572220.88	332939.69	43.0							
0509H1	0509H1-13	1572235.43	332944.73	58.9							
0509H1	0509H1-14	1572173.30	332955.37	31.0	F	Frag - 4' from flag	1	Surface	1 lb	5/19/01	Removed
0509H1	0509H1-15	1572218.08	332956.48	521.2							
0509H1	0509H1-16	1572187.29	332957.04	156.2							
0509H1	0509H1-17	1572218.08	332974.96	88.7							
0509H1	0509H1-18	1572155.95	332978.88	15.3	O	Hot Rock - 2' from flag	1	Surface		5/19/01	Removed
0509H1	0509H1-19	1572177.22	332980.56	24.3	F	Frag - 2' from flag	1	Surface	1 lb	5/19/01	Removed
0509H1	0509H1-20	1572169.94	332983.36	35.7							
0509H1	0509H1-21	1572192.33	332984.48	41.5							
0511G1	0511G1-1	1572092.70	332621.51	13.9							
0511G1	0511G1-2	1572106.01	332629.72	1.7							
0511G1	0511G1-3	1572085.90	332635.38	18.9	S	Metal Scrap 3" x 1" - 20" from flag	1	2"	3 oz	5/19/01	Removed
0511G1	0511G1-4	1572139.65	332638.50	2.4							
0511G1	0511G1-5	1572120.11	332642.74	3.9							
0511G1	0511G1-6	1572097.18	332647.27	3.3	S	Metal Scrap 2" x 2" - 20" from flag	1	2"	2 oz	5/19/01	Removed
0511G1	0511G1-7	1572120.68	332647.27	3.4							
0511G1	0511G1-8	1572062.97	332650.96	3.2							
0511G1	0511G1-9	1572138.80	332663.98	7.9	N/C		1	2"	1/2 lb	5/19/01	Removed
0511G1	0511G1-10	1572088.40	332666.53	7.1							
0511G1	0511G1-11	1572131.16	332667.38	7.6							
0511G1	0511G1-12	1572083.87	332668.51	11.2	N/C						
0511G1	0511G1-13	1572145.88	332672.19	5.8							
0511G1	0511G1-14	1572160.32	332675.02	4.4							
0511G1	0511G1-15	1572096.05	332677.57	5.8	S	Metal Scrap 2" x 4" - 15" from flag	1	18"	1/2 lb	5/19/01	Removed
0511G1	0511G1-16	1572080.48	332677.86	3.3							

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.
U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0511G1	0511G1-17	1572124.08	332678.42	5.6							
0511G1	0511G1-18	1572115.30	332679.27	8.8	N/C						
0511G1	0511G1-19	1572093.22	332682.39	9.6							
0511G1	0511G1-20	1572150.41	332683.52	5.7							
0511G1	0511G1-21	1572098.88	332686.07	24.1	O	Hot Rock - 12" from flag					
0511G1	0511G1-22	1572105.11	332686.07	6.0							
0511G1	0511G1-23	1572097.46	332688.90	13.3	S	Nail 2" - 12" from flag	1	2"	1 oz	5/19/01	Removed
0511G1	0511G1-24	1572179.28	332699.62	3.1							
0511G1	0511G1-25	1572120.68	332701.92	22.0							
0511G1	0511G1-26	1572153.52	332702.45	3.8							
0511G1	0511G1-27	1572174.19	332705.57	2.5	N/C						
0511G1	0511G1-28	1572145.31	332708.12	24.0							
0511G1	0511G1-29	1572167.67	332709.53	3.5							
0511G1	0511G1-30	1572129.45	332710.38	8.9	O	Hot Rock - 12" from flag	1	2"	3 oz	5/19/01	Removed
0511G1	0511G1-31	1572105.39	332710.99	11.4							
0511G1	0511G1-32	1572169.94	332715.20	14.4							
0511G1	0511G1-33	1572165.41	332719.73	2.9							
0511G1	0511G1-34	1572181.55	332723.69	4.3	O	Hot Rock - 12" from flag	1	2"	3 oz	5/19/01	Removed
0511G1	0511G1-35	1572120.39	332724.83	4.0							
0511G1	0511G1-36	1572127.19	332726.52	9.6	S	Metal Rod 10" x 1/4" - 4' from flag	1	1"	1/2 lb	5/19/01	Removed
0511G1	0511G1-37	1572201.37	332728.22	21.9							
0511G1	0511G1-38	1572174.75	332732.47	13.3							
0511G1	0511G1-39	1572131.15	332732.75	36.1	S	Metal Scrap - 4.5' from flag	1	2"	1 lb	5/19/01	Removed
0511G1	0511G1-40	1572153.52	332740.12	19.1							
0511G1	0511G1-41	1572176.73	332743.51	25.9							
0511G1	0511G1-42	1572141.91	332748.89	10.8	S	Fence Wire - 5" from flag	1	Surface	1 oz	5/19/01	Removed
0511G1	0511G1-43	1572177.30	332748.89	15.8							
0511G1	0511G1-44	1572124.92	332751.16	12.4							
0511G1	0511G1-45	1572136.81	332751.16	20.2	S	Fence Wire - 12" from flag	2	Surface	2 oz	5/19/01	Removed
0511G1	0511G1-46	1572138.23	332756.82	12.0							
0511G1	0511G1-47	1572133.42	332760.50	25.7							
0511G1	0511G1-48	1572169.66	332763.34	6.3	O	Hot Rock - 18" from flag	1	Surface	1 lb	5/19/01	Removed
0511G1	0511G1-49	1572141.34	332767.87	20.8							
0511G1	0511G1-50	1572147.57	332772.11	30.5							
0511G2	0511G2-1	1572013.68	332458.44	23.8							
0511G2	0511G2-2	1572019.53	332461.23	10.0							
0511G2	0511G2-3	1572030.40	332462.62	5.8	O	Hot Rock - 2' from flag	1	Surface	3 lbs	5/19/01	Removed

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0511G2	0511G2-4	1572052.13	332465.41	22.0							
0511G2	0511G2-5	1571994.73	332466.25	14.4							
0511G2	0511G2-6	1572017.03	332466.80	18.6	O	Hot Rock - 1' from flag	1	Surface	3 lbs	5/19/01	Removed
0511G2	0511G2-7	1571995.85	332478.23	1.4							
0511G2	0511G2-8	1572046.56	332481.58	9.6	O	Hot Rock - 3 from flag	1	Surface	3 lbs	5/19/01	Removed
0511G2	0511G2-9	1572042.94	332482.97	16.8							
0511G2	0511G2-10	1571964.92	332489.94	3.0							
0511G2	0511G2-11	1572049.25	332502.47	15.7							
0511G2	0511G2-12	1571959.35	332502.49	8.6							
0511G2	0511G2-13	1572003.93	332505.56	4.0	O	Hot Rock - 2' from flag	1	6"	3 lbs	5/19/01	Removed
0511G2	0511G2-14	1572046.46	332511.11	28.4							
0511G2	0511G2-15	1572020.00	332514.13	6.2	O	Hot Rock - 1' from flag	1	6"	3 lbs	5/19/01	Removed
0511G2	0511G2-16	1571980.24	332515.04	4.8							
0511G2	0511G2-17	1571974.95	332516.99	4.4							
0511G2	0511G2-18	1572067.64	332519.48	10.9	O	Hot Rock - 2' from flag	1	6"	4 lbs	5/19/01	Removed
0511G2	0511G2-19	1572011.92	332520.26	8.8							
0511G2	0511G2-20	1572052.04	332522.82	16.3							
0511G2	0511G2-21	1572040.34	332523.05	6.3							
0511G2	0511G2-22	1572010.53	332523.61	16.1	O	Hot Rock - 3' from flag	1	6"	4 lbs	5/19/01	Removed
0511G2	0511G2-23	1571983.03	332524.79	19.0							
0511G2	0511G2-24	1572003.00	332525.84	30.8	O	Hot Rock - 1' from flag	1	6"	4 lbs	5/19/01	Removed
0511G2	0511G2-25	1572095.19	332530.30	5.3							
0511G2	0511G2-26	1572002.72	332532.53	74.1							
0511G2	0511G2-27	1571997.99	332537.27	92.8	O	Hot Rock - 1' from flag	1	6"	4 lbs	5/19/01	Removed
0511G2	0511G2-28	1571989.33	332540.18	86.2							
0511G2	0511G2-29	1572037.28	332544.24	41.4							
0511G2	0511G2-30	1572082.65	332545.91	248.6							
0511G2	0511G2-31	1572089.89	332546.75	3.6	N/C						
0511G2	0511G2-32	1571991.30	332549.26	14.7							
0511G2	0511G2-33	1572105.49	332555.11	7.1	O	Hot Rock - 18"' from flag	1		70 lbs	5/19/01	Left in place
0511G2	0511G2-34	1572077.63	332557.90	4.5							
0511G2	0511G2-35	1571996.04	332562.36	10.0							
0511G2	0511G2-36	1572047.54	332562.36	26.3	O	Hot Rock - 2' from flag	1	6"	5 lbs	5/19/01	Removed
0511G2	0511G2-37	1572033.37	332565.98	5.4							
0511G2	0511G2-38	1572089.04	332566.79	40.8							
0511G2	0511G2-39	1572084.30	332567.34	48.7	O	Hot Rock - 2' from flag	1	Surface	1 lb	5/19/01	Removed
0511G2	0511G2-40	1572114.39	332568.18	2.8	O	Hot Rock - 20" from flag	1	1"	8 oz	5/19/01	Removed
0511G2	0511G2-41	1572027.79	332571.48	3.6							

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

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Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0511G2	0511G2-42	1572016.38	332574.63	6.0							
0511G2	0511G2-43	1572051.44	332576.30	6.6							
0511G2	0511G2-44	1572107.98	332576.82	223.7							
0511G2	0511G2-45	1572112.44	332577.66	101.4	S	Metal Scrap 4" x 1" x 12" - 12" from flag	1	2"	3 oz	5/19/01	Removed
0511G2	0511G2-46	1572065.63	332583.79	5.7							
0511G2	0511G2-47	1572070.09	332586.02	25.1							
0511G2	0511G2-48	1572060.89	332586.58	7.0	O	Hot Rock - 1' from flag	1	2"	1 lb	5/19/01	Removed
0511G2	0511G2-49	1572107.43	332587.98	4.7							
0511G2	0511G2-50	1572114.67	332592.99	10.4	S	Metal Scrap 2" x 2" - 2' from flag	1	2"	8 oz	5/19/01	Removed
0511G2	0511G2-51	1572045.01	332598.57	5.2							
0511G2	0511G2-52	1572067.30	332602.19	122.5							
0511G2	0511G2-53	1572033.59	332605.54	4.8							
0511G2	0511G2-54	1572090.15	332610.56	8.9	S	Metal Scrap 2" x 1" - 12" from flag	1	1"	2 oz	5/19/01	Removed
0511G2	0511G2-55	1572051.98	332632.31	14.3							
0512G1	0512G1-1	1571935.09	332500.95	7.7	O	Hot Rock - 1" from flag	1	6-12"	1 lb	5/18/01	Removed
0512G1	0512G1-2	1571945.69	332506.21	2.2							
0512G1	0512G1-3	1571956.74	332530.78	1.4							
0512G1	0512G1-4	1571903.52	332531.60	1.7							
0512G1	0512G1-5	1571966.98	332533.24	2.3	F	Steel Frag 2' from flag	1	12"	1 lb	5/18/01	Removed
0512G1	0512G1-6	1571921.12	332534.06	1.7							
0512G1	0512G1-7	1571945.69	332541.43	4.0	F	Steel Frag 2.5' from flag	1	1-1/2'	2 lbs	5/18/01	Removed
0512G1	0512G1-8	1571967.39	332547.98	2.2							
0512G1	0512G1-9	1571992.77	332550.03	3.4							
0512G1	0512G1-10	1571961.24	332552.07	3.4							
0512G1	0512G1-11	1571994.41	332556.58	4.9							
0512G1	0512G1-12	1571979.67	332557.40	5.8	O	Hot Rock - 1' from flag	1	10"	unknown	5/18/01	Removed
0512G1	0512G1-13	1571963.70	332558.21	6.9							
0512G1	0512G1-14	1571977.21	332563.54	3.6							
0512G1	0512G1-15	1571944.05	332567.63	3.6							
0512G1	0512G1-16	1571963.70	332568.86	11.7	N/C	Not Found					
0512G1	0512G1-17	1571927.27	332572.96	2.5							
0512G1	0512G1-18	1571960.02	332572.96	4.2							
0512G1	0512G1-19	1571974.35	332573.77	4.2	O	Hot Rock - 1-2 ' from flag	1	8-10"	1 lb	5/18/01	Removed
0512G1	0512G1-20	1571997.24	332583.14	5.5							
0512G1	0512G1-21	1571895.79	332586.94	2.3							
0512G1	0512G1-22	1572002.15	332589.69	30.4	F	Steel Frag 2' from flag	1	12-16"	2 lbs	5/18/01	Removed
0512G1	0512G1-23	1571980.46	332590.51	6.2							

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.
U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0512G1	0512G1-24	1571929.69	332594.20	24.6	O	Hot Rock	2	1-18"	1-2 lbs	5/18/01	Removed
0512G1	0512G1-25	1571910.07	332594.25	1.4							
0512G1	0512G1-26	1571991.51	332594.61	2.2							
0512G1	0512G1-27	1571930.92	332606.48	22.8	O	Hot Rock - 3' from flag	1	6-10"	2 lbs	5/18/01	Removed
0512G1	0512G1-28	1572011.98	332607.71	43.4							
0512G1	0512G1-29	1572017.71	332609.35	32.0	F	Frag 2' from flag	1	6"	1 lb	5/18/01	Removed
0512G1	0512G1-30	1571970.63	332613.03	1.2							
0512G1	0512G1-31	1572036.54	332616.31	1.5							
0512G1	0512G1-32	1572020.17	332618.76	18.7	N/C	Not Found					
0512G1	0512G1-33	1572026.72	332619.17	31.8							
0512G1	0512G1-34	1571977.18	332624.49	12.3	F	Frag 18" from flag	1	2"	1/2 lb	5/18/01	Removed
0512G1	0512G1-35	1571968.18	332630.23	13.7							
0512G1	0512G1-36	1572018.53	332634.73	2.0							
0512G1	0512G1-37	1571986.19	332635.96	7.3	F	Frag 3' from flag	1	2"	1 lb	5/18/01	Removed
0512G1	0512G1-38	1572048.82	332635.96	10.2							
0512G1	0512G1-39	1572036.95	332639.23	11.5							
0512G1	0512G1-40	1572031.63	332641.28	14.3	F	Frag	1	Surface	2 lbs	5/18/01	Removed
0512G1	0512G1-41	1571983.32	332642.51	5.5							
0512G1	0512G1-42	1571957.53	332643.74	2.3							
0512G1	0512G1-43	1572011.57	332644.97	3.8	F	Frag 12" from flag	1	2"	1/2 lb	5/18/01	Removed
0512G1	0512G1-44	1571999.05	332646.41	4.0							
0512G1	0512G1-45	1572022.21	332646.60	4.2	F	Frag	1	6"	1/2 lb	5/18/01	Removed
0512G1	0512G1-46	1571955.48	332654.79	4.2							
0512G1	0512G1-47	1571947.30	332656.84	19.9							
0512G1	0512G1-48	1572002.73	332659.02	14.0	F	Frag 6" from flag	1	3"	1 lb	5/18/01	Removed
0512G1	0512G1-49	1572004.30	332663.75	34.8							
0512G1	0512G1-50	1571976.47	332669.53	42.7							
0512G1	0512G1-51	1572002.20	332669.53	40.4							
0512G1	0512G1-52	1571995.38	332670.05	46.0	F	Frag 4-1/2' from flag	1	2"	1-1/2 lbs	5/18/01	Removed
0512G1	0512G1-53	1571989.60	332670.05	5.2							
0512G1	0512G1-54	1571981.72	332682.13	1.1							
0512G1	0512G1-55	1571968.06	332682.13	2.8							
0512G2a	0512G2a-1	1571856.71	332580.57	20.3	N/C						
0512G2a	0512G2a-2	1571890.92	332583.73	1.8	N/C						
0512G2a	0512G2a-3	1571897.23	332597.41	7.2	N/C						
0512G2a	0512G2a-4	1571859.87	332604.25	12.2	O	Hot Rock on flag	1	18"	2 lbs	5/18/01	Removed
0512G2a	0512G2a-5	1571875.13	332605.83	17.8	O	Hot Rock on flag	1	10"	30 lbs	5/18/01	Removed

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0512G2a	0512G2a-6	1571882.50	332613.73		O	Hot Rock on flag	1	12"	2 lbs	5/18/01	Removed
0512G2a	0512G2a-7	1571880.39	332627.94	24.3	O	Hot Rock - 3" from flag	1	12"	25 lbs	5/18/01	Removed
0512G2a	0512G2a-8	1571885.13	332638.99	52.4	N/C						
0512G2a	0512G2a-9	1571890.92	332650.05	1.3	N/C	Not Found					
0512G2a	0512G2a-10	1571915.65	332654.78		N/C	Not Found					
0512G2a	0512G2a-11	1571896.18	332667.94	1.2	N/C	Not Found					
0512G2a	0512G2a-12	1571953.54	332677.42	49.2	N/C	Not Found					
0512G2a	0512G2a-13	1571940.91	332681.10	36.1	S	Metal Cable	1	Surface	1 lb	5/18/01	Removed
0512G2a	0512G2a-14	1571982.49	332717.94		N/C	Not Found					
0512G2a	0512G2a-15	1571944.60	332720.05	3.2							
0512G2a	0512G2a-16	1571956.70	332723.21	0.8							
0512G2a	0512G2a-17	1571970.91	332729.52		N/C	Not Found					
0512G2a	0512G2a-18	1571996.17	332744.26		S	Metal Pipe 2' x 5.5"	1	2'	45 lbs	5/18/01	Removed
0512G3	0512G3-1	1572024.60	332664.01	10.0	N/C						
0512G3	0512G3-2	1572029.44	332666.43	2.0							
0512G3	0512G3-3	1572074.57	332674.61	2.7							
0512G3	0512G3-4	1572033.38	332675.22	7.0	N/C						
0512G3	0512G3-5	1572070.33	332677.04	2.2							
0512G3	0512G3-6	1572057.31	332680.37	9.1	N/C	Not Found					
0512G3	0512G3-7	1572069.12	332687.64	1.8							
0512G3	0512G3-8	1572041.86	332687.94	5.2							
0512G3	0512G3-9	1572004.93	332693.38	7.5							
0512G3	0512G3-10	1572057.91	332693.40	31.1	F	Frag - 4' from flag	1	1"	1/2 lb	5/19/01	Removed
0512G3	0512G3-11	1572082.45	332696.12	0.6							
0512G3	0512G3-12	1572005.84	332699.44	2.7							
0512G3	0512G3-13	1572010.08	332705.20	4.3	O	Hot Rock - 8" from flag	1	Surface	50 lbs	5/19/01	Removed
0512G3	0512G3-14	1572019.16	332709.14	7.0							
0512G3	0512G3-15	1571982.49	332713.39	3.4	O	Hot Rock - 20" from flag	1	2"	1/2 oz	5/19/01	Removed
0512G3	0512G3-16	1572077.62	332713.68	1.4							
0512G3	0512G3-17	1572068.53	332713.98	1.6							
0512G3	0512G3-18	1572006.14	332721.56	31.1							
0512G3	0512G3-19	1572078.23	332723.37	19.7	F	Frag - 6" from flag	1	2"	1/4 lb	5/19/01	Removed
0512G3	0512G3-20	1572017.65	332724.89	6.1							
0512G3	0512G3-21	1572013.10	332726.71	3.3							
0512G3	0512G3-22	1572022.49	332730.65	3.5							
0512G3	0512G3-23	1572070.65	332730.65	7.8	F	Frag 1-1/2' from flag , Hot Rock - 2' from flag	2	8-12"	10 lbs	5/19/01	Removed
0512G3	0512G3-24	1572020.07	332735.19	5.8							

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Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0512G3	0512G3-25	1572047.03	332735.80	3.2							
0512G3	0512G3-26	1572008.86	332736.70	3.9	O	Hot Rock - 20" from flag	1	Surface	1 lb	5/19/01	Removed
0512G3	0512G3-27	1572030.07	332736.70	20.2	N/C						
0512G3	0512G3-28	1572067.32	332738.82	1.2							
0512G3	0512G3-29	1572008.86	332741.55	6.0							
0512G3	0512G3-30	1572013.41	332742.46	11.7	S	Nail 2" - 16" from flag	1	2"	1/2 oz	5/19/01	Removed
0512G3	0512G3-31	1572033.70	332743.67	0.7							
0512G3	0512G3-32	1572058.54	332745.19	14.9	O	Hot Rock - 12" from flag	1	13"	1/2 lb	5/19/01	Removed
0512G3	0512G3-33	1572039.15	332745.79	2.7							
0512G3	0512G3-34	1572050.06	332747.61	5.8	F	Frag - 12-15" from flag	2	3-5"	1/2 lb	5/19/01	Removed
0512G3	0512G3-35	1572010.08	332753.37	0.9							
0512G3	0512G3-36	1572030.37	332754.88	778.9							
0512G3	0512G3-37	1572039.46	332758.21	2.3	O	Hot Rock - 5" from flag	1	3"	1 lb	5/19/01	Removed
0512G3	0512G3-38	1572027.04	332759.12	72.1							
0512G3	0512G3-39	1572047.03	332760.94	1.6							
0512G3	0512G3-40	1572033.70	332761.85	1.6							
0512G3	0512G3-41	1572037.64	332763.67	1.6							
0512G3	0512G3-42	1572021.59	332764.88	18.5	S	Metal Wire 3' x 1/4" , Hot Rock - 6" from flag	2	5"	1lb	5/19/01	Removed
0512G3	0512G3-43	1572032.19	332773.66	13.2							
0513G1	0513G1-1	1572029.68	332797.68	6.1	O	Hot Rock - 8" from flag	1	Surface	3 oz	5/18/01	Removed
0513G1	0513G1-2	1572046.22	332799.25	9.9	O	Hot Sand	1	2 ft			
0513G1	0513G1-3	1572046.61	332775.63	3.2	O	Hot Rock	1	Surface	5 lbs	5/18/01	Removed
0513G1	0513G1-4	1572064.33	332768.54	73.7	S	Wire - 2' from flag	1	Surface	4 lbs	5/18/01	Removed
0513G1	0513G1-5	1572069.44	332777.59	24.3	O	Hot Rock	1	Surface	5 lbs	5/18/01	Removed
0513G1	0513G1-6	1572085.19	332777.20	16.9	N/C						
0513G1	0513G1-7	1572085.19	332795.31	4.1	S	Metal Bracket 6" x 2"	1	1"	1 lb	5/18/01	Removed
0513G1	0513G1-8	1572091.10	332764.60	220.9	S	Metal 2" x 2" x 1/2" - 12" form flag	1	2"	3 oz	5/18/01	Removed
0513G1	0513G1-9	1572093.85	332772.48	2.8	N/C						
0513G1	0513G1-10	1572097.00	332785.47	127.0	S	Wire 4" long - 12" from flag	1	4"	2 oz	5/18/01	Removed
0513G1	0513G1-11	1572099.36	332794.92	4.7	S	Wire 4" long - 12" from flag	1	4"	2 oz	5/18/01	Removed
0513G1	0513G1-12	1572102.12	332724.83	42.6	S	Pieces of Fence	6	Surface	6 oz	5/18/01	Removed
0513G1	0513G1-13	1572103.30	332746.49	183.2	S	Hot Rock - 4" from flag	1	4"	10 lbs	5/18/01	Removed
0513G1	0513G1-14	1572109.21	332785.86	21.6	S	Metal Chunk	1	3"	10 oz	5/18/01	Removed
0513G1	0513G1-15	1572113.93	332761.84	6.8	S	Metal Wire 15" x 1/8" O/F	1	1"	2 oz	5/18/01	Removed
0513G1	0513G1-16	1572114.72	332769.72	1.8	F	Frag - 4.5' from flag	1	2"	4 oz	5/18/01	Removed
0513G1	0513G1-17	1572121.41	332756.33	16.7	S	Wire - 3.5' from flag	1	2-6"	6 lbs	5/18/01	Removed
0513G1	0513G1-18	1572130.47	332750.82	17.5	S	Wire - 3.5' from flag	1	Surface			

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Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0513G1	0513G1-19	1572132.83	332757.91		S	Wire - 3' from flag	1	Surface	Unknown	5/18/01	Removed
0513G1	0513G1-20	1572135.19	332768.54	9.3	N/C	Not Found					
0513G1	0513G1-21	1572141.88	332763.03	13.4	S	Wire - 2' from flag	1	6"	5 lbs	5/18/01	Removed
0513G1	0513G1-22	1572150.94	332771.29	30.1	O	Hot Rock	1	6-8"	1 lb	5/18/01	Removed
0513G2	0513G2-1	1572066.36	332468.41	4.2							
0513G2	0513G2-2	1572266.69	332509.04	80.8							
0513G2	0513G2-3	1572240.27	332513.95	6.4	O	Hot Rock - 2' from flag	1	Surface	10 lbs	5/19/01	Removed
0513G2	0513G2-4	1572168.39	332513.95	19.3							
0513G2	0513G2-5	1572105.32	332524.79	4.2							
0513G2	0513G2-6	1572086.25	332533.08	3.2	S	Metal Scrap - 3' from flag	1	2"	3 oz	5/19/01	Removed
0513G2	0513G2-7	1572230.44	332583.39	29.6							
0513G2	0513G2-8	1572221.84	332592.61	38.6							
0513G2	0513G2-9	1572314.62	332605.51	26.7	S	Nails - 12" from flag	1	5"	2 oz	5/19/01	Removed
0513G2	0513G2-10	1572344.11	332624.56	2.6							
0513G2	0513G2-11	1572189.89	332681.09	27.0							
0513G2	0513G2-12	1572385.03	332768.66	74.0	O	Hot Rock - 4' from flag	1	Surface	25 lbs	5/19/01	Removed
0513G2	0513G2-13	1572326.04	332785.25	43.3							
0513G2	0513G2-14	1572362.29	332819.66	13.9	O	Hot Rock - 3' from flag	1	Surface	20 lbs	5/19/01	Removed
0513G2	0513G2-15	1572394.24	332895.24	71.8							
0513G2	0513G2-16	1572428.03	332917.98	29.1							
0513G2	0513G2-17	1572438.35	332927.69	7.4							
0513G2	0513G2-18	1572411.44	332932.11	10.7	O	Hot Rock - 18" from flag	1	6-8"	5 lbs	5/19/01	Removed
0513G2	0513G2-19	1572420.66	332940.72	5.7							
0513G2	0513G2-20	1572387.36	332959.64	10.3							
0513G2	0513G2-21	1572444.01	332977.59	12.9							
0515TA	0515T5A-1	1571791.62	332626.82	13.0							
0515TA	0515T5A-2	1571763.04	332681.92	49.0							
0515TA	0515T5A-3	1571675.23	332774.16	8.0	O	Hot Rock - 3' from flag	1	Surface	2 lbs		Removed
0515TA	0515T5A-4	1571760.56	332859.40	20.0	O	Hot Rock - 2.5' from flag	1	6-10"	10 lbs		Removed
0515TA	0515T5A-5	1571739.02	332889.23	2.0							
0515TA	0515T5A-6	1571696.77	332895.85	1.0							
0515TA	0515T5A-7	1571767.18	332907.87	6.0	O	Hot Rock - 1' from flag	1	5"	20 lbs		Removed
0515TA	0515T5A-8	1571759.26	332945.44	1.0							
0515TA	0515T5A-9	1571823.74	332955.23	4.0	O	Hot Rock - 6' from flag	1	Surface	20 lbs		Removed
0515TA	0515T5A-10	1571832.43	332961.03	2.0							
0515TA	0515T5A-11	1571791.15	332961.60	1.0							

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Area H (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
0515TA	0515T5A-12	1571791.57	332983.56	1.0							
0515TA	0515T5A-13	1571835.33	333048.03	2.0	O	Hot Rock - 14" from flag	1	2"	8 oz		Removed
0515T6	0515T6-1	1571669.20	332867.60	2.7							
0515T6	0515T6-2	1571729.60	332943.60	2.2							
0515T6	0515T6-3	1571756.00	332974.80	11.7							
0515T9	0515T9-1	1571792.59	332629.83	203.0	IA	Under asphalt on road					
0515T9	0515T9-2	1571763.91	332691.30	43.0							
0515T9	0515T9-3	1571788.04	332699.50	53.0							
0515T9	0515T9-4	1571794.87	332725.45	15.0							
0515T9	0515T9-5	1571803.52	332737.29	22.0							
0515T9	0515T9-6	1571840.40	332747.31	3.0							
0515T9	0515T9-7	1571889.57	332750.04	5.0	S	Staple on wood O/F	1	Surface	1 gm	5/19/01	Removed
0515T9	0515T9-8	1571894.41	332763.14	38.0							
0515T9	0515T9-9	1571918.54	332766.33	304.0							
0515T9	0515T9-10	1571848.06	332789.88	14.0	N/C						
0515T9	0515T9-11	1571931.29	332791.37	11.0							
0515T9	0515T9-12	1571838.06	332792.97	7.0	O	Hot Rock - 4' from flag	1	4"	1 lb	5/19/01	Removed
0515T9	0515T9-13	1571899.06	332814.92	18.0							
0515T9	0515T9-14	1571819.85	332819.84	3.0							
0515T9	0515T9-15	1571837.61	332882.68	1.0							
0515T9	0515T9-16	1571754.01	332970.00	9.0							
0515T9	0515T9-17	1571792.25	333015.84	2.0							
0515T9	Note: 1 Flag with no number				O	Hot Rock - 2' from flag	1	6"	5 lbs	5/19/01	Removed
0516T1	0516T1-01	1571785.48	332814.42	3.1							
0516T1	0516T1-02	1571745.20	332722.40	9.4							
0516T1	0516T1-03	1571738.40	332723.20	14.7							
0516T1	0516T1-04	1571684.80	332729.60	4.1							
0516T1	0516T1-05	1571694.00	332747.20	138.4							
0516T1	0516T1-06	1571815.20	332773.20	5.0							
0516T1	0516T1-07	1571689.60	332778.80	45.9							
0516T1	0516T1-08	1571828.40	332784.80	12.8							
0516T1	0516T1-09	1571793.20	332859.60	7.5							
0516T1	0516T1-10	1571769.94	332818.24	2.7							
0516T1	0516T1-11	1571834.00	332906.00	7.7							
0516T1	0516T1-12	1571834.80	332923.20	12.7							
0516T1	0516T1-13	1571731.29	332796.57	2.8							
0516T1	0516T1-14	1571752.23	332753.63	2.1							
0516T1	0516T1-15	1571757.82	332814.04	1.8							

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Area K
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach											
0503LH1	0503LH1-1	1574644.09	336383.63	71.7	S	Metal Sign Pole	1	6"		5/17/01	
0503LH1	0503LH1-2	1574648.04	336392.96	20.3	O	Hot Rock	3	6"		5/17/01	
0503LH1	0503LH1-3	1574652.34	336353.48	7.3	O	Hot Rock	1	6"		5/17/01	
0503LH1	0503LH1-4	1574654.49	336382.56	202.5	O	Hot Rock	1	12"		5/17/01	Removed
0503LH1	0503LH1-5	1574667.41	336348.46	379.6	O	Hot Rock	2	18"	5 lbs	5/17/01	Removed
0503LH1	0503LH1-6	1574676.02	336386.86	33.3	O	Hot Rock	2	0-8"	2 lbs	5/17/01	Removed
0503LH1	0503LH1-7	1574677.45	336400.50	7.6	O	Hot Rock	1	12"	2 oz	5/17/01	Removed
0503LH1	0503LH1-8	1574678.17	336380.76	35.2	O	Hot Rock	3	12-24"	15 lbs	5/17/01	Removed
0503LH1	0503LH1-9	1574691.80	336377.89	146.9	O	Hot Rock	1	12"		5/17/01	Removed
0503LH1	0503LH1-10	1574692.52	336356.71	131.2	S	Metal Eyelet for Cables & Metal Spike	2	2.5'	Unknown	5/17/01	Left in place
0503LH1	0503LH1-11	1574694.31	336325.85	4.8	O	Hot Rock	1	5"	1 oz	5/17/01	Removed
0503LH1	0503LH1-12	1574728.04	336400.50	6.0	S	Nails	6	Surface	3 oz	5/17/01	
0503LH1	0503LH1-13	1574733.42	336386.86	54.0	O	Hot Rock	1	Surface	1 lb	5/17/01	
0503LH1	0503LH1-14	1574737.00	336357.07	21.1	O	Hot Rock	2	0-12"	2 lbs	5/17/01	Removed
0503LH1	0503LH1-15	1574741.67	336389.02	61.2	O	Hot Rock	1	Surface	1 lb	5/17/01	
0503LH1	0503LH1-16	1574743.82	336371.07	36.7	O	Hot Rock	1	Surface	2 lbs	5/17/01	
0503LH1	0503LH1-17	1574751.35	336401.58	64.7	S	Metal Bar	1	3"	3 lbs	5/17/01	
0503LH1	0503LH1-18	1574760.83	336361.42	21.7	S	Metal Cable	1	6"	Unknown	5/17/01	Removed
0503LH1	0503LH1-19	1574763.91	336369.28	5.6	S	Nail	1	6"	2 oz	5/17/01	Removed
0503LH1	0503LH1-20	1574778.51	336361.42	12.8	S	Nail	1	6-8"	2 oz	5/17/01	Removed
0503LH2	0503LH2-1	1574579.71	336276.12	5.4	O	Hot Rock	2	Surface	2 lbs	5/17/01	Removed
0503LH2	0503LH2-2	1574604.47	336248.41	64.6							
0503LH2	0503LH2-3	1574611.31	336286.55	28.2	O	Hot Rock	2	0-5"	1 lb	5/17/01	Removed
0503LH2	0503LH2-4	1574614.89	336267.97	36.5	O	Hot Rock	3	0-2"	1 lb	5/17/01	Removed
0503LH2	0503LH2-5	1574615.87	336261.13	74.0							
0503LH2	0503LH2-6	1574616.85	336277.10	34.3	O	Hot Rock	4	Surface	4 lbs	5/17/01	Removed
0503LH2	0503LH2-7	1574617.17	336254.93	95.8							
0503LH2	0503LH2-8	1574625.32	336306.43	2.0	O	Hot Rock	1	12"	1 lb	5/17/01	Removed
0503LH2	0503LH2-9	1574625.32	336287.85	18.9	O	Hot Rock	5	Surface	8-10 lbs	5/17/01	Removed
0503LH2	0503LH2-10	1574628.25	336276.12	24.8	O	Hot Rock	6	Surface	6-8 lbs	5/17/01	Removed
0503LH2	0503LH2-11	1574630.86	336295.35	5.5	O	Hot Rock	1	12"	2 lbs	5/17/01	Removed
0503LH2	0503LH2-12	1574631.18	336259.50	35.4	O	Hot Rock	2	Surface	2 lbs	5/17/01	Removed
0503LH2	0503LH2-13	1574636.07	336263.73	63.2							
0503LH2	0503LH2-14	1574636.72	336323.05	162.1							
0503LH2	0503LH2-15	1574643.56	336312.62	21.1	O	Hot Rock	1	Surface	1 lb	5/17/01	Removed

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach (Continued)											
0503LH2	0503LH2-16	1574649.42	336299.26	9.9	O	Hot Rock	4	6-10"	4 lbs	5/17/01	Removed
0503LH2	0503LH2-17	1574652.36	336288.50	34.3	S	Sign Post - 5' from flag	1	Surface		5/17/01	Left in place
0425NB1	0425NB1-1	1574760.25	336186.20	1.4	O	Hot Rock					
0425NB1	0425NB1-2	1574762.82	336211.53	3.9	S	Concrete - Too big to move					
0425NB1	0425NB1-3	1574766.86	336215.38	8.0	O	Hot Rock					
0425NB1	0425NB1-4	1574822.56	336251.25		O	Hot Rock					
0425NB1	0425NB1-5	1574838.11	336275.43	3.0	O	Hot Rock					
0425NB1	0425NB1-6	1574859.74	336290.24	1.4	O	Hot Rock					
0425NB1	0425NB1-7	1574879.08	336302.14		O	Hot Rock	2	Surface	8 lbs		Removed
0425NB1	0425NB1-8	1574871.87	336302.33	10.8	O	Hot Rock	1	18"	5 lbs		Removed
0425NB1	0425NB1-9	1574893.51	336309.35	40.0	IA	Under Water					
0425NB1	0425NB1-10	1574907.36	336320.18	5.6	IA	Under Water					
0425NB1	0425NB1-11	1574888.00	336327.77	4.2	S	Scrap, Hot Rock	4	24"	5 lbs		Removed
0425NB1	0425NB1-12	1574891.23	336333.65	30.0	O	Hot Rock	1	24"	4 lbs		Removed
0426NB1	0426NB1-1	1574724.65	336157.45	2.1							
0426NB1	0426NB1-2	1574707.59	336158.87	9.1							
0426NB1	0426NB1-3	1574732.00	336163.61	19.4	O	Hot Rock	1	3"	1 lb	5/16/01	Removed
0426NB1	0426NB1-4	1574730.81	336170.72	8.0							
0426NB1	0426NB1-5	1574740.77	336172.85	2.6							
0426NB1	0426NB1-6	1574727.02	336175.94	4.1	O	Hot Rock	1	12"	2 lbs	5/16/01	Removed
0426NB1	0426NB1-7	1574725.23	336177.19	2.4							
0426NB1	0426NB1-8	1574750.58	336180.31	1.9							
0426NB1	0426NB1-9	1574703.88	336182.31	2.5							
0426NB1	0426NB1-10	1574722.71	336184.56	2.8							
0426NB1	0426NB1-11	1574717.07	336186.60	5.9	O	Hot Rock	1	12"	1 lb	5/16/01	Removed
0426NB1	0426NB1-12	1574720.63	336187.07	4.7	O	Hot Rock	1	10"	1 lb	5/16/01	Removed
0426NB1	0426NB1-13	1574713.04	336187.55	8.5	O	Hot Rock	1	12"	2 lbs	5/16/01	Removed
0426NB1	0426NB1-14	1574707.13	336189.08	2.4							
0426NB1	0426NB1-15	1574760.66	336190.62	3.1	O	Hot Rock	1	10"	2 lbs	5/16/01	Removed
0426NB1	0426NB1-16	1574744.84	336196.75	1.1							
0426NB1	0426NB1-17	1574771.11	336199.39	1.5							
0426NB1	0426NB1-18	1574726.08	336201.29	5.3	O	Hot Rock	1	12"	5 lbs	5/16/01	Removed
0426NB1	0426NB1-19	1574710.52	336205.56	2.0							
0426NB1	0426NB1-20	1574721.96	336211.72	1.1							
0426NB1	0426NB1-21	1574761.05	336210.46	1.2							
0426NB1	0426NB1-22	1574767.21	336215.62	1.9							
0426NB1	0426NB1-23	1574737.21	336216.94	1.9	O	Hot Rock	1	12"	3 lbs	5/16/01	Moved
0426NB1	0426NB1-24	1574753.32	336221.20	3.0	O	Hot Sand	1	0-12"			Moved

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach (Continued)											
0426NB1	0426NB1-25	1574757.82	336221.91	3.7	O	Hot Rock	1	18"	2 lbs	5/16/01	Removed
0426NB1	0426NB1-26	1574753.36	336225.96	1.9							
0426NB1	0426NB1-27	1574758.77	336233.99	3.9	O	Hot Rock	2	0-5"	1 lb	5/16/01	Removed
0426NB1	0426NB1-28	1574763.54	336239.92	2.0							
0426NB1	0426NB1-29	1574780.80	336237.78	3.4	O	Hot Rock	1	0-5"	1 lb	5/16/01	Removed
0426NB1	0426NB1-30	1574772.03	336240.87	6.2	O	Hot Sand	1	0-5"			Moved
0426NB1	0426NB1-31	1574777.74	336248.60	1.7							
0426NB1	0426NB1-32	1574829.56	336252.67	2.6	IA	Under Water					
0426NB1	0426NB1-33	1574803.26	336255.39	2.0							
0426NB1	0426NB1-34	1574797.60	336256.27	2.6							
0426NB1	0426NB1-35	1574779.88	336256.89	4.3							
0426NB1	0426NB1-36	1574785.07	336259.83	5.1	O	Hot Sand	1	0-12"		5/16/01	Moved
0426NB1	0426NB1-37	1574798.76	336261.44	4.3	O	Hot Rock	1	5"	1 lb	5/16/01	Removed
0426NB1	0426NB1-38	1574841.40	336262.15	1621.2	IA	Under Water					
0426NB1	0426NB1-39	1574794.73	336262.39	8.1	O	Hot Rock	2	0-12"	10 lbs	5/16/01	Removed
0426NB1	0426NB1-40	1574803.26	336262.62	5.3	O	Hot Rock	1	12"	5 lbs	5/16/01	Removed
0426NB1	0426NB1-41	1574790.94	336263.57	8.8	O	Hot Rock	1	12"	2 lbs	5/16/01	Removed
0426NB1	0426NB1-42	1574786.68	336263.81	9.5	O	Hot Rock	1	5"	5 lbs	5/16/01	Removed
0426NB1	0426NB1-43	1574837.14	336264.75	43.7	IA	Under Water					
0426NB1	0426NB1-44	1574844.48	336266.41	204.0							
0426NB1	0426NB1-45	1574782.18	336266.89	40.3	O	Hot Rock	1	5"	1 lb	5/16/01	Removed
0426NB1	0426NB1-46	1574800.36	336269.17	3.4							
0426NB1	0426NB1-47	1574811.93	336268.80	1.8							
0426NB1	0426NB1-48	1574835.96	336274.47	152.8	IA	Under Water					
0426NB1	0426NB1-49	1574790.81	336273.95	1.9							
0426NB1	0426NB1-50	1574828.61	336275.42	60.0							
0426NB1	0426NB1-51	1574823.62	336276.97	7.8							
0426NB1	0426NB1-52	1574830.51	336279.68	32.9	O	Hot Rock	1	12"	1/2 lb	5/16/01	Removed
0426NB1	0426NB1-53	1574824.82	336280.63	16.8							
0426NB1	0426NB1-54	1574817.71	336284.77	2.6							
0426NB1	0426NB1-55	1574823.11	336285.14	4.7							
0426NB1	0426NB1-56	1574832.92	336284.26	2.9							
0426NB1	0426NB1-57	1574837.38	336285.61	6.4			0				
0426NB1	0426NB1-58	1574837.38	336291.77	11.4	O	Hot Rock	1	3"	1 lb	5/16/01	Moved
0426NB1	0426NB1-59	1574821.74	336300.30	3.0	O	Hot Rock	1	Surface	1 lb	5/16/01	Moved
0426NB1	0426NB1-60	1574826.48	336304.33	3.3	O	Hot Rock	1	Surface	3 lbs	5/16/01	Moved

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach (Continued)											
0426NB1	0426NB1-61	1574837.19	336306.52	1.9							
0426NB1	0426NB1-62	1574830.51	336311.20	3.8	O	Hot Rock	1	Surface	3 lbs	5/16/01	Moved
0426NB1	0426NB1-63	1574724.66	336203.63	4.7	O	Hot Rock	1	12"	5 lbs	5/16/01	Moved
0426NB1	0426NB1-64	1574709.71	336200.64	3.8	S	Long 1" pipe, approximately 10' long-Left in ground per safety request					
0426NB1	0426NB1-65	1574709.71	336200.64	3.8	S	Long 1" pipe, approximately 10' long-Left in ground per safety request					
0426NB3	0426NB3-1	1574569.96	336080.39	2.4	O	Hot Rock	3	6"	5 lbs		Removed
0426NB3	0426NB3-2	1574581.86	336098.38	34.0	O	Hot Rock	1	Surface	10 lbs		Removed
0426NB3	0426NB3-3	1574600.16	336125.83	3.9	O	Hot Rock	1	12"	5 lbs		Removed
0426NB4	0426NB4-1	1574522.93	335881.45	3.0							
0426NB4	0426NB4-2	1574517.58	335893.56	3.2	O	Hot Sand	1	0-12"			Moved
0426NB4	0426NB4-3	1574510.41	335886.66	2.0							
0426NB4	0426NB4-4	1574502.90	335904.84	2.8	O	Hot Sand	1	0-12"			Dug Hole
0426NB4	0426NB4-5	1574520.32	335906.21	10.3	O	Concrete Block - Too big to dig up	1	12"			Moved
0426NB4	0426NB4-6	1574515.88	335908.94	7.7	O	Hot Rock and Sand	2	0-12"	1/2 lb		Moved
0426NB4	0426NB4-7	1574524.75	335912.36	7.0	O	Hot Rock	1	Surface	2 lbs		Moved
0426NB4	0426NB4-8	1574562.93	335913.38	10.6	O	Hot Rock	1	Surface	1/2 lb		Moved
0426NB4	0426NB4-9	1574500.17	335916.12	3.2	O	Hot Sand	1	0-12"			Moved
0426NB4	0426NB4-10	1574557.13	335917.14	6.6	O	Hot Rock	1	Surface	1 lb		Moved
0426NB4	0426NB4-11	1574505.97	335920.22	3.3	O	Hot Sand	1	0-12"			Moved
0426NB4	0426NB4-12	1574566.78	335935.11	1.4							
0426NB4	0426NB4-13	1574519.01	335939.30	2.2							
0426NB4	0426NB4-14	1574575.23	335951.99	3.9	O	Hot Rock	1	Surface	1 lb		Moved
0426NB4	0426NB4-15	1574560.34	335961.77	4.1							
0426NB4	0426NB4-16	1574579.32	335962.24	3.3	O	Hot Rock	2	Surface	1 lb		Moved
0426NB4	0426NB4-17	1574524.69	335963.27	13.4	S	18" x 3" Rusted Pipe	1	0-16"	8 lbs		Removed
0426NB4	0426NB4-18	1574510.69	335964.29	21.2	S	3' x 1/4" Wire	1	Surface	1/2 lb		Removed
0426NB4	0426NB4-19	1574566.03	335971.21	1.4							
0426NB4	0426NB4-20	1574536.30	335975.57	4.7	O	Hot Rock and Sand	1	0-12"	1 lb		Removed
0426NB4	0426NB4-21	1574521.96	335994.71	336.2	O	Hot Sand	1	0-12"	NA		Removed
0426NB4	0426NB4-22	1574561.23	335998.12	3.0							
0426NB4	0426NB4-23	1574568.06	336002.91	4.6							
0426NB4	0426NB4-24	1574526.74	336006.67	891.3	O	Hot Sand	1	0-12"	NA		Moved

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach (Continued)											
0426NB4	0426NB4-25	1574561.49	336013.80	3.3	O	Hot Rock	6	0-18"	5 lbs		Removed
0426NB4	0426NB4-26	1574578.56	336024.73	1.8	O	Hot Rock	5	Surface	8 lbs		Removed
0426NB4	0426NB4-27	1574600.67	336032.71	3.0							
0426NB4	0426NB4-28	1574606.90	336037.03	5.2	O	Hot Rock	1	Surface	5 lbs		Removed
0426NB4	0426NB4-29	1574608.61	336048.65	1.9	O	Hot Rock	1	Surface	1 lb		Removed
0426NB4	0426NB4-30	1574616.81	336057.88	12.2	O	Hot Rock	1	Surface	5 lbs		Removed
0426NB4	0426NB4-31	1574593.25	336066.08	3.8	O	Hot Rock	2	Surface	4 lbs		Removed
0426NB4	0426NB4-32	1574564.56	336068.47	3.1	O	Hot Rock	1	Surface	4 lbs		Removed
0426NB4	0426NB4-33	1574588.47	336070.86	4.4	S	Scrap	1	Surface	10 lbs		Removed
0426NB4	0426NB4-34	1574573.44	336075.65	7.0	O	Hot Rock	1	Surface	2 lbs		Removed
0426NB4	0426NB4-35	1574581.29	336080.34	4.1							
0426NB4	0426NB4-36	1574574.26	336083.94	1.9							
0426NB4	0426NB4-37	1574612.71	336082.82	4.5	O	Rock	1	0-12"	2 lbs		Removed
0426NB4	0426NB4-38	1574626.17	336086.32	1.5							
0426NB4	0426NB4-39	1574604.61	336103.10	2.5							
0426NB4	0426NB4-40	1574587.72	336101.85	95.5	O	Hot Rock	1	Surface	1 lb		Removed
0426NB4	0426NB4-41	1574624.94	336105.95	6.3	O	Hot Rock	1	Surface	1 lb		Removed
0426NB4	0426NB4-42	1574596.94	336109.37	5.1	O	Hot Rock	1	12"	1 lb		Removed
0426NB4	0426NB4-43	1574600.01	336120.98	10.7	S	Metal Rod 3' Long	1	12"	2 lbs		Removed
0426NB4	0426NB4-44	1574605.48	336125.43	51.2	O	Hot Rock	2	24"	8 lbs		Removed
0426NB4	0426NB4-45	1574613.33	336129.53	9.1	F	Metal Frag and Hot Rock	2	Surface	2 lbs		Removed
0426NB4	0426NB4-46	1574593.87	336133.63	4.5	O	Rock	1	Surface	6 lbs		Removed
0426NB4	0426NB4-47	1574608.21	336138.75	77.2	O	Hot Rock	1	Surface	2 lbs		Removed
0426NB4	0426NB4-48	1574619.13	336154.13	11.6	S	Metal Rod 6' Long	1	18"	2 lbs		Removed
0426NB4	0426NB4-49	1574644.40	336170.87	7.8	S	Metal Square	1	Surface	6 oz		Removed
0426NB4	0426NB4-50	1574634.50	336170.87		O	Hot Rock	1	Surface	8 lbs		Removed
0426NB4	0426NB4-51	1574642.01	336175.66	7.5	O	Hot Rock	1	Surface	3 lbs		Removed
0426NB4	0426NB4-52	1574657.72	336178.39	3.3	O	Hot Rock	4	0-12"	10 lbs		Removed
0426NB4	0426NB4-53	1574659.09	336183.52	3.2	O	Hot Rock	4	0-12"	10 lbs		Removed
0426NB4	0426NB4-54	1574677.87	336196.16	53.4	O	Hot Rock	1	Surface	1 lb		Removed
0426NB4	0426NB4-55	1574614.08	336145.99	346.9	S	Pipe, Elbow Piping	1	12"	10 lbs		Removed
0426NB6	0426NB6-1	1574660.59	336104.22	9.3	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-2	1574658.85	336108.00	1.6	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-3	1574625.44	336109.45	4.2	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-4	1574662.62	336109.74	5.5	O	Hot Rock	1	Surface			Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
North Beach (Continued)											
0426NB6	0426NB6-5	1574629.19	336120.82	-0.8							
0426NB6	0426NB6-6	1574678.02	336126.60	-1.7	O	Hot Rock	1	12"			Removed
0426NB6	0426NB6-7	1574649.55	336135.61	-2.5	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-8	1574676.16	336136.52	-0.9							
0426NB6	0426NB6-9	1574682.67	336137.36	-2.3	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-10	1574658.27	336139.10	-1.8	O	Hot Rock	2	12"			Removed
0426NB6	0426NB6-11	1574668.90	336139.69	-0.8							
0426NB6	0426NB6-12	1574680.51	336139.95	-1.6							
0426NB6	0426NB6-13	1574671.63	336141.72	0.0							
0426NB6	0426NB6-14	1574721.27	336152.23	176.4							
0426NB6	0426NB6-15	1574667.85	336152.47	1.6							
0426NB6	0426NB6-16	1574669.01	336157.13	3.4	O	Hot Rock	1	Surface			Removed
0426NB6	0426NB6-17	1574687.90	336158.00	4.7	O	Hot Rock	1	12"	1 lb		Removed
0426NB6	0426NB6-18	1574671.05	336159.16	2.8		Hot Rock	1	Surface			Removed
0426NB6b	0426NB6b-1	1574626.55	336119.92	2.6	O	Hot Rock	1	Surface	3 lbs		Removed
0426NB6b	0426NB6b-2	1574616.98	336121.94	1.1	O	Hot Rock	2	Surface	10 lbs		Removed
0426NB6b	0426NB6b-3	1574613.96	336131.01	7.6	O	Hot Rock	1	Surface	50 lbs		Removed
0426NB6b	0426NB6b-4	1574637.37	336137.81	13.6	O	Hot Rock	2	Surface	15 lbs		Removed
0426NB6b	0426NB6b-5	1574637.12	336140.58	16.5	O	Hot Rock	1	Surface	15 lbs		Removed
0426NB6b	0426NB6b-6	1574618.99	336142.59	4.0	O	Hot Rock	1	Surface	5 lbs		Removed
0426NB6b	0426NB6b-7	1574635.61	336147.13	1.7	O	Hot Rock	2	Surface	10 lbs		Removed
0426NB6b	0426NB6b-8	1574628.81	336147.63	4.4	O	Hot Rock	2	Surface	10 lbs		Removed
0426NB6b	0426NB6b-9	1574662.79	336153.42	8.9	O	Hot Rock	2	0-12"	2 lbs		Removed
0426NB6b	0426NB6b-10	1574654.49	336153.68	1.3	O	Hot Rock	3	Surface	10 lbs		Removed
0426NB6b	0426NB6b-11	1574630.07	336153.93	2.7	O	Hot Rock	1	Surface	6 lbs		Removed
0426NB6b	0426NB6b-12	1574664.05	336158.97	3.7	O	Hot Rock	1	12"	2 lbs		Removed
0426NB6b	0426NB6b-13	1574676.15	336172.02	1.4							
0426NB6b	0426NB6b-14	1574670.35	336174.33	3.7	O	Hot Rock	3	12"	3 lbs		Removed
0426NB6b	0426NB6b-15	1574677.90	336178.11	2.2	O	Hot Rock	1	Surface	4 lbs		Removed
0426NB6b	0426NB6b-16	1574685.05	336179.44	1.4							
0426NB6b	0426NB6b-17	1574661.03	336179.37	11.3	O	Hot Rock	1	6"	20 lbs		Removed
0426NB6b	0426NB6b-18	1574667.32	336180.63	22.5	S	Metal Sign Post	1	12"	1 lb		Removed
0426NB6b	0426NB6b-19	1574673.11	336181.13	4.5	S	Rock / Metal - 3 oz metal	2	12"	10 lbs		Removed
0426NB6b	0426NB6b-20	1574666.82	336184.41	38.2	O	Hot Rock	1	12"	10 lbs		Removed
0426NB6b	0426NB6b-21	1574690.73	336185.67	3.4	O	Hot Rock	1	Surface	3 lbs		Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach											
0501CB1	0501CB1-1	1573614.12	334078.39								
0501CB1	0501CB1-2	1573804.17	334246.49	1.0							
0501CB1	0501CB1-3	1573655.66	334119.28								
0501CB1	0501CB1-4	1573670.23	334128.37	9.9							
0501CB1	0501CB1-5	1573669.90	334137.86	3.4							
0501CB1	0501CB1-6	1573682.33	334151.93	11.5							
0501CB1	0501CB1-7	1573690.84	334155.53	4.0							
0501CB1	0501CB1-8	1573815.97	334270.67	1.0							
0501CB1	0501CB1-9	1573738.58	334211.65	2.4							
0501CB1	0501CB1-10	1573764.42	334231.28	2.5							
0501CB1	0501CB1-11	1573831.00	334276.51	1.0							
0501CB1	0501CB1-12	1573808.80	334289.84	19.0							
0501CB1	0501CB1-13	1573824.17	334302.93	4.3							
0501CB1	0501CB1-14	1573830.38	334311.43	8.6							
0501CB1	0501CB1-15	1573838.89	334316.67	121.6							
0501CB1	0501CB1-16	1573835.29	334329.43	15.7							
0501CB1	0501CB1-17	1573844.78	334341.86								
0501CB1	0501CB1-18	1573855.57	334354.94	29.6							
0501CB1	0501CB1-19	1573870.94	334371.96	47.2							
0501CB1	0501CB1-20	1573884.21	334385.58	2.9							
0501CB1	0501CB1-21	1573891.08	334394.41	6.0							
0501CB1	0501CB1-22	1573899.58	334404.55	265.9							
0501CB1	0501CB1-23	1573916.59	334423.85	14.1							
0501CB1	0501CB1-24	1573922.15	334429.41	7.6							
0501CB1	0501CB1-25	1573869.17	334331.29	1.0							
0501CB1	0501CB1-26	1573950.47	334461.95	297.7							
0501CB1	0501CB1-27	1573972.37	334490.72	9.6							
0501CB2	0501CB2-1	1573889.65	334385.91	8.5	O	Hot Rock	1	Surface	25 lbs	5/17/01	Removed
0501CB2	0501CB2-2	1573902.48	334399.91	220.3							
0501CB2	0501CB2-3	1573929.97	334402.33	5.5	O	Hot Rock	1	Surface	15 lbs	5/17/01	Removed
0501CB2	0501CB2-4	1573931.45	334406.45	8.9	O	Hot Rock	1	Surface	30 lbs	5/17/01	Removed
0501CB2	0501CB2-5	1573938.52	334420.61	3.4							
0501CB2	0501CB2-6	1573913.84	334422.75	15.4							
0501CB2	0501CB2-7	1573918.94	334423.91	4.9							
0501CB2	0501CB2-8	1573920.09	334429.67	9.6							
0501CB2	0501CB2-9	1573944.25	334436.07	5.3							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach (Continued)											
0501CB2	0501CB2-10	1573962.69	334436.23	31.5							
0501CB2	0501CB2-11	1573934.74	334437.25	10.8	O	Hot Rock	2	0-12"	1 lb	5/17/01	Removed
0501CB2	0501CB2-12	1573958.41	334437.88	14.2							
0501CB2	0501CB2-13	1573931.12	334438.73	4.1							
0501CB2	0501CB2-14	1573955.12	334440.35	5.1	O	Hot Rock	2	0-12"	1 lb	5/17/01	Removed
0501CB2	0501CB2-15	1573941.62	334441.67	5.9	S	Metal Rod	1	18"	-	5/17/01	Left in place
0501CB2	0501CB2-16	1573961.70	334444.14	6.6	O	Hot Rock	3	0-12"	1 lb	5/17/01	Removed
0501CB2	0501CB2-17	1573936.06	334447.46	4.4							
0501CB2	0501CB2-18	1573963.14	334449.66	0.7							
0501CB2	0501CB2-19	1573945.08	334456.98	374.4							
0501CB2	0501CB2-20	1573982.27	334465.55	4.4	O	Hot Rock	2	Surface	1 lb	5/17/01	Removed
0501CB2	0501CB2-21	1573950.84	334465.55	16.4							
0501CB2	0501CB2-22	1573979.31	334467.85	3.6	O	Hot Rock	1	Surface	2 lbs	5/17/01	Removed
0501CB2	0501CB2-23	1573967.63	334468.84	4.3	O	Hot Rock	3	Surface	1 lb	5/17/01	Removed
0501CB2	0501CB2-24	1573983.43	334470.00	3.7	O	Hot Rock	1	Surface	1 lb	5/17/01	Removed
0501CB2	0501CB2-25	1573977.47	334474.42	3.0							
0501CB2	0501CB2-26	1573988.68	334485.91	0.7							
0501CB2	0501CB2-27	1573970.72	334486.60	6.4	O	Hot Rock - Too big to move	1	8"	unknown	5/17/01	Left in place
0501CB2	0501CB2-28	1573977.26	334493.53	0.8							
0501CB2	0501CB2-29	1573993.44	334495.00	3.2							
0501CB2	0501CB2-30	1573989.39	334496.94	0.7							
0501CB2	0501CB2-31	1574009.07	334498.46	3.0	O	Hot Rock - Too big to move	1	Surface	2 tons	5/17/01	Left in place
0501CB2	0501CB2-32	1574005.42	334499.65	0.8							
0501CB2	0501CB2-33	1573999.69	334500.93	3.4	O	Hot Rock	3	Surface	6 lbs	5/17/01	Removed
0501CB2	0501CB2-34	1574003.97	334508.35	77.9							
0501CB2	0501CB2-35	1573996.07	334511.47	74.6							
0501CB2	0501CB2-36	1573978.46	334512.99	0.7							
0501CB2	0501CB2-37	1574007.26	334513.12	52.4	O	Hot Rock	1	12"	4 lbs	5/17/01	Removed
0501CB2	0501CB2-38	1573999.69	334515.92	106.3							
0501CB2	0501CB2-39	1574011.84	334520.00	0.6							
0501CB2	0501CB2-40	1573998.37	334521.03	76.7							
0501CB3	0501CB3-1	1573996.55	334493.78	6.1							
0501CB3	0501CB3-2	1573998.17	334498.91	3.6	O	Hot Rock	2	0-12"	3 lbs		Removed
0501CB3	0501CB3-3	1574016.85	334499.59	2.2							
0501CB3	0501CB3-4	1574013.92	334509.95	20.9	S	Metal Rod 1/2" x 3'	1	12"	1 lb		Removed
0501CB3	0501CB3-5	1574002.90	334511.97	105.5							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach (Continued)											
0501CB3	0501CB3-6	1574007.62	334513.78	55.6							
0501CB3	0501CB3-7	1574029.90	334514.00	25.7	O	Hot Rock	1	2'	5 lbs		Removed
0501CB3	0501CB3-8	1574002.00	334516.93	40.8							
0501CB3	0501CB3-9	1573997.95	334527.74	2.4							
0501CB3	0501CB3-10	1574012.34	334530.78	1.4							
0501CB3	0501CB3-11	1574028.55	334531.34	3.6	O	Hot Rock	1	1'	10 lbs		Removed
0501CB3	0501CB3-12	1574028.10	334536.97	2.9	O	Hot Rock	1	2'	5 lbs		Removed
0501CB3	0501CB3-13	1574008.70	334542.08	1.3							
0501CB3	0501CB3-14	1574044.29	334545.05	2.6							
0501CB3	0501CB3-15	1574040.96	334548.77	1.5							
0501CB3	0501CB3-16	1574059.37	334551.13	3.0	O	Hot Rock	1	Surface	2 lbs		Removed
0501CB3	0501CB3-17	1574054.42	334558.56	12.5							
0501CB3	0501CB3-18	1574051.49	334559.47	7.5	O	Hot Rock	1	Surface	4 lbs		Removed
0501CB3	0501CB3-19	1574034.94	334558.90	1.8							
0501CB3	0501CB3-20	1574060.16	334562.16	5.7							
0501CB3	0501CB3-21	1574044.38	334561.96	2.2							
0501CB3	0501CB3-22	1574022.94	334562.42	2.2							
0501CB3	0501CB3-23	1574042.35	334567.36	4.6	S	Metal Grips	3	Surface	1 lb		Removed
0501CB3	0501CB3-24	1574032.72	334567.92								
0501CB3	0501CB3-25	1574028.09	334568.92	121.4							
0501CB3	0501CB3-26	1574037.40	334570.29	11.1							
0501CB3	0501CB3-27	1574067.47	334571.95	2.0							
0501CB3	0501CB3-28	1574072.64	334573.20	2.9							
0501CB3	0501CB3-29	1574036.64	334577.03	65.6							
0501CB3	0501CB3-30	1574061.39	334578.83	3.2	O	Hot Rock	1	2"	6 lbs		Removed
0501CB3	0501CB3-31	1574078.04	334580.63	6.3	O	Hot Rock	1	0-6"	0-10 lbs		Removed
0501CB3	0501CB3-32	1574083.60	334584.23	2.1							
0501CB3	0501CB3-33	1574043.62	334591.44	33.2							
0501CB3	0501CB3-34	1574046.77	334593.69	30.8							
0501CB4	0501CB4-1	1573731.62	334178.54	29.4	O	Hot Rock	2	0-6"	3 lbs	5/17/01	Removed
0501CB4	0501CB4-2	1573738.86	334179.23	98.7							
0501CB4	0501CB4-3	1573740.24	334183.54	96.8							
0501CB4	0501CB4-4	1573746.79	334187.16	16.5	O	Hot Rock	1	Surface	25 lbs	5/17/01	Removed
0501CB4	0501CB4-5	1573738.00	334191.82	6.3							
0501CB4	0501CB4-6	1573748.86	334193.03	4.9							
0501CB4	0501CB4-7	1573715.42	334193.91	6.5							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach (Continued)											
0501CB4	0501CB4-8	1573721.11	334195.29	4.6							
0501CB4	0501CB4-9	1573748.86	334195.96	8.4							
0501CB4	0501CB4-10	1573716.46	334198.92	3.8							
0501CB4	0501CB4-11	1573718.87	334204.01	2.5							
0501CB4	0501CB4-12	1573760.58	334204.93	3.7	O	Hot Rock	3	12-18"	10 lbs	5/17/01	Removed
0501CB4	0501CB4-13	1573761.96	334206.49	5.1							
0501CB4	0501CB4-14	1573768.64	334207.65	2.2							
0501CB4	0501CB4-15	1573721.97	334209.96	4.4							
0501CB4	0501CB4-16	1573759.55	334214.08	5.2	O	Hot Rock	1	1-4"	30 lbs	5/17/01	Removed
0501CB4	0501CB4-17	1573738.86	334216.49	53.4							
0501CB4	0501CB4-18	1573763.51	334216.66	5.7							
0501CB4	0501CB4-19	1573732.66	334221.84	4.5							
0501CB4	0501CB4-20	1573771.59	334222.86	11.2	O	Hot Rock	1	Surface	15-20 lbs	5/17/01	Removed
0501CB4	0501CB4-21	1573764.01	334232.52	5.7							
0501CB4	0501CB4-22	1573779.70	334233.21	5.0							
0501CB4	0501CB4-23	1573747.98	334234.25	7.0							
0501CB4	0501CB4-24	1573765.73	334243.91	5.0							
0501CB4	0501CB4-25	1573765.05	334251.45	1.9							
0501CB4	0501CB4-26	1573785.30	334252.44	1.9							
0501CB4	0501CB4-27	1573788.31	334264.95	51.5							
0501CB4	0501CB4-28	1573779.60	334265.60	16.7							
0501CB4	0501CB4-29	1573779.35	334270.13	33.9							
0501CB5	0501CB5-1	1573661.42	334138.83	183.1							
0501CB5	0501CB5-2	1573668.50	334140.86								
0501CB5	0501CB5-3	1573667.27	334148.54	4.8							
0501CB5	0501CB5-4	1573678.59	334148.74	16.9							
0501CB5	0501CB5-5	1573678.19	334150.97	10.8	S	Metal 10" x 1" x 1/8"	1	8"	1/2 lbs	5/17/01	Removed
0501CB5	0501CB5-6	1573680.82	334165.33	15.1							
0501CB5	0501CB5-7	1573693.13	334166.83	2.7							
0501CB5	0501CB5-8	1573683.65	334168.77	15.6							
0501CB5	0501CB5-9	1573720.86	334202.56	2.6							
0501CB5	0501CB5-10	1573687.49	334171.40	10.4	O	Hot Rock	1	Surface	50 lbs	5/17/01	Removed
0501CB5	0501CB5-11	1573695.98	334178.48	211.4							
0501CB5	0501CB5-12	1573701.44	334186.57	7.9							
0501CB5	0501CB5-13	1573719.22	334196.68	4.2	O	Hot Rock	1	Surface	10 lbs	5/17/01	Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach (Continued)											
0501CB6	0501CB6-1	1573801.39	334243.77	4.9							
0501CB6	0501CB6-2	1573804.22	334246.44	5.5							
0501CB6	0501CB6-3	1573811.38	334254.10	8.1							
0501CB6	0501CB6-4	1573807.55	334257.44	4.2							
0501CB6	0501CB6-5	1573811.88	334258.44	5.5	O	Hot Rock	1	Surface	25 lbs	5/17/01	Removed
0501CB6	0501CB6-6	1573817.88	334261.44	6.8							
0501CB6	0501CB6-7	1573822.02	334266.44	16.2							
0501CB6	0501CB6-8	1573816.05	334270.61	4.4	O	Hot Rock	1	Surface	4 lbs	5/17/01	Removed
0501CB6	0501CB6-9	1573822.86	334271.10	29.1							
0501CB6	0501CB6-10	1573825.19	334273.60	24.7							
0501CB6	0501CB6-11	1573831.02	334276.44	6.8							
0501CB6	0501CB6-12	1573833.73	334282.41	4.6							
0501CB6	0501CB6-13	1573839.51	334286.44	16.7	O	Hot Rock	1	4-6"	10 lbs	5/17/01	Removed
0501CB6	0501CB6-14	1573839.85	334289.94	18.2							
0501CB6	0501CB6-15	1573843.67	334290.78	19.2							
0501CB6	0501CB6-16	1573838.68	334293.27	8.3							
0501CB6	0501CB6-17	1573847.01	334294.61	18.8	O	Hot Rock	1	2"	6 lbs	5/17/01	Removed
0501CB6	0501CB6-18	1573848.84	334300.27	94.7							
0501CB6	0501CB6-19	1573845.68	334302.94	24.2							
0501CB6	0501CB6-20	1573858.66	334310.40	5.3							
0501CB6	0501CB6-21	1573862.16	334313.90	4.6							
0501CB6	0501CB6-22	1573868.66	334318.06	7.8							
0501CB6	0501CB6-23	1573875.45	334323.26	2.5							
0501CB6	0501CB6-24	1573871.16	334324.73	5.6	O	Hot Rock	1	Surface	10 lbs	5/17/01	Removed
0501CB6	0501CB6-25	1573868.66	334330.90	8.9							
0501CB6	0501CB6-26	1573876.37	334331.28	3.7							
0501CB6	0501CB6-27	1573879.65	334333.40	3.4							
0501CB6	0501CB6-28	1573885.64	334338.86	3.9							
0501CB6	0501CB6-29	1573887.70	334341.78	3.5							
0501CB6	0501CB6-30	1573889.69	334345.26	3.8							
0501CB6	0501CB6-31	1573896.36	334346.53	5.5							
0501CB6	0501CB6-32	1573893.97	334347.86	5.9	O	Hot Rock	2	10"	8 lbs	5/17/01	Removed
0501CB6	0501CB6-33	1573893.38	334358.39	6.4							
0501CB6	0501CB6-34	1573897.80	334351.69	7.4							
0501CB6	0501CB6-35	1573900.80	334353.53	4.7							
0501CB6	0501CB6-36	1573893.63	334354.03	12.3	O	Hot Rock	1	Surface	2 lbs	5/17/01	Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Central Beach (Continued)											
0501CB6	0501CB6-37	1573898.46	334360.19	59.3							
0501CB6	0501CB6-38	1573898.20	334363.92	45.9							
0501CB6	0501CB6-39	1573903.29	334365.53	11.0							
0501CB6	0501CB6-40	1573908.29	334367.36	12.4	IA	Under Water					
0501CB6	0501CB6-41	1573912.79	334369.36	7.5	IA	Under Water					
0501CB6	0501CB6-42	1573905.13	334371.69	36.3							
0501CB6	0501CB6-43	1573910.79	334374.20	7.0	O	Hot Rock	1	Surface	2 lbs	5/17/01	Removed
0501CB6	0501CB6-44	1573921.45	334375.20	5.6							
0501CB6	0501CB6-45	1573915.79	334375.70	15.6							
0501CB6	0501CB6-46	1573909.12	334376.20	7.1	O	Hot Rock	1	18"	2 lbs	5/17/01	Removed
0501CB6	0501CB6-47	1573918.59	334378.59	7.4							
0501CB6	0501CB6-48	1573922.12	334379.36	5.1							
0501CB6	0501CB6-49	1573923.62	334385.20	3.9							
0501CB6	0501CB6-50	1573917.45	334386.20	4.6	O	Hot Rock	1	6"	1 oz	5/17/01	Removed
0501CB6	0501CB6-51	1573927.28	334392.86	7.5							
South Beach											
0503SB2	0503SB2-1	1572766.37	333432.53	5.4							
0503SB2	0503SB2-2	1572755.17	333443.49	19.9							
0503SB2	0503SB2-3	1572788.03	333447.97	5.9							
0503SB2	0503SB2-4	1572761.39	333449.72	24.1	S	Metal Rod 4+5+8 - 6' x1/4		12"	1 lb	5/17/01	Removed
0503SB2	0503SB2-5	1572763.13	333458.68	54.3	S	Metal Rod 4+5+8					
0503SB2	0503SB2-6	1572772.84	333461.92	8.7	O	Hot Rock	1	Surface	150 lbs	5/17/01	Left in place
0503SB2	0503SB2-7	1572804.95	333467.40	17.6	S	Urbanized Concrete, Rock	2	6-10"	10 lbs	5/17/01	Removed
0503SB2	0503SB2-8	1572810.68	333467.90	16.8	S	Metal Rod 4+5+8	1	Surface	4 lbs	5/17/01	Removed
0503SB2	0503SB2-9	1572788.52	333469.89	13.0	O	Hot Rock - Too big to move	1	Surface	1 Ton	5/17/01	Left in place
0503SB2	0503SB2-10	1572813.17	333470.89	9.8	O	Hot Rock	1	4-6"	2 lbs	5/17/01	Removed
0503SB2	0503SB2-11	1572781.30	333472.38	19.0	O	Hot Rock	1	Surface	2 lbs	5/17/01	Removed
0503SB2	0503SB2-12	1572778.32	333472.63	9.6	O	Hot Rock	2	Surface	1 lb	5/17/01	Removed
0503SB2	0503SB2-13	1572811.17	333477.12	16.4	O	Hot Rock	1	18"	15 lbs	5/17/01	Removed
0503SB2	0503SB2-14	1572795.49	333479.61	5.5	O	Hot Rock	1	4"	2 lbs	5/17/01	Removed
0503SB2	0503SB2-15	1572804.45	333480.11	18.6	O	Hot Rock	1	Surface	4 lbs	5/17/01	Removed
0503SB2	0503SB2-16	1572811.42	333482.60	37.0	S	Metal Scrap	1	18"	2 lbs	5/17/01	Removed
0503SB2	0503SB2-17	1572814.91	333492.31	29.9	O	Hot Rock	1	Surface	5 lbs	5/17/01	Removed
0503SB2	0503SB2-18	1572810.18	333493.56	18.1	O	Hot Rock	1	Surface	1 lb	5/17/01	Removed

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0503SB3	0503SB3-1	1572682.26	333349.02	10.1	O	Hot Rock	2	Surface	0-2 lbs	5/17/01	Removed
0503SB3	0503SB3-2	1572682.87	333358.35	11.9	O	Hot Rock	3	0-18"	0-5 lbs	5/17/01	Removed
0503SB3	0503SB3-3	1572689.56	333365.25	70.1	O	Hot Rock	1	0-12"	0-4 lbs	5/17/01	Removed
0503SB3	0503SB3-4	1572703.36	333372.15	4.4							
0503SB3	0503SB3-5	1572701.53	333375.60	8.3							
0503SB3	0503SB3-6	1572707.62	333379.05	16.4	S	Metal Rod 3' x 1/2"	1	18"	1/2 lb	5/17/01	Removed
0503SB3	0503SB3-7	1572711.68	333379.25	15.0	O	Hot Rock	1	12"	1 lb	5/17/01	Removed
0503SB3	0503SB3-8	1572699.50	333379.45	8.3							
0503SB3	0503SB3-9	1572705.39	333383.31	7.0	O	Hot Rock	1	Surface	1 lb	5/17/01	Removed
0503SB3	0503SB3-10	1572715.33	333389.19	5.4	O	Hot Rock	1	2"	1 lb	5/17/01	Removed
0503SB3	0503SB3-11	1572713.50	333392.03	11.7	S	Metal Pipe 5" x 3" x 1/2"	1	11"	1 lb	5/17/01	Removed
0503SB3	0503SB3-12	1572735.41	333408.67	3.5	O	Hot Rock	1	Surface	1 lb	5/17/01	Removed
0503SB3	0503SB3-13	1572727.90	333408.87	22.2	S	Metal 14" x 1/2" x 1/8"	1	Surface	1/2 lb	5/17/01	Removed
0503SB3	0503SB3-14	1572726.69	333411.51	12.1	S	Metal 14" x 1/2" x 1/8"	1	Surface			
0503SB3	0503SB3-15	1572744.54	333423.28	3.6	O	Hot Rock	1	Surface	2 lbs	5/17/01	Removed
0503SB5	0503SB5-1	1572617.79	332992.96	140.4							
0503SB5	0503SB5-2	1572612.15	332994.80	35.6							
0503SB5	0503SB5-3	1572601.90	332997.16	16.9							
0503SB5	0503SB5-4	1572597.60	333000.95	7.6							
0503SB5	0503SB5-5	1572603.13	333002.49	11.4							
0503SB5	0503SB5-6	1572608.46	333005.36	5.9							
0503SB5	0503SB5-7	1572592.78	333010.49	34.3							
0503SB5	0503SB5-8	1572613.79	333010.69	32.7							
0503SB5	0503SB5-9	1572606.41	333013.77	2.1							
0503SB5	0503SB5-10	1572607.03	333024.53	7.9							
0503SB5	0503SB5-11	1572608.36	333031.30	7.7							
0503SB5	0503SB5-12	1572613.96	333039.22	7.9							
0503SB5	0503SB5-13	1572618.57	333043.53	4.2							
0503SB5	0503SB5-14	1572622.05	333051.93	1.7							
0503SB5	0503SB5-15	1572613.75	333052.96	2.4							
0503SB5	0503SB5-16	1572614.16	333060.14	2.0							
0503SB5	0503SB5-17	1572597.87	333063.31	2.7							
0503SB5	0503SB5-18	1572613.55	333069.36	2.5							
0503SB5	0503SB5-19	1572625.12	333076.20	3.3							
0503SB5	0503SB5-20	1572602.28	333078.28	45.2							
0503SB5	0503SB5-21	1572625.94	333081.23	2.5							

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0503SB5	0503SB5-22	1572599.20	333082.18	16.4							
0503SB5	0503SB5-23	1572618.25	333084.41	16.0							
0503SB5	0503SB5-24	1572605.86	333085.36	29.3							
0503SB5	0503SB5-25	1572625.53	333085.94	3.5							
0503SB5	0503SB5-26	1572606.26	333093.22	26.9							
0503SB5	0503SB5-27	1572618.05	333095.99	9.9							
0503SB5	0503SB5-28	1572609.44	333098.66	26.7							
0503SB5	0503SB5-29	1572621.74	333100.19	7.2							
0503SB5	0503SB5-30	1572606.57	333102.65	50.7							
0503SB5	0503SB5-31	1572627.48	333105.63	2.1							
0503SB5	0503SB5-32	1572617.23	333107.99	23.6							
0503SB5	0503SB5-33	1572602.06	333110.45	17.6							
0503SB5	0503SB5-34	1572608.42	333110.75	23.1							
0503SB5	0503SB5-35	1572617.95	333117.93	47.1							
0503SB5	0503SB5-36	1572627.80	333123.34	23.1							
0503SB5	0503SB5-37	1572619.09	333127.03	80.4							
0503SB5	0503SB5-38	1572608.84	333127.85	75.8							
0503SB5	0503SB5-39	1572619.60	333134.93	61.7							
0503SB5	0503SB5-40	1572617.34	333140.87	30.5							
0503SB5	0503SB5-41	1572606.99	333143.74	2.5							
0503SB5	0503SB5-42	1572630.77	333145.18	24.0							
0503SB5	0503SB5-43	1572615.30	333147.54	17.0							
0503SB5	0503SB5-44	1572617.55	333153.28	49.1							
0503SB5	0503SB5-45	1572611.20	333154.51	13.1							
0503SB5	0503SB5-46	1572617.75	333158.61	19.4							
0503SB5	0503SB5-47	1572632.61	333165.58	171.4							
0503SB5	0503SB5-48	1572612.82	333165.91	10.9							
0503SB5	0503SB5-49	1572615.60	333169.68	14.3							
0503SB5	0503SB5-50	1572627.58	333172.88	76.8							
0503SB5	0503SB5-51	1572610.77	333174.21	9.1							
0503SB5	0503SB5-52	1572629.42	333178.11	69.3							
0503SB5	0503SB5-53	1572613.44	333178.62	13.1							
0503SB5	0503SB5-54	1572628.20	333183.74	16.7							
0503SB5	0503SB5-55	1572608.42	333187.85	8.1							
0503SB5	0503SB5-56	1572627.07	333188.67	11.1							
0504SB6	0504SB6-1	1572543.42	332737.41	31.4	O	Hot Rock	3	Surface	25 lbs	5/18/01	Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0504SB6	0504SB6-2	1572539.26	332744.34	37.1	O	Hot Rock - 1.5' from flag	2	0-16"	20 lbs	5/18/01	Removed
0504SB6	0504SB6-3	1572561.42	332748.50	63.0	O	Hot Rock - 1' from flag	2	0-4"	30 lbs	5/18/01	Removed
0504SB6	0504SB6-4	1572564.19	332758.66	106.9	O	Hot Rock - 1' from flag	2	Surface	50 lbs	5/18/01	Removed
0504SB6	0504SB6-5	1572552.19	332762.35	50.9	S	Metal , Hot Rock	1	6"	5 lbs	5/18/01	Left in place
0504SB6	0504SB6-6	1572567.42	332790.52	13.7	O	Hot Rock	1	6"	10 lbs	5/18/01	Removed
0504SB6	0504SB6-7	1572578.03	332791.44	21.7	O	Hot Rock	2	Surface	35 lbs	5/18/01	Removed
0504SB6	0504SB6-8	1572573.88	332805.30	8.5	O	Hot Rock	1	Surface	5 lbs	5/18/01	Removed
0504SB6	0504SB6-9	1572558.65	332807.61	16.5	O	Hot Rock	1	Surface	2 lbs	5/18/01	Removed
0504SB6	0504SB6-10	1572567.88	332814.53	34.6	O	Hot Rock - 3' from flag	1	Surface	15 lbs	5/18/01	Removed
0504SB6	0504SB6-11	1572558.19	332816.38	76.7	S	Lobster Trap - 2.5' from flag	1	Surface	Unknown	5/18/01	Left in place
0504SB6	0504SB6-12	1572577.57	332832.08	7.0	O	Hot Rock - 1' from flag	1	Surface	4 lbs	5/18/01	Removed
0504SB6	0504SB6-13	1572567.42	332841.78	15.9	O	Hot Rock	1	Surface	60 lbs	5/18/01	Left in place
0504SB6	0504SB6-14	1572573.42	332848.71	43.5	O	Hot Rock - 2' from flag	1	Surface	25 lbs	5/18/01	Left in place
0504SB6	0504SB6-15	1572592.80	332853.33	9.1	O	Hot Rock - 1' from flag	1	Surface	150 lbs	5/18/01	Left in place
0504SB6	0504SB6-16	1572576.19	332866.26	11.6	O	Hot Rock - 1' from flag	1	Surface	20 lbs	5/18/01	Left in place
0504SB6	0504SB6-17	1572598.80	332875.96	25.1	O	Hot Rock - 1.5' from flag	1	Surface	15 lbs	5/18/01	Left in place
0504SB6	0504SB6-18	1572575.26	332880.11	9.7	O	Hot Rock - 1' from flag	1	Surface	500 lbs	5/18/01	Left in place
0504SB6	0504SB6-19	1572594.19	332891.19	56.3	O	Hot Rock - 1' from flag	1	Surface	200 lbs	5/18/01	Left in place
0504SB6	0504SB6-20	1572598.80	332906.43	39.4	O	Hot Rock - 2' from flag	1	Surface	50 lbs	5/18/01	Left in place
0504SB6	0504SB6-21	1572589.57	332917.98	47.7	O	Hot Rock - 1.5' from flag	2	0-6"	10 -15 lbs	5/18/01	Removed
0505SB2	0505SB2-1	1572527.52	332723.25	14.0	S	Wire Mesh 3" X 8"	1	Surface	4 oz	5/18/01	Removed
0505SB2	0505SB2-2	1572536.83	332711.36	6.0	O	Hot Rock - 6" from flag	1	6"	1 lb	5/18/01	Removed
0505SB2	0505SB2-3	1572552.85	332704.12	67.0	O	Hot Rock	1	Surface	5 lbs	5/18/01	Removed
0505SB2	0505SB2-4	1572545.61	332691.70		O	Hot Rock - 4" from flag	1	Surface	10 lbs	5/18/01	Removed
0505SB2	0505SB2-5	1572535.79	332675.67	63.0	O	Hot Rock - 6" from flag	1	Surface	10 lbs	5/18/01	Removed
0505SB2	0505SB2-6	1572520.28	332662.74	61.0	O	Hot Rock - 14" from flag	1	6"	2 lbs	5/18/01	Removed
0505SB2	0505SB2-7	1572512.53	332659.12		O	Hot Rock	1	4"	1 lb	5/18/01	Removed
0505SB2	0505SB2-8	1572490.82	332629.63	7.0	O	Hot Rock - 6" from flag	2	4-8"	3 lbs	5/18/01	Removed
0505SB2	0505SB2-9	1572500.12	332620.32	14.0	O	Hot Rock - 3" from flag	1	18"	1 lb	5/18/01	Removed
0505SB2	0505SB2-10	1572477.38	332609.46	4.0	F	Frag 1" x 3" - 8" from flag	1	6"	1 lb	5/18/01	Removed
0505SB2	0505SB2-11	1572500.12	332599.63	34.0	O	Hot Rock - 4-6" from flag	2	Surface	10 lbs	5/18/01	Removed
0505SB2	0505SB2-12	1572493.92	332586.70	41.0	F	Frag 3" x 4" , Hot Rock - 2' from flag	3	0-10"	1 lb	5/18/01	Removed
0505SB2	0505SB2-13	1572486.68	332574.29	20.0	O	Hot Rock - 2" from flag	1	Surface	4 oz	5/18/01	Removed
0505SB2	0505SB2-14	1572470.66	332571.18	17.0	O	Hot Rock - 4" from flag	2	4-6"	2 lbs	5/18/01	Removed
0505SB2	0505SB2-15	1572461.87	332566.53	31.0	O	Hot Rock - Too big to move	1	Surface	Unknown	5/18/01	Left in place
0505SB2	0505SB2-16	1572475.31	332551.53	81.0	F	Frag - 6 pcs - 12" from flag	6	12"	3 lbs	5/18/01	Removed
0505SB2	0505SB2-17	1572485.13	332563.42	87.0	O	Hot Rock (numerous) - 3" from flag		12"	30 lbs	5/18/01	Removed
0505SB2	0505SB2-18	1572523.20	332664.80	18.8							

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Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0505SB2	0505SB2-19	1572533.60	332672.80	72.3							
0505SB2	0505SB2-20	1572485.25	332606.87	3.8							
0505SB2	0505SB2-21	1572518.00	332664.40	80.7							
0505SB2	0505SB2-22	1572504.40	332662.40	6.5							
0505SB2	0505SB2-23	1572522.80	332684.80	11.6							
0505SB2	0505SB2-24	1572518.00	332644.40	6.7							
0505SB2	0505SB2-25	1572495.60	332629.95	4.9							
0505SB2	0505SB2-26	1572488.40	332637.20	8.0							
0505SB2	0505SB2-27	1572517.60	332638.80	5.1							
0505SB2	0505SB2-28	1572518.43	332630.28	4.3							
0505SB2	0505SB2-29	1572528.00	332647.60	8.3							
0505SB2	0505SB2-30	1572507.28	332656.09	8.5							
0505SB2	0505SB2-31	1572509.61	332641.59	2.6							
0505SB2	0505SB2-32	1572530.35	332653.41	4.8							
0505SB2	0505SB2-33	1572554.80	332718.00	8.9							
0505SB2	0505SB2-34	1572540.40	332708.40	5.6							
0505SB2	0505SB2-35	1572525.60	332709.20	36.9							
0505SB2	0505SB2-36	1572553.20	332705.20	57.6							
0505SB2	0505SB2-37	1572529.20	332730.00	36.7							
0505SB2	0505SB2-38	1572550.80	332697.20	23.2							
0505SB2	0505SB2-39	1572535.20	332711.60	27.3							
0505SB2	0505SB2-40	1572540.00	332714.40	6.6							
0505SB2	0505SB2-41	1572532.40	332704.40	7.7							
0505SB2	0505SB2-42	1572510.92	332615.05	4.8							
0505SB2	0505SB2-43	1572522.80	332689.60	5.8							
0505SB2	0505SB2-44	1572514.00	332691.20	9.1							
0505SB2	0505SB2-45	1572491.26	332593.62	4.3							
0505SB2	0505SB2-46	1572543.20	332698.00	18.3							
0505SB2	0505SB2-47	1572468.34	332580.29	4.1							
0505SB2	0505SB2-48	1572536.00	332692.80	8.3							
0505SB2	0505SB2-49	1572544.00	332694.80	29.3							
0505SB2	0505SB2-50	1572456.40	332570.80	9.5							
0505SB2	0505SB2-51	1572474.80	332547.60	92.0							
0505SB2	0505SB2-52	1572490.00	332632.40	59.6							
0505SB2	0505SB2-53	1572468.00	332568.00	13.8							
0505SB2	0505SB2-54	1572454.80	332561.20	14.3							
0505SB2	0505SB2-55	1572487.20	332566.00	41.0							
0505SB2	0505SB2-56	1572476.00	332566.40	31.8							
0505SB2	0505SB2-57	1572460.80	332564.00	35.3							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0505SB2	0505SB2-58	1572457.20	332550.40	37.6							
0505SB2	0505SB2-59	1572486.40	332571.60	6.4							
0505SB2	0505SB2-60	1572490.00	332572.40	17.1							
0505SB2	0505SB2-61	1572473.60	332572.80	22.0							
0505SB2	0505SB2-62	1572483.60	332565.60	39.6							
0505SB2	0505SB2-63	1572483.60	332577.60	7.4							
0505SB2	0505SB2-64	1572500.80	332622.80	5.6							
0505SB2	0505SB2-65	1572472.40	332553.60	81.6							
0505SB2	0505SB2-66	1572452.00	332554.00	33.7							
0505SB2	0505SB2-67	1572463.20	332552.00	5.5							
0505SB2	0505SB2-68	1572476.80	332552.80	17.3							
0505SB2	0505SB2-69	1572476.00	332561.60	62.8							
0505SB2	0505SB2-70	1572483.60	332559.20	36.2							
0505SB2	0505SB2-71	1572468.00	332555.20	10.2							
0505SB2	0505SB2-72	1572480.80	332555.20	33.4							
0505SB2	0505SB2-73	1572472.40	332558.80	70.8							
0505SB2	0505SB2-74	1572489.20	332576.40	17.6							
0505SB2	0505SB2-75	1572505.20	332624.80	21.1							
0505SB2	0505SB2-76	1572496.80	332614.80	13.0							
0505SB2	0505SB2-77	1572476.40	332610.00	30.7							
0505SB2	0505SB2-78	1572508.00	332607.20	5.0							
0505SB2	0505SB2-79	1572488.40	332596.40	12.8							
0505SB2	0505SB2-80	1572504.40	332600.80	8.8							
0505SB2	0505SB2-81	1572481.60	332615.20	14.4							
0505SB2	0505SB2-82	1572502.00	332619.20	14.5							
0505SB2	0505SB2-83	1572496.80	332620.40	16.3							
0505SB2	0505SB2-84	1572504.80	332621.60	12.7							
0505SB2	0505SB2-85	1572498.40	332603.20	13.2							
0505SB2	0505SB2-86	1572476.00	332578.80	17.3							
0505SB2	0505SB2-87	1572498.40	332596.80	42.9							
0505SB2	0505SB2-88	1572492.40	332583.60	22.8							
0505SB2	0505SB2-89	1572469.20	332594.80	13.3							
0505SB2	0505SB2-90	1572487.60	332580.40	19.5							
0505SB2	0505SB2-91	1572464.40	332583.60	15.2							
0505SB2	0505SB2-92	1572493.60	332579.60	47.4							
0505SB2	0505SB2-93	1572486.80	332584.40	36.7							
0505SB2	0505SB2-94	1572480.40	332588.00	8.8							
0505SB2	0505SB2-95	1572486.80	332589.20	53.5							
0505SB2	0505SB2-96	1572476.80	332592.00	5.3							
0505SB2	0505SB2-97	1572539.30	332724.83	3.1							

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0505SB2	0505SB2-16	1572475.31	332551.53	81.4							
0505SB2	0505SB2-17	1572485.13	332563.42	87.0							
0506SB2	0506SB2-1	1572281.29	332248.54	30.1							
0506SB2	0506SB2-2	1572299.00	332257.39	125.2							
0506SB2	0506SB2-3	1572268.35	332258.76	104.3	S	Metal Rod 2' x 1"	1	8"	2 lbs	5/17/01	Removed
0506SB2	0506SB2-4	1572303.77	332263.52	33.9							
0506SB2	0506SB2-5	1572297.64	332264.55	61.5							
0506SB2	0506SB2-6	1572281.97	332265.91	27.5	O	Hot Rock	1	7"	1 lb	5/17/01	Removed
0506SB2	0506SB2-7	1572278.23	332267.61	77.4	F	Frag	1	7"	1 lb	5/17/01	Removed
0506SB2	0506SB2-8	1572308.88	332271.70	45.0							
0506SB2	0506SB2-9	1572288.10	332279.53	13.4	O	Hot Rock	2	5"	1 lb	5/17/01	Removed
0506SB2	0506SB2-10	1572297.98	332280.55	13.8	F	Frag	1	8"	1/2 lb	5/17/01	Removed
0506SB2	0506SB2-11	1572307.51	332297.58	73.5	F	Frag	1	10"	2 lbs	5/17/01	Removed
0506SB2	0506SB2-12	1572297.30	332304.39	63.8	F	Frag	1	5"	1-1/2 lbs	5/17/01	Removed
0506SB2	0506SB2-13	1572330.67	332304.73	34.2							
0506SB2	0506SB2-14	1572307.51	332314.27	72.7	F	Frag	1	Surface	1/2 lb	5/17/01	Removed
0506SB2	0506SB2-15	1572323.86	332319.38	38.0	O	Hot Rock	1	Surface	6 lbs	5/17/01	Removed
0506SB2	0506SB2-16	1572323.18	332332.32	46.7	O	Hot Rock	1	6-8"	15 lbs	5/17/01	Removed
0506SB2	0506SB2-17	1572343.95	332332.32	25.6							
0506SB2	0506SB2-18	1572328.63	332335.72	31.3	O	Hot Rock	1	Surface	10 lbs	5/17/01	Removed
0506SB2	0506SB2-19	1572349.74	332338.45	12.0							
0506SB2	0506SB2-20	1572318.41	332339.47	30.9	O	Hot Rock	1	Surface	15 lbs	5/17/01	Removed
0506SB2	0506SB2-21	1572356.21	332341.51	16.2							
0506SB2	0506SB2-22	1572327.60	332346.28	12.6	O	Hot Rock	2	6-10"	20 lbs	5/17/01	Removed
0506SB2	0506SB2-23	1572361.31	332347.98	22.2							
0506SB2	0506SB2-24	1572344.29	332351.05	18.8	O	Hot Rock	1	12"	8 lbs	5/17/01	Removed
0506SB2	0506SB2-25	1572356.21	332353.09	14.2							
0506SB2	0506SB2-26	1572366.08	332354.80	23.0							
0506SB2	0506SB2-27	1572340.54	332363.31	14.6	O	Hot Rock	1	15-18"	14-18 lbs	5/17/01	Removed
0506SB2	0506SB2-28	1572347.01	332375.57	10.8	O	Hot Rock	1	Surface	50 lbs	5/17/01	Removed
0507SB1	0507SB1-1	1571125.17	331293.55	42.0	O	Hot Rock - 3' from flag	1	24"	2-3 lbs	5/19/01	Removed
0507SB1	0507SB1-2	1571126.17	331308.44	6.0	S	Wire - 2.4' from flag	2	Surface	1 lb	5/19/01	Removed
0507SB1	0507SB1-3	1571139.57	331318.86	17.0	O	Hot Rock - 1' from flag	1	Surface	1/2 - 1 lb	5/19/01	Removed
0507SB1	0507SB1-4	1571176.79	331349.63	3.0	O	Hot Rock - 2-3' from flag	1	36"	2-5 lbs	5/19/01	Removed
0507SB1	0507SB1-5	1571165.84	331359.01	56.0	O	Hot Rock - 3' from flag	1	2'	5 lbs	5/19/01	Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
South Beach (Continued)											
0507SB1	0507SB1-6	1571165.78	331359.01	53.0							
0507SB1	0507SB1-7	1571177.25	331373.40	80.0	O	Hot Rock - 3.5' from flag	1	18"	2-4 lbs	5/19/01	Removed
0507SB1	0507SB1-8	1571199.02	331408.61	10.0	O	Hot Rock - 1' from flag	1	Surface	18 lbs	5/19/01	Removed
0507SB1	0507SB1-9	1571212.91	331424.49	5.0	O	Hot Rock - 2' from flag	2	12"	3 lbs	5/19/01	Removed
0507SB1	0507SB1-10	1571231.20	331440.30	17.0	O	Hot Rock - 18" from flag	1	4"	1 lb	5/19/01	Removed
0507SB1	0507SB1-11	1571270.41	331511.28	8.0	O	Hot Rock - 12" from flag	1	Surface	1 lb	5/19/01	Removed
0507SB1	0507SB1-12	1571313.09	331542.05	6.0	S	Border Nails, Hot Rock - 12" from flag	3	Surface	3 lbs	5/19/01	Removed
0507SB1	0507SB1-13	1571295.72	331550.49	44.0	O	Hot Rock - 8" from flag	1	0-1"	1 lb	5/19/01	Removed
0507SB1	0507SB1-14	1571303.66	331559.43	33.0	O	Hot Rock (numerous)		Surface		5/19/01	Removed
0507SB1	0507SB1-15	1571331.45	331575.81	7.0	O	Hot Rock - 12" from flag	1	Surface	4 lbs	5/19/01	Removed
0507SB2a	0507SB2a-1	1571412.68	331612.69	8.6							
0507SB2a	0507SB2a-2	1571422.80	331625.62	2.9							
0507SB2a	0507SB2a-3	1571421.93	331640.27	7.1							
0507SB2a	0507SB2a-4	1571442.39	331652.13								
0507SB2a	0507SB2a-5	1571452.29	331673.46	5.1							
0507SB2a	0507SB2a-6	1571444.54	331675.18	9.3							
0507SB2a	0507SB2a-7	1571461.12	331681.43	11.1							
0507SB2a	0507SB2a-8	1571469.23	331692.11	22.5							
0507SB2a	0507SB2a-9	1571486.24	331704.18	4.3							
0507SB2a	0507SB2a-10	1571497.22	331721.20	4.2							
0507SB2a	0507SB2a-11	1571511.44	331736.50	5.3							
0507SB2a	0507SB2a-12	1571602.40	331848.17	3.1							
0507SB2a	0507SB2a-13	1571614.89	331856.57	8.6							
0507SB2a	0507SB2a-14	1571625.83	331867.26	3.9							
0507SB2a	0507SB2a-15	1571619.58	331870.71	2.4							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top											
0502BT1	0502BT1-1	1573792.23	334480.50	2.7							
0502BT1	0502BT1-2	1573779.67	334486.54	3.0							
0502BT1	0502BT1-3	1573797.29	334499.60	115.1							
0502BT1	0502BT1-4	1573758.41	334524.83	3.3							
0502BT1	0502BT1-5	1573803.43	334527.90	3.2							
0502BT1	0502BT1-6	1573817.78	334545.35	10.7							
0502BT1	0502BT1-7	1573813.51	334546.13	15.1	S	Wire -18" S of flag, 8" E of flag	1	Surface	1/4 oz		
0502BT1	0502BT1-8	1573769.66	334550.43	5.4							
0502BT1	0502BT1-9	1573836.78	334556.21	105.4							
0502BT1	0502BT1-10	1573830.96	334556.60								
0502BT1	0502BT1-11	1573836.78	334561.26	13.1							
0502BT1	0502BT1-12	1573833.68	334566.30	8.5							
0502BT1	0502BT1-13	1573729.43	334579.00	8.6							
0502BT1	0502BT1-14	1573737.88	334586.47	4.1							
0502BT1	0502BT1-15	1573820.10	334586.86	3.7	O	In brush -too small to locate	1				
0502BT1	0502BT1-16	1573878.25	334589.22	12.3							
0502BT1	0502BT1-17	1573736.72	334589.96	5.1							
0502BT1	0502BT1-18	1573830.27	334586.46	3.6							
0502BT1	0502BT1-19	1573872.46	334591.52	13.3							
0502BT1	0502BT1-20	1573746.03	334593.07	353.2							
0502BT1	0502BT1-21	1573752.62	334594.23	39.3							
0502BT1	0502BT1-22	1573822.82	334596.17	7.6	N/C	In brush - nothing found					
0502BT1	0502BT1-23	1573862.74	334603.96	4.1							
0502BT1	0502BT1-24	1573766.58	334604.71	25.9							
0502BT1	0502BT1-25	1573773.56	334604.71	35.7							
0502BT1	0502BT1-26	1573870.11	334606.29	3.0							
0502BT1	0502BT1-27	1573778.44	334613.62	1.8							
0502BT1	0502BT1-28	1573823.97	334608.68	3.7							
0502BT1	0502BT1-29	1573792.93	334622.58	3.3							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT1	0502BT1-30	1573802.15	334623.79	2.1							
0502BT1	0502BT1-31	1573815.81	334624.91	301.6							
0502BT1	0502BT1-32	1573936.39	334631.86	4.0	S	Rebar	1	1"	0.25 lb		
0502BT1	0502BT1-33	1573856.74	334632.21	2.6							
0502BT1	0502BT1-34	1573835.37	334640.27	15.0							
0502BT1	0502BT1-35	1573885.20	334642.72	2.4							
0502BT1	0502BT1-36	1573839.47	334645.08	23.9							
0502BT1	0502BT1-37	1573785.76	334653.17	23.2							
0502BT1	0502BT1-38	1573827.45	334647.02	3.8							
0502BT1	0502BT1-39	1573875.15	334649.73	2.1							
0502BT1	0502BT1-40	1573811.55	334659.43	5.3							
0502BT1	0502BT1-41	1573879.00	334669.10	3.9	O	Hot Rock - 18" from flag	1	1.5"			
0502BT1	0502BT1-42	1573832.10	334671.46	4.7							
0502BT1	0502BT1-43	1573863.52	334672.62	4.9							
0502BT1	0502BT1-44	1573836.37	334676.11	3.6							
0502BT1	0502BT1-45	1573857.03	334674.48	9.0							
0502BT1	0502BT1-46	1573921.66	334681.12	31.5	O	Hot Rock - 8" from flag	1	1"			
0502BT1	0502BT1-47	1573901.88	334681.51	33.0							
0502BT1	0502BT1-48	1573836.76	334683.10	6.2							
0502BT1	0502BT1-49	1573872.79	334683.45	6.7	S	Piece of fence post	1	2"	2 lbs		
0502BT1	0502BT1-50	1573895.29	334684.61	37.2							
0502BT1	0502BT1-51	1573911.19	334688.49	4.7							
0502BT1	0502BT1-52	1573922.43	334691.60	18.3							
0502BT1	0502BT1-53	1573932.52	334698.19	9.7							
0502BT1	0502BT1-54	1573904.21	334698.97	3.8							
0502BT1	0502BT1-55	1573868.14	334699.36	101.9							
0502BT1	0502BT1-56	1573944.93	334700.91	17.4	S	Pipe	1	2"	3 lbs		
0502BT1	0502BT1-57	1573875.51	334702.85	30.2							
0502BT1	0502BT1-58	1573929.41	334704.79	13.9							
0502BT1	0502BT1-59	1573944.54	334704.79	23.9							
0502BT1	0502BT1-60	1573899.94	334706.34	4.2							
0502BT1	0502BT1-61	1573933.29	334709.44	32.5							
0502BT1	0502BT1-62	1573925.54	334709.44	28.2							
0502BT1	0502BT1-63	1573890.63	334712.54	5.5							
0502BT1	0502BT1-64	1573897.23	334714.87	3.3							
0502BT1	0502BT1-65	1573912.74	334717.20	11.4							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT1	0502BT1-66	1573919.72	334718.75	11.8							
0502BT1	0502BT1-67	1573920.49	334727.28	3.7							
0502BT2	0502BT2-1	1573679.72	334405.31	3.8	O	Hot Rock - 2" from flag	1	3"	3 lbs	5/18/01	Removed
0502BT2	0502BT2-2	1573667.39	334408.95	7.2	O	Hot Rock - 2" from flag	1	2"	2 oz	5/18/01	Removed
0502BT2	0502BT2-3	1573697.10	334413.16	48.6							
0502BT2	0502BT2-4	1573702.99	334413.44	31.9	O	Hot Rock - 3" from flag	1	1"	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-5	1573716.72	334415.69	763.7							
0502BT2	0502BT2-6	1573701.03	334421.86	8.0	O	Hot Rock - 18" from flag	1	1"	2 lbs	5/18/01	Removed
0502BT2	0502BT2-7	1573676.08	334422.42	3.1							
0502BT2	0502BT2-8	1573690.37	334424.94	3.8	S	Reflector, Hot Rock - 8" from flag	2	4"	2 lbs	5/18/01	Removed
0502BT2	0502BT2-9	1573671.87	334426.91	7.1	S	Mesh Screen, Metal 8" x 1/4" - 5" from fla	1	3"	6 oz	5/18/01	Removed
0502BT2	0502BT2-10	1573743.35	334429.71	321.7							
0502BT2	0502BT2-11	1573668.23	334430.27	4.4	S	Nail 1-1/2", Hot Rock - 5" from flag	2	0-2"	1-1/2 lbs	5/18/01	Removed
0502BT2	0502BT2-12	1573742.48	334430.83	231.7							
0502BT2	0502BT2-13	1573703.27	334432.23	7.7	O	Hot Rock - 2" from flag	1	0-6"	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-14	1573733.26	334432.80	17.4	S	Metal Rod - 4" from flag	1	Surface	1 lb	5/18/01	Removed
0502BT2	0502BT2-15	1573747.81	334433.07	93.1							
0502BT2	0502BT2-16	1573709.69	334433.35	13.4	S	Metal Rod - 2" from flag	1	3'	1 lb	5/18/01	Removed
0502BT2	0502BT2-17	1573667.11	334434.20	9.1	O	Hot Rock - 6" from flag	1	3"	1 lb	5/18/01	Removed
0502BT2	0502BT2-18	1573752.85	334437.84	5.5							
0502BT2	0502BT2-19	1573656.46	334438.69	27.6	S	Wire Mesh, Hot Rock - 6' from flag (Same	1	6"	1 lb	5/18/01	Removed
0502BT2	0502BT2-20	1573752.29	334438.96	9.5	O	Hot Rock - 2" from flag	1	0-8"			Removed
0502BT2	0502BT2-21	1573694.02	334438.97	8.3	O	Hot Rock - 3' from flag	1	0-6"	1 lb	5/18/01	Removed
0502BT2	0502BT2-22	1573699.06	334439.25	5.6	O	Hot Rock - 1' from flag	1	0-4"	5 lbs	5/18/01	Removed
0502BT2	0502BT2-23	1573744.19	334440.09	282.6							
0502BT2	0502BT2-24	1573738.87	334440.09	135.8							
0502BT2	0502BT2-25	1573744.16	334440.36	283.9							
0502BT2	0502BT2-26	1573723.42	334443.17	3.6	O	Hot Rock - 3" from flag	1	0-8"	1 lb	5/18/01	Removed
0502BT2	0502BT2-27	1573665.71	334443.46	10.9	S	Nail 2" - 6" from flag	1	2"	1 oz	5/18/01	Removed
0502BT2	0502BT2-28	1573648.64	334443.69	3.9	O	Hot Rock - 4" from flag	2	3"	2 lbs	5/18/01	Removed
0502BT2	0502BT2-29	1573730.46	334445.14	3.2	O	Hot Rock - 4" from flag	1	0-2"	1 lb	5/18/01	Removed
0502BT2	0502BT2-30	1573786.21	334450.74	7.3	O	Hot Rock - 3" from flag	1	0-10"	5 lbs	5/18/01	Removed
0502BT2	0502BT2-31	1573672.71	334456.64	49.4							
0502BT2	0502BT2-32	1573723.42	334457.76	195.1							
0502BT2	0502BT2-33	1573726.51	334458.04	197.0							
0502BT2	0502BT2-34	1573711.93	334459.72	4.2	O	Hot Rock - 4.5" from flag	1	Surface	5 lbs	5/18/01	Removed

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT2	0502BT2-35	1573671.03	334460.85	19.0	S	Metal 18" x 1" x 1/4" - 12" from flag	1	3"	1 lb	5/18/01	Removed
0502BT2	0502BT2-36	1573676.92	334461.41	50.5							
0502BT2	0502BT2-37	1573697.10	334465.05	4.1	S	Metal - 2.5" from flag	1	Surface	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-38	1573705.48	334465.61	3.6							
0502BT2	0502BT2-39	1573688.97	334467.30	3.6	S	Metal Rod 6" x 1/4" - 6" from flag	1	8"	8 oz	5/18/01	Removed
0502BT2	0502BT2-40	1573682.81	334467.58	2.9							
0502BT2	0502BT2-41	1573713.33	334474.30	41.4	S	Metal Rod - 3" from flag	1	4-6"	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-42	1573718.10	334474.30	51.5							
0502BT2	0502BT2-43	1573720.34	334477.39	44.5	S	Metal Rod - 18" from flag	1	Surface	1 lb	5/18/01	Removed
0502BT2	0502BT2-44	1573708.01	334477.95	5.8	S	Metal Rod - 4" from flag	1	2-8"	unknown	5/18/01	Removed
0502BT2	0502BT2-45	1573656.74	334477.96	180.6							
0502BT2	0502BT2-46	1573631.26	334479.03	9.5	O	Hot Rock (numerous)	Numerous	0-12"	unknown	5/18/01	Removed
0502BT2	0502BT2-47	1573650.29	334479.64	135.3							
0502BT2	0502BT2-48	1573715.85	334481.88	163.3							
0502BT2	0502BT2-49	1573662.34	334483.01	47.3	S	Metal Pipe 2" x 3" dia. - 1.5' from flag	1	3"	4 lbs	5/18/01	Removed
0502BT2	0502BT2-50	1573687.57	334484.97	2.4	S	Metal Washer 1-1/2" dia. - 8" from flag	1	1"	1 oz	5/18/01	Removed
0502BT2	0502BT2-51	1573718.94	334488.33	151.6							
0502BT2	0502BT2-52	1573662.90	334490.30	3.3	O	Hot Rock - 1' from flag	3	3"	3 lbs	5/18/01	Removed
0502BT2	0502BT2-53	1573771.63	334491.14	12.1	S	Metal Post - 6" from flag	1	6"	4 lbs	5/18/01	Left in place
0502BT2	0502BT2-54	1573653.65	334493.95	5.6	O	Hot Rock -6" from flag	2	1"	1 lb	5/18/01	Removed
0502BT2	0502BT2-55	1573767.15	334494.22	54.4							
0502BT2	0502BT2-56	1573666.55	334494.23	3.5	O	Hot Rock -6" from flag	2	2"	8 oz	5/18/01	Removed
0502BT2	0502BT2-57	1573766.87	334499.55	33.6	S	Nails - 2' from flag	2	0-10"	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-58	1573760.14	334501.51	56.4							
0502BT2	0502BT2-59	1573762.38	334504.88	51.8							
0502BT2	0502BT2-60	1573725.10	334506.56	19.6	O	Hot Rock	1	0-6"	1 lb	5/18/01	Removed
0502BT2	0502BT2-61	1573718.66	334506.56	97.4							
0502BT2	0502BT2-62	1573736.04	334525.08	4.9	S	Metal Wire - 1' from flag	5	0-4"	1 lb	5/18/01	Removed
0502BT2	0502BT2-63	1573740.52	334525.08	20.2	S	Metal Wire - 4' from flag	1	0-6"	1/2 lb	5/18/01	Removed
0502BT2	0502BT2-64	1573734.91	334531.53	31.1	S	Metal Post	1	Surface	2 lbs	5/18/01	Removed
0502BT3	0502BT3-1	1573549.80	334421.25	12.7	O	Hot Rock - 1" from flag	1	3"	1 lb		Removed
0502BT3	0502BT3-2	1573550.23	334398.24	367.5							
0502BT3	0502BT3-3	1573551.97	334454.24	12.5	S	Communications Wire 1/2' thick	1	12"	unknown	5/18/01	Left in place
0502BT3	0502BT3-4	1573555.00	334404.76	147.9							
0502BT3	0502BT3-5	1573558.91	334425.59	9.1	O	Trash	1	2.5'	unknown	5/18/01	Left in place
0502BT3	0502BT3-6	1573560.21	334455.54	12.3	S	Cable 1-1/2" Diameter - 8" from flag	1	2'	unknown	5/18/01	Left in place

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT3	0502BT3-7	1573561.07	334404.76	13.6	S	Hot Rock , Metal Plate 3" x 2" x 1/4" - 12"	2	0-12"	10 lbs	5/18/01	Removed
0502BT3	0502BT3-8	1573571.92	334409.10	4.1	S	U-Shape Metal 5" x 1" x 1/2" - 5" from fla	1	4"	2 oz	5/18/01	Removed
0502BT3	0502BT3-9	1573571.92	334409.10	4.1	S	Same as # 8	1	4"	2 oz	5/18/01	Removed
0502BT3	0502BT3-10	1573576.26	334465.53	75.1							
0502BT3	0502BT3-11	1573583.63	334397.81	12.0	S	Metal Spike 5" x 1/2" , Hot Rock - 12" fro	2	0-4"	8 gr	5/18/01	Removed
0502BT3	0502BT3-12	1573585.37	334418.21	7.8	O	Hot Rock - 3" from flag	1	10"	1 lb	5/18/01	Removed
0502BT3	0502BT3-13	1573586.67	334380.01	4.0	S	Metal Wire 6" x 1/8" - 5" from flag	2	0-3"	2 oz	5/18/01	Removed
0502BT3	0502BT3-14	1573587.53	334413.00	11.4	O	Hot Rock - 6" from flag	1	8"	5 lbs	5/18/01	Removed
0502BT3	0502BT3-15	1573591.44	334391.30	12.5	S	Metal Plate 8" x 1/2" x 14" - 12" from flag	1	15"	2 lbs	5/18/01	Removed
0502BT3	0502BT3-16	1573599.68	334414.31	4.1	S	Cable 2" x 1/2"	1	0-3"	1 lb	5/18/01	Removed
0502BT3	0502BT3-17	1573607.05	334379.15	100.4	S	Metal 13" x 2" x 1/2" - 5" from flag	1	5"	4 lbs	5/18/01	Removed
0502BT3	0502BT3-18	1573612.26	334470.30	3.9	O	Hot Rock - 4" from flag	6	4-6"	5 lbs	5/18/01	Removed
0502BT3	0502BT3-19	1573612.69	334446.86	6.0	S	Wire - 3' , Hot Rock (3 ea)	4	0-5"	4 lbs	5/18/01	Removed
0502BT3	0502BT3-20	1573617.03	334393.47	3.3	O	Hot Rock - 3" from flag	1	4"	2 lbs	5/18/01	Removed
0502BT3	0502BT3-21	1573617.03	334393.47	3.3	O	Hot Rock - 6" from flag	4	0-8"	5 lbs	5/18/01	Removed
0502BT3	0502BT3-22	1573619.63	334451.64	6.3	O	Hot Rock (small and numerous)	5-6	0-4"	1 lbs	5/18/01	Removed
0502BT3	0502BT3-23	1573619.63	334426.03	21.2	S	Metal Spike 2' x 3/4"	1	3"	3 lbs	5/18/01	Removed
0502BT3	0502BT3-24	1573620.07	334385.22	9.6	S	Metal Wire 36" x 1/4" - 12" from flag	1	0-2"	8 oz	5/18/01	Removed
0502BT3	0502BT3-25	1573620.07	334418.65	16.0	S	Metal Spike 1/2' x 10" , Hot Rock (3 ea)	4	0-18"	2 lbs	5/18/01	Removed
0502BT3	0502BT3-26	1573632.65	334478.12	6.7	O	Hot Rock (small and numerous)	6	0-8"	1 lb	5/18/01	Removed
0502BT3	0502BT3-27	1573635.25	334390.43	63.3	S	Metal Rod 30" lg x 1' - 2" from flag	1	5"	3 lbs	5/18/01	Removed
0502BT3	0502BT3-28	1573636.12	334476.81	10.6	S	Metal Wire 4" x 1/4" , Hot Rock	3	6"	8 oz	5/18/01	Removed
0502BT3	0502BT3-29	1573636.55	334476.38	9.7	O	Hot Rock (small and numerous)	4	0-4"	1 lb	5/18/01	Removed
0502BT3	0502BT3-30	1573639.59	334420.82	16.9	O	Hot Rock	2	6"	1 lb	5/18/01	Removed
0502BT3	0502BT3-31	1573640.46	334386.96	14.6	O	Hot Rock - 12" from flag	1	2"	8 oz	5/18/01	Removed
0502BT3	0502BT3-32	1573640.46	334386.96	14.6	S	Metal 5" x 1/2' , Hot Rock - 8" from flag	2	0-4"	6 oz	5/18/01	Removed
0502BT3	0502BT3-33	1573642.62	334401.28	5.6	O	Hot Rock - 12" from flag	1	2"	8 oz	5/18/01	Removed
0502BT3	0502BT3-34	1573650.00	334428.63	181.6	S	Metal Pipe 2" x 2.5' , Hot Rock - 6" from	4	3"	4 lbs	5/18/01	Removed
0502BT3	0502BT3-35	1573655.20	334486.36	4.7	O	Hot Rock - 6" from flag	2	2"	2 lbs	5/18/01	Removed
0502BT3	0502BT3-36	1573655.20	334477.25	35.8	S	Metal Wire Terminal Box , Hot Rock (3 ea	4	4"	3 lbs	5/18/01	Removed
0502BT3	0502BT3-37	1573655.20	334439.05	30.7	S	Wire Mesh , Hot Rock - 6' from flag	2	0-4"	1lb	5/18/01	Removed
0502BT3	0502BT3-38	1573656.07	334390.87	88.1	S	Nail 2" - 3" from flag	1	2"	1/2 oz	5/18/01	Removed
0502BT3	0502BT3-39	1573664.31	334443.39	11.3	S	Metal Rod 18" x 1/4" , Hot Rock - 12" fro	2	0-5"	1lb	5/18/01	Removed
0502BT3	0502BT3-40	1573670.82	334435.14	8.0	S	Metal Rod 8" x 1-1/4" - 12" from flag	1	Surface	1 oz	5/18/01	Removed
0502BT3	0502BT3-41	1573670.82	334435.14	8.0	O	Hot Rock - 6" from flag	1	5"	1lb	5/18/01	Removed
0502BT3	0502BT3-42	1573671.25	334408.66	6.6	O	Hot Rock - 2" from flag	1	3"	1lb	5/18/01	Removed

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.

U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT3	0502BT3-43	1573673.42	334426.03	7.0	O	Hot Rock - 4" from flag	1	2"	6 oz	5/18/01	Removed
0502BT3	0502BT3-44	1573679.93	334428.63	6.4	O	Hot Rock - 12" from flag	1	2"	1lb	5/18/01	Removed
0502BT4	0502BT4-1	1573613.18	334325.63	13.0							
0502BT4	0502BT4-2	1573586.36	334329.25	2.8							
0502BT4	0502BT4-3	1573583.82	334333.59	4.9							
0502BT4	0502BT4-4	1573640.36	334339.02	8.2							
0502BT4	0502BT4-5	1573576.93	334346.63	2.7							
0502BT4	0502BT4-6	1573664.53	334348.41	4.4							
0502BT4	0502BT4-7	1573678.30	334348.41	14.6							
0502BT4	0502BT4-8	1573594.69	334348.44	2.1							
0502BT4	0502BT4-9	1573675.70	334353.05	4.4							
0502BT4	0502BT4-10	1573629.85	334353.51	37.9							
0502BT4	0502BT4-11	1573694.91	334354.14	14.9							
0502BT4	0502BT4-12	1573612.09	334354.23	219.6							
0502BT4	0502BT4-13	1573666.70	334355.29	16.3							
0502BT4	0502BT4-14	1573622.60	334356.41	51.4							
0502BT4	0502BT4-15	1573610.28	334358.58	135.5							
0502BT4	0502BT4-16	1573684.76	334358.85	7.7							
0502BT4	0502BT4-17	1573691.65	334363.19	5.2							
0502BT4	0502BT4-18	1573598.68	334366.18	775.0							
0502BT4	0502BT4-19	1573623.33	334368.72	7.1							
0502BT4	0502BT4-20	1573672.86	334369.05	13.7							
0502BT4	0502BT4-21	1573689.83	334369.71	11.3							
0502BT4	0502BT4-22	1573659.09	334371.22	31.0							
0502BT4	0502BT4-23	1573636.32	334372.66	883.9							
0502BT4	0502BT4-24	1573724.99	334374.05	5.8							
0502BT4	0502BT4-25	1573665.61	334374.84	73.7							
0502BT4	0502BT4-26	1573605.93	334375.60	7.5							
0502BT4	0502BT4-27	1573640.30	334379.90	18.4							
0502BT4	0502BT4-28	1573698.17	334382.02	38.7							
0502BT4	0502BT4-29	1573683.31	334384.92	8.3							
0502BT4	0502BT4-30	1573636.32	334386.06	13.0							
0502BT4	0502BT4-31	1573654.44	334391.49	85.4							
0502BT4	0502BT4-32	1573704.33	334393.25	8.0							
0502BT4	0502BT4-33	1573727.17	334393.61	211.6							
0502BT4	0502BT4-34	1573764.14	334395.06	9.6							

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0502BT4	0502BT4-35	1573755.80	334395.42	23.1							
0502BT4	0502BT4-36	1573717.02	334396.87	5.8							
0502BT4	0502BT4-37	1573729.70	334399.40	164.4							
0502BT4	0502BT4-38	1573700.71	334400.49	225.1							
0502BT4	0502BT4-39	1573726.08	334403.39	142.4							
0502BT4	0502BT4-40	1573752.90	334405.56	11.2							
0502BT5	0502BT5-1	1573791.52	334432.84	14.5							
0502BT5	0502BT5-2	1573911.60	334641.20	10.8							
0502BT5	0502BT5-3	1574025.30	334766.09	12.9	O	Hot Rock - 16" N of flag and 1" S of flag					
0502BT5	0502BT5-4	1574021.20	334773.71	15.2							
0502BT5	0502BT5-5	1573969.78	334784.80	196.7							
0502BT5	0502BT5-6	1574068.49	334785.25	6.8							
0502BT5	0502BT5-7	1573930.92	334805.95	21.8							
0502BT5	0502BT5-8	1573928.74	334828.76	6.2							
0502BT5	0502BT5-9	1573933.28	334858.07		S	Reinforced Concrete - On bunker top	1	6"	80 ton		Left in place
0502BT5	0502BT5-10	1573933.87	334876.26	1485.2							
0502BT5	0502BT5-11	1573938.27	334887.12	594.6							
0502BT7	0502BT7-1	1574053.14	334848.32	33.8							
0502BT7	0502BT7-2	1574037.42	334817.86	394.3							
0502BT7	0502BT7-3	1574029.04	334812.78	659.9							
0502BT7	0502BT7-4	1574025.49	334810.50	628.6							
0502BT7	0502BT7-5	1574017.37	334806.18	729.3							
0502BT7	0502BT7-6	1574010.27	334804.66	96.5							
0509BT1	0509BT1-1	1574207.05	335111.58			No Contact					
0509BT1	0509BT1-2	1574188.53	335116.77	39.0							
0509BT1	0509BT1-3	1574202.38	335175.81	5.0							
0509BT1	0509BT1-4	1574252.16	335209.61								
0509BT1	0509BT1-5	1574231.15	335210.19	3.0							
0509BT1	0509BT1-6	1574256.83	335254.57			No Contact					
0509BT1	0509BT1-7	1574284.86	335260.99	99.0							
0509BT1	0509BT1-8	1574281.36	335280.26	41.0							
0509BT1	0509BT1-9	1574281.36	335280.26	41.0		No Contact					
0509BT1	0509BT1-10	1574281.36	335280.26	41.0							
0509BT1	0509BT1-11	1574270.85	335284.35	9.0							
0509BT1	0509BT1-12	1574154.67	335288.43								

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0509BT1	0509BT1-13	1574260.72	335314.44	3.0							
0509BT1	0509BT1-14	1574150.00	335315.29	4.0	S	Bolt 3/8 SAE C/H	1			5/19/01	
0509BT1	0509BT1-15	1574256.05	335373.41	3.0							
0509BT1	0509BT1-16	1574274.74	335393.19	3.0							
0509BT1	0509BT1-17	1574318.52	335396.77	10.0							
0509BT1	0509BT1-18	1574149.35	335519.16	5.0							
0509BT1	0509BT1-19	1574019.16	335528.51	3.0	S	Grounding Rod - Left in place	1			5/19/01	Left in place
0509BT1	0509BT1-20	1574130.67	335682.07	56.0							
0510BT1	0510BT1-1	1574207.05	335111.58								
0510BT1	0510BT1-2	1574188.53	335116.77	38.6							
0510BT1	0510BT1-3	1574202.38	335175.81	4.6							
0510BT1	0510BT1-4	1574252.16	335209.61								
0510BT1	0510BT1-5	1574231.15	335210.19	2.6							
0510BT1	0510BT1-6	1574256.83	335254.57								
0510BT1	0510BT1-7	1574284.86	335260.99	99.3							
0510BT1	0510BT1-8	1574281.36	335280.26	41.2							
0510BT1	0510BT1-9	1574281.36	335280.26	41.2							
0510BT1	0510BT1-10	1574281.36	335280.26	41.2							
0510BT1	0510BT1-11	1574270.85	335284.35	8.7							
0510BT1	0510BT1-12	1574154.67	335288.43								
0510BT1	0510BT1-13	1574260.72	335314.44	3.3							
0510BT1	0510BT1-14	1574150.00	335315.29	3.6							
0510BT1	0510BT1-15	1574256.05	335373.41	2.9							
0510BT1	0510BT1-16	1574274.74	335393.19	2.8							
0510BT1	0510BT1-17	1574318.52	335396.77	10.1							
0510BT1	0510BT1-18	1574149.35	335519.16	4.8							
0510BT1	0510BT1-19	1574019.16	335528.51	3.2							
0510BT1	0510BT1-20	1574130.67	335682.07	55.8							
0510BT1D	0510BT1D-1	1571116.63	331527.16	5.8							
0510BT1D	0510BT1D-2	1571108.41	331547.72	6.1	S	Metal Bolts	2	6'	1 lb	5/19/01	
0510BT1D	0510BT1D-3	1571119.37	331549.09	5.1							
0510BT1D	0510BT1D-4	1571155.00	331557.31	70.1							
0510BT1D	0510BT1D-5	1571124.39	331563.25	9.7	N/C						
0510BT1D	0510BT1D-6	1571113.89	331571.02	4.9							
0510BT1D	0510BT1D-7	1571132.62	331579.24	74.2							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0510BT1D	0510BT1D-8	1571099.27	331580.61	61.8	S	Metal Rod	1	Surface	3 lbs	5/19/01	Remove
0510BT1D	0510BT1D-9	1571193.37	331587.01	21.7							
0510BT1D	0510BT1D-10	1571202.05	331597.06	3.8							
0510BT1D	0510BT1D-11	1571092.42	331601.17	7.4	O	Hot Rock					
0510BT1D	0510BT1D-12	1571144.95	331613.05	4.8	S	Nail 20" c 1/4" - 12" from flag	1	Surface	1/4 lb	5/19/01	Removed
0510BT1D	0510BT1D-13	1571072.77	331613.97	207.4							
0510BT1D	0510BT1D-14	1571170.53	331613.97	11.0	N/C						
0510BT1D	0510BT1D-15	1571136.73	331617.16	13.8							
0510BT1D	0510BT1D-16	1571129.88	331617.62	25.5							
0510BT1D	0510BT1D-17	1571090.13	331624.93	3.3	N/C						
0510BT1D	0510BT1D-18	1571173.73	331631.78	56.8							
0510BT1D	0510BT1D-19	1571161.85	331634.07	311.3							
0510BT1D	0510BT1D-20	1571170.99	331637.72	386.4	S	Pipe 9' x 2" x 1/8" - 3' from flag	1	1"	3 lbs	5/19/01	Removed
0510BT1D	0510BT1D-21	1571154.54	331643.21	69.2							
0510BT1D	0510BT1D-22	1571113.89	331643.21	5.2							
0510BT1D	0510BT1D-23	1571123.02	331643.66	8.5							
0510BT1D	0510BT1D-24	1571130.33	331652.80	6.2							
0510BT1D	0510BT1D-25	1571119.83	331653.71	4.7							
0510BT1D	0510BT1D-26	1571158.20	331666.05	4.3	O	Hot Rock - 2' from flag	1	12"	3 lbs	5/19/01	Removed
0510BT1D	0510BT1D-27	1571147.69	331675.19	4.0							
0510BT1D	0510BT1D-28	1571156.83	331679.30	5.3							
0510BT3	0510BT3-1	1571852.65	332165.93	39.4							
0510BT3	0510BT3-2	1571872.40	332108.95	5.2							
0510BT3	0510BT3-3	1571873.16	332138.20	1.9	N/C						
0510BT3	0510BT3-4	1571873.54	332179.23	8.6							
0510BT3	0510BT3-5	1571873.92	332174.67	5.3							
0510BT3	0510BT3-6	1571878.47	332168.59	2.0							
0510BT3	0510BT3-7	1571880.75	332186.45	14.2							
0510BT3	0510BT3-8	1571883.79	332148.84	2.4							
0510BT3	0510BT3-9	1571885.31	332189.49	4.6	N/C						
0510BT3	0510BT3-10	1571886.83	332145.04	15.9							
0510BT3	0510BT3-11	1571889.49	332121.11	2.3							
0510BT3	0510BT3-12	1571890.63	332135.92	1.7							
0510BT3	0510BT3-13	1571891.39	332112.37	43.4							
0510BT3	0510BT3-14	1571893.67	332151.12	8.1							
0510BT3	0510BT3-15	1571894.05	332195.18	1.3							

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0510BT3	0510BT3-16	1571895.57	332154.92	4.0							
0510BT3	0510BT3-17	1571907.72	332159.09	35.0	N/C						
0510BT3	0510BT3-18	1571911.90	332150.74	2.4							
0510BT3	0510BT3-19	1571914.56	332139.34	2.1							
0510BT3	0510BT3-20	1571914.94	332125.28	14.4							
0510BT3	0510BT3-21	1571917.60	332164.03	1.5							
0510BT3	0510BT3-22	1571917.60	332202.40	4.9	N/C						
0510BT3	0510BT3-23	1571922.54	332207.34	1.0							
0510BT3	0510BT3-24	1571926.33	332145.42	1.5							
0510BT3	0510BT3-25	1571942.29	332146.18	2.0							
0510BT3	0510BT3-26	1571950.26	332205.06	1.9							
0510BT3	0510BT3-27	1571957.86	332175.43	2.4	O	Hot Rock - 20" from flag	1	Surface	8 oz	5/19/01	Removed
0510BT3	0510BT3-28	1571963.94	332161.37	6.2							
0515BT2	0515BT2-02	1572842.00	333847.60	9.3							
0515BT2	0515BT2-03	1572870.00	333860.00	98.3							
0515BT2	0515BT2-04	1572962.80	333921.20	15.1							
0515BT2	0515BT2-05	1573013.60	333922.80	234.1							
0515BT2	0515BT2-06	1573007.20	333929.20	885.3							
0515BT2	0515BT2-07	1572989.56	333933.35	23.4							
0515BT2	0515BT2-08	1573015.60	333946.80	529.2							
0515BT2	0515BT2-09	1573022.40	333948.00	2749.7							
0515BT2	0515BT2-10	1573001.76	333934.04	22.5							
0515BT2	0515BT2-11	1573150.00	334012.00	32.7							
0515BT2	0515BT2-12	1573146.00	334013.20	29.5							
0515BT2	0515BT2-13	1573152.40	334015.60	487.9							
0515BT2	0515BT2-14	1573150.40	334019.20	563.3							
0515BT2	0515BT2-15	1573150.40	334019.20	563.3							
0515BT3	0515BT3-01	1574183.6	335272.40	20.44							
0515BT3	0515BT3-02	1574206	335280.40	22.61							
0515BT3	0515BT3-03	1574210	335286.40	373.57							
0515BT3	0515BT3-04	1574215.6	335286.80	359.48							
0515BT3	0515BT3-05	1574215.2	335290.00	240.31							
0515BT3	0515BT3-06	1574238.8	335320.00	27.35							
0515BT3	0515BT3-07	1574232.8	335321.60	2.69							
0515BT3	0515BT3-08	1574224.4	335327.60	2.09							
0515BT3	0515BT3-09	1574224	335336.00	3.22							
0515BT3	0515BT3-10	1574218.8	335347.60	2.73							
0515BT3	0515BT3-11	1574233.6	335365.60	7.21							
0515BT3	0515BT3-12	1574240.4	335392.80	13.49							

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0515BT3	0515BT3-13	1574210.673	335385.34	2.07							
0515BT3	0515BT3-14	1574243.2	335403.60	3.81							
0515BT3	0515BT3-15	1574240.4	335406.00	4.20							
0515BT3	0515BT3-16	1574242	335420.00	3.43							
0515BT3	0515BT3-17	1574202	335434.40	42.45							
0515BT3	0515BT3-18	1574241.2	335435.20	3.19							
0515BT3	0515BT3-19	1574246.4	335447.20	3.62							
0515BT3	0515BT3-20	1574193.2	335460.40	107.92							
0515BT3	0515BT3-21	1574167.6	335517.20	2.38							
0515BT3	0515BT3-22	1574198	335518.40	18.32							
0515BT3	0515BT3-23	1574135.2	335552.40	3.73							
0515BT3	0515BT3-24	1574148.4	335557.60	10.26							
0515BT3	0515BT3-25	1574155.6	335568.40	32.92							
0515BT3	0515BT3-26	1574158.876	335539.12	6.80							
0515BT3	0515BT3-27	1574159.2	335569.60	23.65							
0515BT3	0515BT3-28	1574157.6	335573.20	4.63							
0515BT3	0515BT3-29	1574216.655	335303.16	1.57							
0510MP3	0510MP3-1	1571869.13	332124.52	0.6							
0510MP3	0510MP3-2	1571871.94	332112.87	7.7	F	Frag - 18" from flag	1	12"	1 lb	5/19/01	Removed
0510MP3	0510MP3-3	1571938.98	332217.74	46.0							
0510MP3	0510MP3-4	1571941.84	332095.19	7.1							
0510MP3	0510MP3-5	1571942.30	332106.92	13.1	O	Hot Rock - 1.5' from flag	1	6-10"	1 lb	5/19/01	Removed
0510MP3	0510MP3-6	1571943.85	332100.81	0.9							
0510MP3	0510MP3-7	1571949.50	332103.60	1.5							
0510MP3	0510MP3-8	1571954.49	332113.02	5.5							
0510MP3	0510MP3-9	1571956.71	332106.92	4.0							
0510MP3	0510MP3-10	1571957.51	332095.19	3.5							
0510MP3	0510MP3-11	1571959.48	332100.27	5.1	O	Hot Rock - 2.5' from flag	1	12-18"	1/2-1 lb	5/19/01	Removed
0510MP3	0510MP3-12	1571960.03	332195.58	60.8							
0510MP3	0510MP3-13	1571963.35	332142.94	85.9							
0510MP3	0510MP3-14	1571976.10	332109.14	6.2							
0510MP3	0510MP3-15	1571977.21	332154.02	34.8	S	Metal Fence - 3' from flag	1	6-10"	1/2 lb	5/19/01	Removed
0510MP3	0510MP3-16	1571980.53	332149.03	5.8	O	Hot Rock - 1' from flag	1	Surface	10 lb	5/19/01	Removed
0510MP3	0510MP3-17	1571983.30	332132.41	2.5							
0510MP3	0510MP3-18	1571992.72	332139.61	0.5							
0514TB1	0514TB1-1	1572801.54	333687.35	31.0	S	Rusted Metal Flaking - 12" from flag	1	0-12"	8 oz	5/19/01	Moved
0514TB1	0514TB1-2	1572804.70	333694.10	9.0							
0514TB1	0514TB1-3	1572814.61	333694.73	3.0							
0514TB1	0514TB1-4	1572797.33	333701.48	11.0							

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U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff Top (Continued)											
0514TB1	0514TB1-5	1572830.63	333701.48	12.0	N/C						
0514TB1	0514TB1-6	1572844.33	333712.45	25.0							
0514TB1	0514TB1-7	1572805.55	333713.29	106.0							
0514TB1	0514TB1-8	1572808.71	333718.56	1824.0	S	Cable - 2' from flag	3	Surface	1 lb	5/19/01	Removed
0514TB1	0514TB1-9	1572855.29	333724.68	14.0							
0514TB1	0514TB1-10	1572827.47	333731.43	38.0							
0514TB1	0514TB1-11	1572892.99	333744.26	5.0	O	Hot Rock - 3' from flag	1	6-10"	5 lbs	5/19/01	Removed
0514TB1	0514TB1-12	1572922.26	333762.98	7.0							
0514TB1	0514TB1-13	1572906.23	333773.53	2.0							
0514TB1	0514TB1-14	1572952.62	333785.34	37.0	O	Hot Rock	1	Surface	30 lbs	5/19/01	Removed
0514TB1	0514TB1-15	1572926.90	333788.29	3.0	O	Hot Rock - 3.5' from flag	1	6"	10 lbs	5/19/01	Removed
0514TB1	0514TB1-16	1572950.72	333799.26	2.0							
Bluff											
0430B5	0430B5-1	1574175.39	334733.43	3.0							
0430B5	0430B5-2	1574168.58	334736.25	7.3							
0430B5	0430B5-3	1574170.46	334740.25	9.3							
0430B5	0430B5-4	1574173.51	334740.95	9.0							
0430B5	0430B5-5	1574173.04	334745.42	4.6							
0430B5	0430B5-6	1574183.60	334746.56	9.3							
0430B5	0430B5-7	1574178.68	334747.06	3.2							
0430B5	0430B5-8	1574177.02	334751.26	4.2							
0430B5	0430B5-9	1574186.42	334756.66	18.6							
0430B5	0430B5-10	1574150.94	334757.60	1.9							
0430B5	0430B5-11	1574187.59	334759.72	27.8							
0430B5	0430B5-12	1574182.42	334760.42	19.2							
0430B5	0430B5-13	1574159.16	334760.42	3.1							
0430B5	0430B5-14	1574184.54	334762.77	21.1							
0430B5	0430B5-15	1574187.36	334763.48	11.3							
0430B5	0430B5-16	1574157.28	334763.95	1.8							
0430B5	0430B5-17	1574163.63	334764.65	4.5							
0430B5	0430B5-18	1574174.91	334766.77	1.9							
0430B5	0430B5-19	1574165.04	334770.06	5.0							
0430B5	0430B5-20	1574170.44	334770.06	3.3							
0430B5	0430B5-21	1574162.22	334770.53	4.4							
0430B5	0430B5-22	1574182.42	334771.70	5.6							
0430B5	0430B5-23	1574197.70	334772.41	3.9							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff (Continued)											
0430B5	0430B5-24	1574160.81	334773.11	2.1							
0430B5	0430B5-25	1574191.35	334773.81	1.7							
0430B5	0430B5-26	1574200.05	334775.46	4.2							
0430B5	0430B5-27	1574175.85	334775.46	10.6							
0430B5	0430B5-28	1574172.79	334775.69	7.9							
0430B5	0430B5-29	1574181.01	334777.57	11.5							
0430B5	0430B5-30	1574164.33	334779.22	2.6							
0430B5	0430B5-31	1574177.26	334779.69	4.6							
0430B5	0430B5-32	1574169.27	334782.98	2.0							
0430B5	0430B5-33	1574185.50	334787.01	1.7							
0430B5	0430B5-34	1574193.25	334788.66	2.0							
0430B5	0430B5-35	1574167.86	334790.26	3.1							
0430B5	0430B5-36	1574205.45	334790.73	1.8							
0430B5	0430B5-37	1574207.33	334793.08	1.7							
0430B5	0430B5-38	1574169.50	334794.49	2.7							
0430B5	0430B5-39	1574196.29	334800.37	1.7							
0430B5	0430B5-40	1574214.61	334800.37	1.5							
0430B5	0430B5-41	1574199.81	334801.78	2.7							
0430B5	0430B5-42	1574177.96	334802.72	2.0							
0430B5	0430B5-43	1574183.36	334804.36	2.7							
0430B5	0430B5-44	1574214.85	334805.77	3.9							
0430B5	0430B5-45	1574178.90	334806.01	3.8							
0430B5	0430B5-46	1574207.56	334806.71	3.2							
0430B5	0430B5-47	1574189.24	334809.30	1.6							
0430B5	0430B5-48	1574211.09	334810.94	189.0							
0430B5	0430B5-49	1574195.58	334814.00	41.7							
0430B5	0430B5-50	1574214.85	334814.70	7.7							
0430B5	0430B5-51	1574201.45	334815.88	10.9							
0430B5	0430B5-52	1574193.00	334819.16	7.5							
0430B5	0430B5-53	1574196.52	334820.10	12.6							
0430B5	0430B5-54	1574185.01	334820.81	2.0							
0430B5	0430B5-55	1574197.93	334827.62	3.9							
0430B5	0430B5-56	1574189.94	334828.09	2.0							
0430B5	0430B5-57	1574191.12	334830.91	3.4							
0430BLF	0430BLF-1	1574434.09	335469.57	3.4							
0430BLF	0430BLF-2	1574437.32	335483.78								

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff (Continued)											
0430BLF	0430BLF-3	1574422.47	335511.56	5.1							
0430BLF	0430BLF-4	1574446.35	335514.14	1.7							
0430BLF	0430BLF-5	1574418.60	335534.81	3.5							
0430BLF	0430BLF-6	1574455.94	335556.04	0.1							
0430BLF	0430BLF-7	1574438.51	335567.67	5.3							
0430BLF	0430BLF-8	1574466.92	335568.96	3.2							
0430BLF	0430BLF-9	1574457.88	335576.71	15.6							
0430BLF	0430BLF-10	1574439.16	335598.67	6.2							
0430BLF	0430BLF-11	1574475.31	335598.67	3.5							
0430BLF	0430BLF-12	1574454.01	335599.32	3.0							
0430BLF	0430BLF-13	1574449.49	335626.45	14.6							
0430BLF	0430BLF-14	1574492.09	335631.62	3.8							
0430BLF	0430BLF-15	1574468.21	335633.56	9.3							
0430BLF	0430BLF-16	1574486.28	335661.33	13.0							
0430BLF	0430BLF-17	1574484.99	335685.88								
0430BLF	0430BLF-18	1574479.83	335701.38	1.9							
0430BLF	0430BLF-19	1574505.60	335730.37	3.7							
0430BLF	0430BLF-20	1574490.10	335732.95	6.9							
0430BLF	0430BLF-21	1574518.51	335744.58	1.4							
0430BLF	0430BLF-22	1574492.04	335757.50	1.9							
0430BLF	0430BLF-23	1574504.31	335787.21	7.9							
0430BLF	0430BLF-24	1574506.89	335805.95	11.3							
0430BLF	0430BLF-25	1574526.25	335816.93	129.0							
0430BLF	0430BLF-26	1574497.85	335820.16	2.4							
0430BLF	0430BLF-27	1574513.99	335831.14	6.4							
0430BLF	0430BLF-28	1574537.87	335836.31								
0430BLF	0430BLF-29	1574503.66	335840.18	7.4							
0430BLF	0430BLF-30	1574509.47	335884.76	5.4							
0430BLF	0430BLF-31	1574510.09	335906.78	48.8							
0508BF1	0508BF1-1	1572533.87	333005.37	7.3							
0508BF1	0508BF1-2	1572550.56	333008.56	3.8							
0508BF1	0508BF1-3	1572557.19	333009.30	5.1	O	Hot Rock - 4' from flag	1	12"	10 lbs	5/19/01	Removed
0508BF1	0508BF1-4	1572531.66	333011.02	5.7							
0508BF1	0508BF1-5	1572551.55	333023.54	2.9							
0508BF1	0508BF1-6	1572558.42	333037.53	3.7	O	Hot Rock - Too big to move	4	Surface	Unknown	5/19/01	
0508BF1	0508BF1-7	1572556.70	333040.23	7.4							

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Area K (Continued)
Field Investigation Summary
Camp Hero EE/CA, Montauk, New York

Grid ID	Anomaly ID	Easting	Northing	Maximum Response Value	Anomaly Type*	Anomaly Description	Number of Contacts	Anomaly Depth	Estimated Anomaly Weight	Intrusive Date	Action Taken
Bluff (Continued)											
0508BF1	0508BF1-8	1572546.88	333053.49	1.5							
0508BF1	0508BF1-9	1572554.74	333061.10	7.4	O	Hot Rock - 12" from flag - Too big to mov	1		Unknown	5/19/01	
0508BF1	0508BF1-10	1572557.19	333063.56	6.0							
0508BF1	0508BF1-11	1572526.51	333074.11	24.2	O	Hot Rock - 12' from flag	1	3"	1 lb	5/19/01	Removed
0508BF1	0508BF1-12	1572538.78	333096.21	3.0							
0508BF1	0508BF1-13	1572554.49	333098.42	3.2							
0508BF1	0508BF1-14	1572559.40	333099.89	2.7							
0508BF2	0508BF2-1	1572535.35	332952.30	9.0							
0508BF2	0508BF2-2	1572540.46	332955.02	5.5							
0508BF2	0508BF2-3	1572525.23	332956.44	22.4							
0508BF2	0508BF2-4	1572530.46	332960.35	4.4							
0508BF2	0508BF2-5	1572545.46	332961.55	4.5							
0508BF2	0508BF2-6	1572555.14	332963.73	3.9	O	Hot Rock - 2' from flag	1	Surface	1 lb	5/19/01	Removed
0508BF2	0508BF2-7	1572532.85	332970.25	5.9							
0508BF2	0508BF2-8	1572535.46	332973.41	9.8	O	Hot Rock - 5' from flag	1	8"	1 lb	5/19/01	Removed
0508BF2	0508BF2-9	1572550.47	332978.41	4.5	O	Hot Rock	1	2"	1 lb	5/19/01	Removed
0508BF2	0508BF2-10	1572527.74	332980.70	9.0	N/C						
0508BF2	0508BF2-11	1572534.91	332982.54	4.9							
0508BF2	0508BF2-12	1572527.84	332988.20	6.4	N/C						
0508BF2	0508BF2-13	1572557.86	332991.90	6.0	O	Hot Rock - 18" from flag - Too big to mov	1	Surface		5/19/01	Left in place
0508BF2	0508BF2-14	1572544.92	332995.38	5.1							

Notes: * - No Anomaly Type is identified for the anomalies not intrusively investigated.
U-UXO F-Fragment OS-Ordnance Scrap S-Non Ordnance Related Scrap O-Other N/C-No Contact IA-Inaccessible

APPENDIX C
SCRAP CERTIFICATION FOR DISPOSAL

Form DD Form 1348-1A Documentation:

Certificate of Inert/Non Hazardous Debris Disposal

This certifies and verifies that the AEDA residue, Range Residue and/or Explosives Contaminated property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

Disposed Items:

1. 6 each large 105mm HE Fragments
2. 6 each unidentified HE Fragments
3. 6 each .50-cal cartridges
4. 2 each projectile ball .50-cal w/o tracers
5. Parts: 3.5-inch RKT practice, shroud, fin
6. 2 each unknown OE scrap
7. 1 each unknown make/model flare body

Edward Komac,
USA Environmental, Inc. – SUXOS

Howard Stepp
Parsons QC/Safety

APPENDIX D
INSTITUTIONAL ANALYSIS REPORT

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CHAPTER 1
PURPOSE OF STUDY

1.1 INTRODUCTION

This Institutional Analysis Report (IA) was prepared by Parsons Engineering Science, Inc. (Parsons ES) for the Department of the U.S. Army Corps of Engineering and Support Center, Huntsville (USAESCH) under contract number DACA87-00-D-0038. The report is prepared to support the institutional control alternative plans for action that are included in the former Camp Hero Engineering Evaluation/Cost Analysis (EE/CA). Local and state authorities that will support and exert long-term control of the institutional control measures proposed for the former Camp Hero are presented. Each institutional control alternative is described, and the level or degree of support required for each is described.

1.2 INSTITUTIONAL CONTROLS

Institutional controls rely on the existing powers and authorities of other government agencies to protect the public at large from OE risks. Instead of direct removal of the OE from the site, these plans rely on behavior modification and access control strategies to reduce or eliminate OE risk. This analysis documents which government agencies have jurisdiction over the former Camp Hero and assesses their capability and willingness to assert control, which would protect the public at large from explosives hazards. This report also documents the obligation of the government, corporate or private landholders of OE contaminated lands to protect citizens from safety hazards under the law.

1.3 STUDY APPROACH

Parsons ES has prepared this detailed analysis of institutional control alternatives in accordance with guidance developed by the USAESCH. This analysis supports the development of institutional control alternative plans of action. These plans of action are called institutional control strategies. For these strategies to be successful, the cooperation of local and state authorities and private interests is required. Representatives of local, state, and federal government agencies with jurisdiction over the former Camp Hero have been interviewed as to their concern and capability to exercise institutional controls over the future use of the former Camp Hero. Other stakeholders have also been identified and interviewed to determine their commitment, interest, and involvement in institutional controls. This study includes outlines of these interviews, discussion of potential control strategies, and recommendations for specific control strategies.

1.4 STUDY OVERVIEW

This study outlines which agencies have jurisdiction over the former Camp Hero and assesses their capabilities and willingness to support and enforce short and long-term institutional control measures. Section 2.0 summarizes the site background, the institutional control methodology, and interviews with agencies that have site jurisdiction and/or react with current and future land users. Section 3.0 describes the proposed institutional control alternatives. The effectiveness, implementability, and cost of each alternative is discussed, and management execution, and support roles are defined. Section 4.0 presents institutional control recommendations to reduce the risk of exposure to ordnance.

CHAPTER 2
INSTITUTIONAL CONTROLS

2.1 SITE BACKGROUND

2.1.1 Site Location

The former Camp Hero (the Camp) property is located on Long Island, in Suffolk County, New York. The property is located approximately 5 miles east of the Village of Montauk. The Camp is bounded by Montauk Highway (Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped nature preserve owned by the state to the west.

2.1.2 Site Description

2.1.2.1 The former Camp consisted of approximately 468.69 acres of land area that is located in Suffolk County. All of the land has been transferred to state, local, and other federal agencies. The State of New York owns the largest land parcel comprising 415.35 acres, which is designated as limited access public parkland. The State of New York State Parks Commission property includes the majority of the former Camp land within Suffolk County. Other ownership includes the Montauk Historical Society Lighthouse Commission, leased for 30 years from the Department of Transportation, U.S. Coast Guard (6.29 acres), the Town of East Hampton, New York (46.19 acres), and unresolved real estate ownership, attributed to erosion or poor survey techniques at the time of land procurement (0.86 acres).

2.1.2.2 With the exception of the Town of East Hampton, a large percentage of the land within the former Camp is undeveloped and forested. Visitors to adjacent Montauk Point State Park engage in recreational activities such as cross-county skiing, surf fishing, hiking, wildlife viewing, and hunting. Controlled public access is allowed on the southern bluff area by permit only to fisherman during season. Oyster Pond is situated to the north of the former Camp Hero, and larger Lake Montauk is to the west. The Atlantic Ocean is located to the south of the former Camp Hero.

2.1.3 Site History

2.1.3.1 The former Camp Hero was established in early 1942 as a Coastal Defense Installation to defend the approaches to New York. Supporting facilities were constructed which included barracks, mess halls, hospital facilities, a motor repair shop, a recreation facility, sentry boxes, and water supply and sewage facilities. The Camp's weaponry was periodically fired to practice over water, but was never fired as an act of, or reaction to hostility. A total of 600 enlisted men and 37 officers were stationed at the Camp.

2.1.3.2 The Camp was placed on inactive status on July 31, 1947 and ultimately declared surplus by the Department of the Army on December 31, 1949. Simultaneously, a portion of the former Camp Hero land was also transferred to the Department of the Air Force for an aircraft control and warning station. On January 24, 1951, the former Camp Hero was withdrawn from surplus and designated for use as a firing range and field exercise area for antiaircraft artillery (AAA) from Fort Totten, NY. At that time, 90mm and quad .50 caliber antiaircraft artillery began firing exercises from firing positions established in the southern bluff overlooking the Atlantic Ocean.

2.1.3.3 In 1952 the Air Force property was renamed the Montauk Air Force Station and was occupied by the 773rd Aircraft Control and Warning Squadron (ACWS). Training continued using 90mm and 120mm guns, 3.5-inch rockets, and .50 caliber guns until 1957. The facility was inactive until October 1958 when the 773rd ACWS was redesignated as the 773rd Radar Squadron with a new mission to provide surveillance data of air traffic in the area. The facility was closed in 1982. Between 1974 and 1984, all site lands were transferred to State, Local, and other Federal agencies.

2.1.3.4 During October 1990, CENAN conducted a Preliminary Assessment of Eligibility (PAE) of the former Camp Hero (Site Number CO2NY002400) to gather data regarding potential applicability of DERP-FUDS. The PAE was revised in July 1998 when it was determined that the U.S. Army and Air Force formerly used the site. In February of 2000, the USACE, Rock Island District, conducted a records search and site inspection for the former Camp Hero. The Archive Search Report (ASR) reconnaissance team classified three areas as having "confirmed" ordnance present as a result of physical OE evidence, credible interview accounts, or historical verification.

2.1.4 Archeological / Historical Resources

2.1.4.1 James Warren, with the National Register Coordinator at the New York Department of Parks, Recreation, and Historic Preservation, was contacted regarding archeological / historical resource issues at the former Camp Hero. The information obtained from Mr. Warren was intended solely as an overview for planning purposes and does not meet the requirements for compliance with Section 106 of the National Historic Preservation Act (NHPA). Compliance with Section 106 requires the lead agency to formally contact the New York Department of Parks, Recreation, and Historic Preservation (SHPO) with more detailed information regarding the scope of work and area of potential effect (APE) for the proposed so that the SHPO may determine whether further research is required in conjunction with the undertaking(s).

2.1.4.2 Mr. Warren was not aware of any previous archaeological surveys undertaken on the property to date. However, the New York Department of Parks, Recreation, and Historic Preservation has advised the State that future development of state-owned lands within the installation will require archaeological survey to identify archaeological sites that may be present. The installation is located on an upland overlooking the ocean; as such, undisturbed lands within the installation are considered to

retain moderate to high potential for preservation of cultural deposits associated with both prehistoric and historic land use of the area.

2.1.4.3 With regard to historic buildings and structures, Mr. Warren noted that all of the extant World War II and Cold War era buildings and structures on the installation were considered to be eligible for nomination to the National Register of Historic Places. The eligibility of these structures is based not only on their association with the World War II and Cold War history of the installation and region, but also because all of the military structures at Camp Hero were camouflaged as residences or churches in order to make the installation appear to be a typical New England village from the air or sea. Buildings specifically identified as eligible for listing on the National Register by Mr. Warren include: (1) the Radar Tower and dish (FSB35), (2) the Command and Control Center, (3) the World War II Spotters Structure (camouflaged as a cottage), (4) the Recreation Hall (camouflaged as a church), and (5) the bunkers with gun emplacements. A number of temporary World War II structures that were in extreme disrepair and that contained asbestos were demolished by the U.S. Army Corps of Engineers in 2000 under the Nationwide Programmatic Agreement governing World War II temporary structures on Department of Defense (DOD) property. Mr. Warren also noted that a preliminary inventory of historic buildings and structures at Camp Hero had been completed by Cashin Associates of Happogue, New York, as part of a series of condition surveys completed between 1998 and 2000.

2.1.4.4 In summary, proposed undertakings at Camp Hero are likely to involve impacts to both known and unknown cultural resources. It is recommended that the lead agency coordinate with the New York Department of Parks, Recreation, and Historic Preservation regarding future projects as soon as possible to ensure compliance with Section 106 of the NHPA, as well as compliance with relevant state or local legislation regarding historic preservation (e.g., the New York State Historic Preservation Act of 1980; Section 233 of the State Education Law of 1958; the State Environmental Quality Review Act of 1977; the Indian Cemetery or Burial Grounds Law).

2.1.5 Ecological Resources

2.1.5.1 The soils of Suffolk County are a complex mixture of weathered mineral material, organic matter, water, air, and living organisms. The mineral material, mainly granite, is a result of glacial till deposited during the Wisconsin Age. The glacial till, together with the water or wind-deposited silt, clay, and sand, combined to form the soils of Suffolk County. Those soils are of the Bridgehampton, Escarpment, Montauk, Muck, Wallington, and Whitman series.

2.1.5.2 The entire project area land rises abruptly along the oceanfront and then gradually slopes northward. Several high points are in the area, and in general, the land contour consists of numerous ridges and depressions. Most of the general topography drains into swamps, situated throughout the area. The entire area, with the exception of the developed structures, roadways, oceanfront, and southern bluff area, is covered with a dense growth of scrub oak and brush.

2.1.5.3 The former Camp Hero area is subjected to warm, humid summers and mild winters. The annual average rainfall is approximately 46 inches with the most rain falling in March, April, and August. The average annual temperature is 52.2 degrees F. The average winter months (December through February) temperature is 30.9 degrees F, and the average summer months (June through August) is 71.1 degrees F.

2.1.5.4 Federal and State agencies identified the following information concerning threatened and endangered species:

- The USFWS lists the piping plover *(Charadrius melodus)* and the seabeach amaranth *(Amaranthus pumilus)* as threatened, and lists the roseate tern *(Sterna dougallii douallii)* and the sandplain gerardia *(Agalinis acuta)* as endangered.
- The State of New York Natural Heritage Program (Region 1) lists eleven (11) fish species, ten (10) bird species, and one (1) mammal as threatened, and eight (8) fish species, ten (10) bird species, and ten (10) mammals as endangered. Specific information regarding the State listed threatened and endangered species for Suffolk County is pending.

2.2 METHODOLOGY

2.2.1 Response Strategies

2.2.1.1 There are three general categories of response strategies to ordnance remaining on sites formerly used for training and firing practice. These include:

- Removal,
- Access Control, and
- Behavior Modification.

2.2.1.2 Removal of all ordnance on a site is the ultimate goal of the DOD. However, on sites that have been utilized for training and firing practice the total identification and removal of ordnance cannot be guaranteed. Written permission must be received from each property owner before his or her land can be surveyed. Lands determined to have the high potential of OE contamination occurred on the former Camp property owned by the federal government and the State of New York. Written permission was received from the two property owners, and 10 acres of the OE contaminated land were surveyed. The actual area of ordnance throughout the former camp is unknown at this time.

2.2.1.3 When the incidence of ordnance cannot be identified or the total removal of ordnance cannot be guaranteed, strategies must be defined to alert the population of the potential presence of ordnance and protect them as much as possible from ordnance accidents. This is accomplished by utilizing the last two categories of response strategies: Access Control and Behavior Modification.

2.2.1.4 Access control and behavior modification are defined as institutional control response strategies, or institutional controls. These strategies require local cooperation, responsible land use control, and/or police powers for enforcement. These strategies are inherently non-federal and require a high level of community involvement. Institutions, defined as local and state governmental agencies and other organizations that can assist, are the vital element needed to implement any of the recommended institutional controls. Institutional controls, like all response plans, start with data collection, including obtaining responses to the following questions:

- What institutions hold control over the site?
- What authority do they have?
- Do they have specific responsibility in land use control and/or public safety?
- What capabilities do they have?
- What resources do they have?
- Are they willing to play a role?

2.2.2 Analysis Methodology

The methodology used to analyze potential institutional control strategies for reducing the risk associated with the ordnance remaining at the former Camp Hero included the review of the government institutions entities that exercise jurisdiction or ownership of the property in question. Once a list of jurisdictions and ownership was devised, representatives of these entities were contacted and interviewed. The procedure is defined below:

- Based on knowledge of the area, discussions with USACE, and preliminary telephone calls to the various institutions, a list of jurisdictions and major landowners was determined.
- Telephone interviews were conducted with representatives of institutions that have primary jurisdiction. These included the New York State Parks Commission, Montauk Historical Society and the State of New York. The intent of the interviews was to determine the degree of jurisdiction and to assess the capability and willingness to assert control over the ordnance contaminated land.
- Basic data was collected on forms provided by USACE.
- An Institutional Summary was produced for each institution selected for review.
- This Institutional Analysis Report was produced from the data collected.

2.3 SCOPE OF WORK/SELECTION CRITERIA

2.3.1 Interview Selection

Interviews were conducted via telephone during the week of August 3, 2001. Further follow-up interviews and additional information requests will be made in the

weeks that follow to finalize the recommendations in the report. The following criteria was utilized in the selection of agencies to be interviewed:

- Have jurisdiction as a public agency.
- Have primary concern for ordnance contamination because of ownership or use.
- Have technical capability for access control and/or behavior modification strategies.
- Can provide a variety of sources (i.e., print, and visual) that would provide complete coverage/contact with users.
- Can repeat the same or different strategy at a later date.
- Have authority to assist in implementation of institutional controls.
- Have responsibility for land use control and/or public safety.
- Expressed an ability and willingness to assist.

2.3.2 Interview Categories

The primary jurisdiction over the land is exercised by the State of New York State Parks Commission, and the Montauk Historical Society Lighthouse Commission (leased for 30 years from the Department of Transportation, U.S. Coast Guard). These agencies were identified for interview. Individuals representing these agencies were identified and interviews scheduled. Through the interview process, additional individuals were identified. Interviews were then held with these people. The interview process is summarized in Section 2.4.

2.4 INTERVIEW SUMMARY

2.4.1 Interview Topics

Fifteen topic areas concerning the interviewee and the organization represented. The primary topics are listed below:

- Name and Title of Respondent Interviewed.
- Name and Address of Organization.
- Type of Organization.
- Overall Purpose of the Organization.
- Basis for Creation of Organization.
- Jurisdictional Level of Organization.
- Power and/or Authority of Organization.
- Geographic Area Served by Organization.
- Organization Concern for Public safety and Related Land Management.
- Organization Work Categories.

- Organization Work Subjects.
- Organization Contacts.
- Organization Public Safety / Management Rules and Regulations.
- Does Organization Have Jurisdiction over Other Organizations, and if so, who?
- Miscellaneous Interview Information.

2.4.2 Interview Results

The topic areas identified above were included on a survey form that was presented to all persons interviewed. The interviewee responses to the survey questionnaire are summarized in this section. The completed institutional survey data forms are included in Appendix A. These forms were filled out by the interviewee or by the interviewer in the case of telephone interviews or if the completed survey was not returned to the interviewer.

2.4.2.1 State of New York

- Name – Tom Abrosio
- Title – Executive Director, Montauk Historical Society Lighthouse Commission
- Address – RFD 2 Box 112 Montauk, NY 11954
- Date – August 2, 2001
- Type of Organization – Non-Profit
- Purpose of Organization – Historical Preservation.
- Basis for Creation of Organization – Private Charter
- Jurisdictional Level of Organization – None
- Powers and/or Authorities – Manage historical preservation
- Geographic Areas Served – None
- Responsibility for Public Safety and Related Land Management - No
- Organization Activities – Management of historical society.
- Subjects Important to Work of Organization – Public safety and historical preservation
- Organizations Worked With on Regular Basis – Left blank
- Public Safety/Management Regulations/Rules – State laws/regulations, agency rules/policies
- Jurisdiction Over Other Agencies – No
- General Comments – None

2.4.2.2 State of New York

- Name –John Eberhard
- Title – New York State Parks Commission
- Address – Albany, NY 12238
- Date – August 6, 2001
- Type of Organization – State Government
- Purpose of Organization – State parks and recreation
- Basis for Creation of Organization – State law
- Jurisdictional Level of Organization – State of New York
- Powers and/or Authorities – None
- Geographic Areas Served – State of New York
- Responsibility for Public Safety and Related Land Management - Yes
- Organization Activities – Manage New York State Parks
- Subjects Important to Work of Organization – Public safety and use of State owned lands
- Organizations Worked With on Regular Basis – Multiple agencies in public and private sector
- Public Safety/Management Regulations/Rules – Federal laws/regulations, agency rules/policies, state laws/regulations
- Jurisdiction Over Other Agencies – No
- General Comments – None

CHAPTER 3
INSTITUTIONAL CONTROL ALTERNATIVES

3.1 Risks related to ordnance contamination may be managed through conventional removals, access control, public awareness programs, or a combination of strategies. It is important to understand that the risk associated with ordnance contamination is associated with three causative factors that if completely avoided would prevent an ordnance-related accident. These three factors are:

- Presence,
- Access, and
- Behavior.

3.2 If there is no presence of ordnance on the site, then there is no possibility of an ordnance-related accident. If ordnance exists onsite, but people do not have access, then there will be no accident. Even if ordnance exists onsite and people have access to the ordnance, if their behavior is appropriate, then there will be no accident. An accident requires all three events or circumstances to be present. No accident will happen if any one causative factor is missing. Each factor provides the basis for a separate implementation strategy. The presence of ordnance can be modified by removal. Access to ordnance can be modified by prevention. Behavior can be modified by information and education. Access control and behavior modification through public awareness are institutional controls.

3.3 Discussions of alternatives and the recommendations presented in this Institutional Analysis Report are based on the assumption that informing and educating the public to the potential risks associated with the ordnance remaining on the former Camp Hero will reduce the possibility of injury. However, it is also understood that public awareness may incite a reverse reaction to a small segment of the population that may view the dangerous handling of ordnance as an adventure. This possibility must be accepted with the understanding that there will always be some portion of he populace who refuse to heed warnings or follow directions.

3.1 PHYSICAL REMOVAL

A strategy that engages the presence of ordnance is a removal action. Although physical removal is a means of reducing risk, it is not an institutional control alternative and will only be discussed briefly in this report. Physical removal, including its effectiveness, ability to implement and cost are discussed in the Engineering Evaluation/Cost Analysis (EE/CA).

3.1.1 Removal and Human Behavior

There are many instances where removal of surface or subsurface ordnance is the appropriate and recommended alternative for reduction of the risk associated with ordnance contamination. Removal produces a condition where there is less ordnance onsite. If human behavior is the same before and after the removal, then the risk is substantially reduced. However, if the removal results in a behavior that is less cautious or less informed than the behavior prior to removal, then a situation exists where some risk may be intensified. Therefore, it is recommended that any removal action at the former Camp be augmented by Institutional Controls that provide behavior modification strategies including recommendations for education and information programs.

3.1.2 Removal Responsibility

Contracted removal actions to reduce the risk of exposure to ordnance are coordinated through the Army Corps of Engineers (USACE), New York District. That agency is responsible for preparation and negotiation of scopes of services, fees, and schedules, and for retaining organizations skilled in the removal of ordnance to provide the removal services. In addition, the USACE, New York District is responsible for coordinating public information concerning the removal activities being performed to local government and the public at large. Day-to-day operations are executed and managed by the contractor in accordance with a Work Plan and Health and Safety Plans, which are approved by the USACE, New York District prior to the start of work.

3.2 ACCESS CONTROL

Access controls limit the use of the contaminated property. This can be accomplished by implementing various restrictions or dedicating the property to compatible use. The target strategy is to remove the human element from the chain of events that could lead to an accident. Access control can be facilitated in the form of signage, fencing, land-use restrictions, and/or regulatory control.

3.2.1 Signage

Sign posting is typically completed to inform people that entry is prohibited or that activities within the property are restricted in some manner. Defiance of these restrictions may be subject to disciplinary legal action. The use of signage is based upon the concept of respect for property rights. Trespass laws are the key element of enforcement with cooperation between landholders, law enforcement, and the public. These laws are encouraged by other elements of the plan. The link between not trespassing and explosive safety must be made. Signs informing the public of potential dangers could be created and posted around the area to prevent or discourage entry or discourage physical contact with ordnance. Signage is only effective if the signs are well placed and maintained.

3.2.2 Fencing

As with signage, fencing is typically one element of a plan that is dependent upon the concept of respect for property rights. Trespass laws are the key element of

enforcement with cooperation between landholders, law enforcement, and the public. As with signage, the plan must include other elements that reinforce the link between not trespassing and explosive safety. Fences provide a physical barrier to inadvertent entry. Therefore, it may be easier to enforce trespass strictures if fencing is present. Fencing is only effective with the cooperation of local officials and the community with funding and technical support from the federal government.

3.2.3 Land Use Restrictions and Regulatory Control

Land use restriction and regulatory controls provide the primary institutional control that can be exercised over areas where ordnance is present. Through these controls, local government can dictate the type of development that will occur on a site and the methods in which that development occurs. Higher development intensities result in increased access to the area and enhanced access increases the potential for ordnance accidents.

3.2.4 Effectiveness

3.2.4.1 Signs and fencing are not considered as viable institutional controls. They are valid for use in reducing the risk of exposure to potential accidents involving ordnance because they provide information and restraint based upon the concept of respect for property rights. Fencing and signage, if available to be implemented, can be somewhat effective in reducing the risk of exposure to ordnance contamination. Currently, fencing and signage are utilized on a small portion of the former Camp.

3.2.4.2 Because of the size of the former Camp Hero site and the recreational use of the land, the placement of fencing to restrict access to areas that are not currently fenced would be difficult and cost prohibitive to implement. Fencing does not keep out those individuals whom are determined to enter the property from going under, over, or through the fence.

3.2.4.3 The posting of signs along the perimeter and within the interior of the property provides "on the spot" warnings of the potential presence of ordnance. The signs can be prepared to provide a warning of the potential presence of ordnance and the hazards of physical contact. It should be noted that signs become convenient targets for vandalism and must be maintained to be effective. Because of the size of the land comprising the former Camp, the posting of signs would be of little value.

3.2.4.4 Land use regulatory controls are present on lands of the former Camp Hero site. The State of New York presently controls 415.35 acres, which is restricted and used by the New York State Parks Commission. The U.S. Coast Guard controls 6.29 acres and is leased to the Montauk Historical Society Lighthouse Commission. A 46.19-acre portion of the former Camp Hero is owned by the Town of East Hampton and is used for low income housing, which includes 27 former Air Force housing units, and a small amount of town-owned undeveloped property.

3.2.5 Implementation

3.2.5.1 The installation of fencing and signage to limit access to the former depot property is not recommended. Both of these alternatives are not feasible because of the size of the former Camp, and the current and anticipated land use as a state park.

3.2.5.2 Currently, there are adequate land use controls in place on the New York State Parks Commission and the U.S. Coast Guard property. Unless property is transferred or sold to private owners, land use controls would not be effective on the state and federally owned lands of the former Camp. The property owned by the Town of East Hampton has a low potential of OE contamination, therefore land use controls would be unwarranted unless additional evidence is obtained.

3.2.6 Cost

Fencing and signage are not recommended as viable institutional controls. Adequate land use controls are in place on the lands of the former Camp where there is a high potential of OE contamination. Therefore, additional access controls are not recommended.

3.2.7 Management, Execution, and Support Roles

There would be no additional management, execution or support roles required. As previously stated, additional access controls are not considered viable institutional controls, and are therefore not recommended.

3.3 LOCAL GOVERNMENT AWARENESS PROGRAM

3.3.1 Behavior modification is dependent upon the awareness and personal responsibility of the site user. If there is open access to existing ordnance, there is no risk if the behavior is appropriate. For behavior to be appropriate, one must understand the situation and voluntarily react in a responsible manner.

3.3.2 The power of the federal government is limited in any situation where local enforcement is available. Therefore, the local authorities must be convinced that the risks are sufficient to warrant their participation. The concept of behavior modification through public awareness extends to agencies that have jurisdiction over the site. Some behaviors that must be modified may belong to the local government.

3.3.3 Raising public awareness for the hazards that exist within the former Camp can be facilitated in a variety of ways. Modification of behavior through public awareness is essentially an education/information process. Various techniques considered as a part of the Institutional Analysis are listed below. These techniques are discussed further in the following paragraphs.

- Land Use Controls – Land use restrictions that limit the use of the land or reference ordnance;
- Notice – Deed notifications/restrictions, tax bill notifications, notifications during property transfers, and notification during permitting;

- Education Classes - Including ordnance identification, safety presentations to various audiences, preparation of packages for administrative and public officials;
- Printed media - Including brochures and news articles;
- Visual and Audio Media - Including videotapes and local television programs;
- Exhibits/displays;
- Internet Web Site; and
- Ad hoc Committee.

3.3.1 Land Use Controls

Behavior modification can be facilitated through land use controls. The State of New York, the U.S. Coast Guard, and the Town of East Hampton have the authority to restrict uses of property in the public interest. These land use controls are the most direct and effective tools for behavior modification because they require a level of performance in order for certain development actions to occur.

3.3.2 Notice

Appropriate notice can exert a strong influence on one's behavior. When notice of ordnance contamination is given, it can affect the expectations of potential users. Appropriate uses can be sought, and the land may still be used for economic gain. However, the contamination must be considered in the design and use of any site improvements or activities. Notices can be placed on a property in at least four ways:

- Deed notification/restriction,
- Notification during any property transfers,
- Notification during any permitting process, and
- Notification by tax bill.

3.3.2.1 Deed Notifications/Restrictions

3.3.2.1.1 In many areas of the country, land purchased by the War Department/DOD for military use was later disposed of to other public or private ownership. If the subject land was historically utilized for ordnance manufacture, testing, or troop training activities that would result in the presence of unexploded ordnance, restrictions indicating the potential for the presence of ordnance were placed in the property deeds.

3.3.2.1.2 The properties within the site were used as a military installation from 1944 to 1983. The site endured several different uses during its history such as a firing range, coastal defense installation and an aircraft control and warning station. Between 1974 and 1984 all site lands were transferred to state, local and federal agencies.

3.3.2.2 Notification During Permitting

3.3.2.2.1 Typically, controls are in place to protect property owners and their neighbors through approvals or permits required to develop properties in certain ways. Permit approvals generally ensure that proper notice is given, reasonable plans have been prepared, and the land is being developed for an appropriate use.

3.3.2.2.2 As previously stated, the property of the former Camp was transferred to Local, State and Federal Government agencies. The permitting of buildings and land use are managed by the respective agency and there is no additional permitting process.

3.3.2.3 Notification by Tax Bill

There are no property owners that receive annual tax bills, since the property is government owned. Therefore, notification of the potential for ordnance on the property cannot be included as an insert to the tax bills.

3.3.2.4 Notification During Property Transfers

Property owners have a responsibility to protect themselves and the public from dangers associated with their property. This should extend to informing buyers about the possibility of ordnance contamination. Local governing officials could require that all land sales within the former Camp include a statement about the possibility of the presence of unexploded ordnance. This would be a way of informing prospective buyers of the potential for ordnance contamination before purchasing the property.

3.3.3 Effectiveness

The most effective institutional controls that can be exercised over ordnance contaminated land are land use controls.

3.3.3.1 Land Use Controls

Currently, there are adequate land use controls in place on the New York State Parks Commission and the U.S. Coast Guard property. Unless property is transferred or sold to private owners, land use controls would not be an effective institutional control on the State and Federal owned lands of the former Camp. The property owned by the Town of East Hampton has a low potential of OE contamination, therefore land use controls would be unwarranted unless additional evidence is obtained.

3.3.3.2 Notice

3.3.3.2.1 Deed Restrictions Notifications/Restrictions

In the event of property sales from the former Camp, the property deeds need to contain covenants restricting the land use. These covenants should restrict the land use to surface use only and prohibit developmental uses. Land use is not expected to change; therefore, deed restrictions would be ineffective as an institutional control.

3.3.3.2.2 Notification During Property Transfers

In addition, of the covenants mentioned above, local governing officials could require all land sales with the former Camp include a statement about the possibility of the presence of unexploded ordnance. This would enhance the effectiveness of the above mentioned deed restrictions. However, land use is not expected to change, therefore notification during property transfer would be ineffective.

3.3.3.2.3 Notification During Permitting

The former Camp is managed by local, state, and federal agencies. The permitting of buildings and land use are managed by the respective agency and there is no additional permitting process. Therefore, notification during permitting would be ineffective as an institutional control.

3.3.3.2.4 Notification by Tax Bill

There are no property owners that receive annual tax bills, since the property is government owned. Therefore, notification of the potential for ordnance on the property cannot be included as an insert to the tax bills. Therefore, notification by tax bill would be ineffective as an institutional control.

3.3.4 Implementation

The selection of land use controls and notices are not recommended as institutional controls.

3.3.5 Cost

The use of land use controls and notices are not recommended as institutional controls, and therefore, does not include an associated cost.

3.3.6 Management, Execution, and Support Roles

The use of land use controls and notices were not recommended as an institutional control.

3.4 PRINTED MEDIA AWARENESS PROGRAM

Ordnance awareness, respect for the risk involved, and reinforcement of the message are key ingredients in minimizing the risk associated with ordnance contamination. One of the major avenues available to facilitate this awareness and understanding is through printed media. This media may be in the form of brochures, fact sheets, newspaper articles, and other information packages. The opportunity to disseminate information through the printed media is readily available and can be easily facilitated. Using printed media, property owners and residents within the region and from outside the region can be informed about the existence of ordnance contamination within the former depot area.

3.4.1 Brochures/Fact Sheets

3.4.1.1 Brochures and/or fact sheets can be produced that describe the history of Camp Hero and include information on the presence of ordnance. Text and graphics can be used to describe how to identify ordnance, warnings to avoid physical contact in any

way, instructions for dealing with ordnance if encountered, including how to report ordnance sightings. These brochures or fact sheets could be produced by USACE, but should also include local sponsorship and ownership. These brochures could be distributed as follows:

- Provided by mail to all property owners within the former Camp,
- Provided by mail to all businesses within the former Camp,
- Enclosed as flyer in local press,
- Provided to all professional groups/clubs,
- Provided to all civic groups/clubs, and
- Provided to all military personnel.

3.4.1.2 An existing fact sheet was prepared by Parsons Corporation under contract to the New York District Office of the USACE. The fact sheet will be distributed at visitors centers and other public facilities to present and discuss the former Camp Hero. The fact sheet includes information about the Engineering Evaluation and Cost Analysis (EE/CA) being conducted and the history of the site.

3.4.2 Newspaper Articles/Interviews

Newspaper articles and interviews provide excellent means of informing the public about the potential presence of ordnance. Articles can be supplied as press releases from the USACE. Interviews with local residents, the USACE, and other institutions can be performed by the local press. Newspaper articles can be very informative, and can be presented in a positive manner. This kind of participation by local press can effectively reduce the risk of improper handling of ordnance. Continued coverage annually should result in better information and understanding as to the actual prevalence of and hazards of ordnance. Interviews with people who lived in the area when the range was used or who actually were involved in manufacturing at the site would add interest to these articles.

3.4.3 Information Packages for Public Officials

The former Camp is owned by local, state, and federal governments. The respective agency leaders are aware of potential ordnance contamination. They should be provided with more detailed current information on the concept of Institutional Controls and on the extent of ordnance contamination. An information package produced by USACE, possibly from maps from the EE/CA report which define primary areas of concern would be valuable for the public officials. Recommended maps would include the boundary and an abstract of studies completed to date. This abstract should include a brief history of the depot, areas of greatest concern, types and potential danger of the ordnance discovered, USACE contacts, and other contacts to discuss safety concerns. A report summarizing the final EE/CA report should also be included in the Master Plan and Management Plan of Montauk Point State Park. This would ensure that future park superintendents are appraised of the issue.

3.4.4 Effectiveness

3.4.4.1 Providing information via printed media would be an effective method of modifying behavior by educating public officials about the presence of ordnance on the former Camp property. Production and dissemination of brochures/fact sheets, newspaper articles and interviews, and the production and distribution of information packages for public officials would all be very effective institutional controls.

3.4.4.2 The distribution of a fact sheet is considered an effective way to educate the public. It is recommended that the fact sheet be sent to all property owners, visitors, and tenants within the former Camp. When the extent of potential ordnance contamination is further defined by the EE/CA Study being conducted, the fact sheet should be updated to provide this information together with plans for removal together with the recommendations for institutional controls included in this Institutional Analysis. The updated fact sheet should be mailed to all property owners, distributed to county officials, and made available throughout the community.

3.4.4.3 Ongoing exposure to information about ordnance contamination should result in increased public awareness. Continued distribution of this information will provide information to new residents, visitors, or others unaware of the ordnance contamination. The addition, reinforcement, and augmentation of current knowledge is desirable in order to keep the realization of ordnance contamination and the potential hazards in the minds of people at all times.

3.4.5 Implementation

3.4.5.1 The existing fact sheet includes enough information for a press release about the EE/CA that will be conducted within the area of the former camp. This press release can be prepared by the USACE and presented to the local newspapers, the East Hampton Independent and the East Hampton Star. When a new fact sheet is prepared to describe the findings of the EE/CA and the proposed plans for removal and institutional controls is completed, another press release should be prepared by the USACE for the local newspaper.

3.4.5.2 It is recommended that the existing fact sheet be mailed to all property owners within the former Camp Hero. The names and addresses of all owners have been compiled for the EE/CA Study and are available through Parsons Corporation.

3.4.5.3 The existing fact sheet should updated by the USACE when more information on the presence of ordnance, plans for removal, and plans for institutional controls are defined. The existing fact sheet is a one-page color presentation with text information printed on both sides. The new fact sheet would be designed with the same format. The USACE will provide the funding and production of the new fact sheet. Information packages to local officials could also be prepared and funded by the USACE including a supplement report to the Management Plan and Master Plan of Montauk Point State Park.

3.4.6 Cost

3.4.6.1 Brochures/Fact Sheets

The estimated cost to produce an original professional quality, multi-color one page fact sheet on an 8 ½ x 11 format suitable as a mailer or handout is approximately $5,000. The fact sheet would be prepared to included primarily graphics with minimal text in bullet form to provide information about the history of the site, presence of ordnance, plans for removal, and plans for institutional controls; plus information on the identification, handling, and reporting of ordnance. The cost to print and distribute the fact sheet will depend on the number of copies distributed. If 5,000 fact sheets are to be printed and mailed at a cost of $2.00 each, and 2,500 fact sheets are to be printed and distributed by local institutions at $1.50 each, the total cost for design and preparation of the brochure would be $18,750. After this first update, no additional updates are envisioned as necessary.

3.4.6.2 Newspaper Articles/Interviews

There would be no cost associated for this type of public education.

3.4.6.3 Information Packages for Public Officials

The existing fact sheet and proposed fact sheet would be utilized together with abstracts of additional information on ordnance cleanup, mapping, and proposed removal and institutional analysis plans can be provided to local officials. The cost of this is included in the cost of the fact sheet described in paragraph 3.4.6.1. There would be an additional cost to develop the report to supplement the Master Plan and Management Plan of Montauk Point State Park, but the cost would be minimal.

3.4.7 Management, Execution, and Support Roles

The New York District of the USACE should distribute the fact sheet and prepare a new fact sheet when additional information is available. This can be executed directly by the USACE or through a contractor with experience in the production of communications vehicles for public education programs. Distribution can be facilitated by mailing the printed materials directly to all property owners, visitors, and tenants within the property. Distribution of new releases and distribution of information to agency officials would be done by the USACE.

3.5 VISUAL AND AUDIO MEDIA AWARENESS PROGRAM

One of the major avenues available to facilitate this awareness and understanding of the risk of ordnance is through visual media, in the form of videotape programs for use during presentations and for broadcast on local television stations and using radio news and talk show formats. The opportunity to disseminate information through visual and audio media is readily available and can be easily facilitated.

3.5.1 Videotapes

Professional quality videos can be produced that describe the history of the former Camp, how to identify ordnance, safety procedures associated with avoidance of ordnance, instructions for dealing with ordnance if encountered, and telephone numbers to contact if ordnance is encountered or if questions need to be answered. The videos can be produced by USACE, but should include interviews with local citizens, local sponsorship, and local ownership. Copies should be provided to local libraries to the Montauk Point State Park and to the Montauk Historical Society Lighthouse.

3.5.2 Television

The local television stations could provide excellent local access of programs about the potential presence of ordnance at the former Camp. Public service programs could be presented on how to identify ordnance, safety procedures associated with avoidance of ordnance items, and instructions for dealing with ordnance if encountered. Local telephone numbers could be provided to contact of ordnance is encountered or if questions need to be answered. The local television station provides local information reporting and programming. It is suggested that the television programs include interviews with USACE personnel, local residents, and other who have knowledge of the history of the former camp. To be most effective, the length of the television program would be approximately 30 minutes. A shorted version (15 minutes) could be produced for smaller group instruction.

3.5.3 Radio

Local radio stations provide coverage throughout the area of the former camp. The potential incidence of ordnance within the former site, current EE/CA being conducted, and plans for removal, institutional controls, and other activities could be possible talk show topics. This kind of venue for discussion and public education could be repeated as more information about the former camp and the incidence of ordnance becomes available.

3.5.4 Effectiveness

3.5.4.1 The provision of information using visual media would be an effective method of modifying behavior. Production and dissemination of videotapes and presentation of the message over local television would be effective institutional controls. However, the message must be reinforced. Frequent and regularly scheduled re-broadcast of the original television presentation is recommended. Periodic updating of the videotapes is recommended to ensure the accuracy and timeliness of the information presented. Additional footage and editing of the original videotapes may be required every 2 to 3 years.

3.5.4.2 The use of local radio programming will also provide a very effective means of informing and educating the public about the history, status, and future information concerning the presence of ordnance on the former Camp.

3.5.5 Implementation

Providing information via the visual and audio media should be easy to implement. With USACE providing the funding and producing the videotapes and fact sheets, local television and radio stations should readily agree to assist in distribution of the information. Hamptons radio WEHM 96.7 and various New York City television stations are options for providing the necessary airtime for this public awareness campaign.

3.5.6 Cost

The estimated cost to produce a professional quality 30-minute videotape for television broadcast and a 15-minute videotape for distribution to the local institutions and the community is approximately $20,000 to $30,000. The estimated cost to copy and distribute videotapes to various institutions and to television stations would depend on the number of copies needed. However, assuming 10 copies at $20.00 each (including the cost of the videotape, dubbing, and postage) the cost would be approximately $200. The estimated annual cost to reinforce the message (assuming updating of the videotape once every 3 years at a cost of $5,000 per update and distribution) would be approximately $2,000.

3.5.7 Management, Execution, and Support Roles

To provide information via visual media, USACE must first provide the videotapes. This can be executed directly by the USACE or through a contract professional with experience in the production of public information and education programs. Support from the local television station and other organization and institutions will be needed for broadcast of the videotapes and to make them readily available to the public. The local television station and radio stations should prove to be an invaluable resource in this effort.

3.6 CLASSROOM EDUCATION

Public awareness can be facilitated through the classroom. The public needs to understand that ordnance exists within the former Camp property and to be able to properly identify and avoid ordnance if encountered. A properly educated public is more likely to make correct decisions related to the safe and proper precautions of found ordnance. Classroom education can be offered in two major categories:

- Ordnance Identification, and
- Ordnance Safety.

3.6.1 Ordnance Identification

Although individuals that may have reason to access property within the former Camp must be aware of the potential risk associated with ordnance, it may not be necessary for all individuals to be trained in ordnance identification. The basic message should be to not touch anything that looks like ordnance, shrapnel, or any other unidentified material.

3.6.2 Ordnance Safety

The affected public should be educated about the potential dangers associated with ordnance and should understand the safety procedures to follow if they encounter any suspected ordnance item. Safety presentations should be made as apart of the ordnance identification classes discussed above.

3.6.3 Effectiveness

Providing education through the classroom would be a very effective method of modifying behavior by informing the public of the potential presence of ordnance at the former Camp. However, the former Camp lies mostly within a State Park and classroom education would not be effective in educating Park attendees not within the local community. The cost of producing, maintaining, and updating this kind of public education is significant. The use of other methods of public education described herein is considered more effective. Therefore, classroom education is not recommended as an institutional control.

3.6.4 Implementation

Classroom education would be effective in educating the local community, but ineffective in educating the Park attendees beyond the local community. Therefore, classroom education is not recommended as an institutional control.

3.6.5 Cost

Classroom education is not recommended as an institutional control.

3.6.6 Management, Execution, and Support Roles

Classroom education is not recommended as an institutional control.

3.7 EXHIBITS/DISPLAYS

Placing exhibits/displays in museums, libraries, or other high-traffic areas where the public will be exposed to educational information can be an effective method of raising and preserving awareness, and educating the public on the possible risk associated with the ordnance on the former Camp Hero property.

3.7.1 Effectiveness

The presentation of information through exhibits/displays is considered an effective approach to modifying behavior by educating the public concerning the presence of ordnance on the former Camp. Since a large portion of the property is deemed a State park, the use of displays and exhibits can be an effective tool in educating the Park attendees.

3.7.2 Implementation

Many parks have displays regarding flora and fauna within the park boundaries for public awareness purposes. The USACE could easily construct a display for OE

awareness to be exhibited along with the wildlife awareness display. This would inform visitors to the park of the potential OE contamination and actions that should taken if an OE item is found.

3.7.3 Cost

The estimated cost to produce exhibits/displays is dependent on the type of exhibit/display desired and the cost to the contracted professional. Exhibits/displays could be produced using metal, engraved wood, or could be mounted behind an existing glass case. These types of displays are between $50.00 and $500.00 each. A 34 x 22 inch display mounted on foam board is approximately $25.00, not including production or lamination.

3.7.4 Management, Execution, and Support Roles

To provide an exhibit, the USACE would need to develop a display that identifies OE items and states the actions an individual should take if the OE item is encountered. This can be executed directly by the USACE or through a contractor with experience in the production of communications vehicles for public education programs. Support from the New York Park Commission would be needed to maintain the display.

3.8 INTERNET WEB SITE AWARENESS PROGRAM

Parsons ES has established a project web page on the Internet to document the progress of the EE/CA investigation (www.projecthost.com). At the completion of the project, administration of this web site may be transferred to a local entity such as the State of New York Parks Commission. The creation of a supplemental web page on the Internet could be used as a method of raising and preserving general awareness and educating the public about the presence of ordnance on the former Camp property. The web page could be designed to include the history of the site, the history of ordnance finds, cleanup measures, and ordnance safety awareness. The fact that ordnance exists on the site would also be explained together with how it is identified, procedures for dealing with ordnance discoveries, and contact telephone numbers.

3.8.1 Effectiveness

The Internet web page would be very effective in presenting information about the former Camp Hero. However, it would be necessary to update the web page as additional studies are implemented pertaining to the presence of ordnance. The existence of the web page could be presented in the fact sheet, television, and radio coverage as discussed above.

3.8.2 Implementation

Creation and maintenance of a web site could be done by Parsons in coordination with the USACE. Information to be included on the website would be provided by the USACE and updated accordingly.

3.8.3 Cost

The cost to design a web site varies from $50.00 to $150.00 per hour. If the design requires 100 hours at $100.00 per hour including review, revisions, and placing the site on the Internet, the total cost would be $10,000.

3.8.4 Management, Execution, and Support Roles

To create a web site, USACE should coordinate with information and technology professionals who could prepare the web page and establish it online. The web site could provide links to other important government agencies relevant to ordnance handling and identification. Similarly, local government and community organizations could also include a link to the former Camp Hero EE/CA web site.

3.9 AD HOC COMMITTEE AWARENESS PROGRAM

Creation of an Ad hoc committee, composed of influential members of the community and a representative from the USACE, would serve as a mechanism for facilitating implementation of the recommendations of the EE/CA, including this Institutional Analysis. This committee would serve as the primary proponent for public awareness of the presence and handling of ordnance on the former Camp property. In this capacity, the committee would work to insure the overall effectiveness of each of the recommended institutional control awareness programs. They would be responsible for analyzing the effectiveness of the awareness programs on a regular basis and recommending changes as necessary to maximize the impact of the message to the largest sector of the public.

3.9.1 Effectiveness

The Ad hoc committee would be very effective in providing a proponent for public awareness. This group would ensure that information alternatives are implemented and would provide ongoing review of the effectiveness of the recommended awareness programs. Less effective measures could be discontinued. This type of committee is the most effective mechanism for ensuring the implementation of a program of institutional controls.

3.9.2 Implementation

The creation of an Ad hoc committee should be easy to implement. Influential members of the community, property owners within the former Camp, and local officials would be contacted about the formation of such a committee.

3.9.3 Cost

The members of the Ad hoc committee would not be paid for their time. Therefore, the estimated cost to implement this alternative would be approximately $2,000 for the first year and $1,000 for each subsequent year. The costs would include retaining services of a stenographer to record meeting minutes, plus cost associated with the purchase of stationery, copies, telephone calls, and other miscellaneous expenses.

3.9.4 Management, Execution, and Support Roles

To create an Ad hoc committee, the USACE must contact influential members of the community and form the committee. Meeting rooms and a stenographer must be secured. It is suggested that a minimum of two meetings be conducted the first year and at least one per year thereafter.

3.10 OTHER METHODS OF BEHAVIOR MODIFICATION THROUGH PUBLIC AWARENESS

3.10.1 This Institutional Analysis includes the most common, appropriate, and effective institutional control alternatives available at this time. However, other methods of educating, informing, and modifying the behavior of the public currently exist and will continue to be improved upon.

3.10.2 Technological advances are anticipated that will result in the creation of new opportunities to improve the information/education process. Other public awareness programs not addressed in the previous sections of this report have not been fully developed and may warrant further consideration at a later date. It is imperative that the USACE and the local institutions stay attuned to new and innovative methods to keep the public informed. It is likely that the recommendations presented in this report may become obsolete at some time in the future.

CHAPTER 4
RECOMMENDATIONS

4.1 This chapter of the Institutional Analysis (IA) for the former Camp Hero (Camp) includes a list of recommended institutional control alternatives that could be implemented to promote public awareness of the potential presence of ordnance. The recommended alternatives were selected from the alternative descriptions and evaluations presented in Chapter 3.0. These alternatives have been proposed as a result of discussions with the USACE and with local county officials and staff; the professional experience of Parsons ES with IA, and an overall knowledge of the site and conditions. The recommendations are considered to be appropriate methods for the reduction of potentially hazardous ordnance to the public. The recommended institutional control alternatives are considered to be an effective complement to the removal activities discussed in the Engineering Evaluation/Cost Analysis (EE/CA).

4.2 The recommended alternatives are presented to inform and educate all property owners within the former Camp property. The recommended alternatives should also inform and educate the surrounding community and visitors about the potential of ordnance on the site. The effectiveness, implementation, and cost of all the alternatives evaluated are summarized in Table 4-1.

4.1 RECOMMENDED ALTERNATIVES

All of the institutional control alternatives presented and discussed in Chapter 3 are fairly effective and could be implemented. Those recommended below have been selected because they appear to provide the approach to control through the education process that should have the greatest potential of reaching the largest number of people. The rationale for selection of the recommended alternatives to be implemented is included with the recommendations.

4.1.1 Brochure/Fact Sheet

4.1.1.1 The fact sheet should be delivered to all property owners and residents within the area of the former Camp. In addition, brochures would need to be sent to Montauk Point State Park and Montauk Historical Lighthouse Commission to be distributed to visitors. The USACE could distribute the existing brochure to all property owners at a cost of less than $1,000.

4.1.1.2 The fact sheet should be updated when additional information is available on the amount and location of ordnance, plans for construction activities, or any other relevant information. The cost to prepare, print, and distribute the revised fact sheet is between $15,000 and $18,000.

4.1.2 Exhibits/Displays

Placing exhibits/displays in high-traffic, public, or tourist areas where the public will be exposed to educational information can be an effective method of raising and preserving general awareness and educating the public on the possible risk associated with the ordnance on the former Camp property. The displays could be located at the Montauk Point State Park information centers and at the Montauk Point Lighthouse. These displays cost between $50.00 and $500.00 each. A 34 x 22 inch display mounted on foam board is approximately $25.00, not including production or lamination.

4.1.3 Visual and Audio Media

4.1.3.1 Two visual media programs, a 30-minute television special, and a 5 to 7-minute videotape for television, civic clubs, and other use, would be very effective tools in educating the public about ordnance safety. Through television and classrooms, these programs could reach a majority of the local population. The estimated cost of preparation of the two visual media programs and making adequate copies available is $26,000. The estimated annual cost to maintain the videos and update them every 3 years averages $2,000 per year.

4.1.3.2 WEHM 96.7 provides local access radio to the area. The use of local radio programming is a very effective means of informing and educating the public about the history, current status, and future information concerning the presence of ordnance on the former Camp property. To assure that correct information is discussed, the fact sheets should be made available to the radio station.

4.1.4 Newspaper Articles/Interviews

Newspaper articles and interviews serve as an effective tool for educating the public at no cost to the USACE. "Public friendly" newspaper articles could be coordinated through journalists with the local newspapers, the East Hampton Independent and the East Hampton Star, that discuss the existence of ordnance, the potential danger, and how that danger can be minimized through education.

4.1.5 Ad hoc Committee

This committee of interested citizens would oversee the public education process about the existence and potential danger of ordnance. It will be the responsibility of this committee to see that the other recommendations for public education are instituted and maintained. The cost to organize and maintain the committee is estimated at $2,000 for the first year with an ongoing annual cost of $1,000.

4.1.6 Information Packages to Public Officials

The appropriate agency leaders and public officials at the State of New York Parks Commission and the Montauk Historical Society Lighthouse Commission are aware of potential ordnance contamination. They should be provided with more detailed current information on the concept of institutional controls and on the extent of ordnance contamination. An information package produced by USACE, possibly from maps from

the Engineer Evaluation and Cost Analysis (EE/CA) Report defining primary areas of concern, would be valuable for the public officials. A report summarizing the final EE/CA report could be included in the Master Plan and Management Plan of Montauk Point State Park. This would that future park superintendents are appraised of the issue. Local public officials will be invited to public presentations of the EE/CA and will receive copies of the EE/CA.

4.1.7 Internet Web Site

Parsons ES has established a project web page on the Internet to document the progress of the EE/CA investigation (www.projecthost.com). At the completion of the project, administration of this web site may be transferred to a local entity such as the State of New York Parks Commission. The creation of a supplemental web page on the Internet could be used as a method of raising and preserving general awareness and educating the public about the presence of ordnance on the former Camp property. The web page could be designed to include the history of the site, the history of ordnance finds, and cleanup. The fact that ordnance exists on the site would also be explained together with how it is identified, procedures for dealing with ordnance discoveries and contact telephone numbers. The cost to design a web site varies from $50.00 to $150.00 per hour. If the design requires 100 hours at $100.00 per hour including review, revisions, and placing the site on the Internet, the total cost would be $10,000.

4.2 PHASING OF ALTERNATIVES

4.2.1 These alternatives are presented above in the recommended order of importance. The most important institutional control available to the property owners of the former Camp is the distribution of brochures and preparation of displays and exhibits. This process can be utilized to inform all individuals that have the potential to be exposed to ordnance. In order to educate park attendees within the former Camp area, brochures will be given upon entrance into the park and at the Montauk Historical Society Lighthouse. In addition to brochures, displays can provide an additional avenue for public education. The displays can be constructed at the park information center and at the Montauk Historical Society Lighthouse. These alternatives would best inform park attendees that reside beyond the local community as well as the local citizens.

4.2.2 The most immediate action that can be taken is the distribution of the fact sheet to all property owners, newspaper, local access television, and local access radio. The fact sheet provides background about the depot, the potential for ordnance, and the probable locations of the ordnance. This fact sheet will be distributed to property owners, visitors, and tenants of the former Camp.

4.2.3 Newspaper coverage of ordnance and ordnance safety provides information on a community and regional level with no additional funding requirement. The preparation of the two visual media presentations to use on television and civic groups will be a very effective educational tool. Although the preparation costs of these presentations are high, it will be money well invested to educate the community. The ad

hoc committee is necessary if the other controls are to be instituted and maintained. Minimal cost will be incurred in forming and operating the committee.

4.3 ALTERNATIVES NOT RECOMMENDED

Those alternative institutional controls not recommended are viable educational tools, but are considered to be either inappropriate for this venue or will not educate a large percentage of individuals accessing the former Camp property. The rationale for these controls not being included is as follows:

4.3.1 Signage and Fencing

Signage and fencing are not considered viable institutional controls. The use of signage as an institutional control is not effective because it would provide no control over access to the former Camp. Fencing is not recommended to be placed by the government because fencing the entire area would be economically and physically prohibitive and provide little control over access.

4.3.2 Land Use Restrictions and Regulatory Control

Since there are adequate land use controls in place for the former Camp property, the need for additional land use restrictions and regulatory control are unwarranted. Land use controls would not be effective on the state and federally owned lands of the former Camp unless property is transferred or sold to private owners.

4.3.3 Notifications

The placement of notices on deeds, during the permitting process, during property transfer or on annual tax bills is not recommended. The former Camp property is government owned, and the property is not subject to a permitting process or annual tax bills. Therefore, notification on tax bills and during the permitting process is ineffective as an institutional control. The land use as a State Park is not expected to change, as a result, notification on deeds and during property transfers is unnecessary.

4.3.4 Classroom Education

Providing education through the classroom would be a very effective method of modifying behavior by informing the public of the potential presence of ordnance at the former Camp. However, the former Camp lies mostly within a State Park and classroom education would not be effective in educating Park attendees not within the local community. The cost of producing, maintaining, and updating this kind of public education is significant and is expected to inform a limited number of park attendees.

4.4 COST

The estimated total cost to implement the seven (7) recommended institutional control alternatives are presented with the initial cost and the yearly cost. Alternatives that would not incur any additional expense are not considered in the following table.

Institutional Control	Initial Cost	Yearly Cost
Distribute Existing Fact Sheet	$1,000	None
Prepare & Distribute Updated Fact Sheet	$18,750	None
Prepare & Distribute Videos	$26,000	$2,000
Prepare & Construct Displays	$1,100	$100
Prepare information packages for public officials	Minimal	None
Prepare information for the web site	10,000	$300
Ad hoc Committee	$2,000	$1,000
TOTAL	**$58,850**	**$3,400**

4.5 MANAGEMENT, EXECUTION, AND SUPPORT ROLES

4.5.1 To implement any of the recommended institutional control alternatives, the USACE must first provide the funding and produce the necessary media and other information. The recommended approach for the USACE is as follows:

1. Prepare and distribute the existing fact sheet.
2. Prepare an information package for public officials.
3. Prepare and install visual displays and exhibits.
4. Prepare videotapes.
5. Prepare OE safety information for the web site.
6. Prepare media releases for the local newspaper, television, and radio stations.
7. Provide assistance in organizing the Ad hoc committee.

4.5.2 The USACE will provide the basic information and assistance required to organize the institutional controls. If institutional controls are to be a success, local ownership and support will be necessary. The primary local proponent of institutional controls must be State of New York Parks Commission. Support from other local institutions may be needed to disseminate the information to the public at large and enforce the concept of institutional controls.

Table 4–1: Evaluated Institutional Control Alternatives

Alternative	Effectiveness	Implementation	Initial Cost	Annual Cost
Access Control				
Fencing	Not Effective	Not Recommended	Not Determined	Not Determined
Signage	Not Effective	Not Recommended	Not Determined	Not Determined
Land Use Restrictions & Regulatory Control	Not Effective	Not Recommended	Not Determined	Not Determined.
Notice				
Deed Notification	Not Effective	Not Recommended	Not Determined	Not Determined
At Property Transfer	Not Effective	Not Recommended	Not Determined	Not Determined
At Permitting	Not Effective	Not Recommended	Not Determined	Not Determined
Tax Bills	Not Effective	Not Recommended	Not Determined	Not Determined
Printed Media				
Brochures/Fact Sheets	Effective	Recommended	$18,750	None
Newspaper Articles	Effective	Recommended	None	None
Information Packages	Somewhat Effective	Recommended	Minimal	Minimal
Visual Media				
Videotapes	Effective	Recommended	$26,000	$2,000
Classroom Education	Not Effective	Not Recommended	Not Determined	Not Determined
Exhibits/Displays	Effective	Recommended	$1,100	$100
Internet Web Site	Somewhat effective	Recommended	$10,000	$300
Ad hoc Committee	Effective means of ensuring implementation of other alternatives	Recommended	$2,000	$1,000

CHAPTER 5
FORMER CAMP HERO FACT SHEET

PARSONS

Camp Hero Engineering Evaluation/Cost Analysis

Key Services

- Location Surveys and Mapping
- Geophysical Investigation
- Intrusive Investigations
- Technical Project Planning
- Institutional Analysis
- Impact Analysis
- Action Memorandum
- Community Relations Support

Location

Montauk, New York

Client

U.S. Army Corps of Engineers-Huntsville

Client Contact

CENAN-PP-E (Luz Spann-LaBato)
U.S. Army Corps of Engineers, New York District
State Highway 18, Turnpike
Metroplex Building, Suite 205
East Brunswick, NJ 08816
Tel: (732) 435-0079
Fax: (732) 249-0734
Email: luz.o.spann-labato@nan02.usace.army.mil

CEHNC-OE-DC (Roland Belew)
U.S. Army
Huntsville Div., Corps of Engineers
P.O. Box 1600
Huntsville, AL 35807-4301
Tel: (256) 895-1553
Fax: (256) 895-1378
Email:
roland.g.belew@hnd01.usace.army.mil

Project Manager

Don Silkebakken, P.E.

Dates

12/00 – 12/01

Contract Type

Time and Materials

Contract / Job Numbers

DACA87-00-D-0038 / 739306

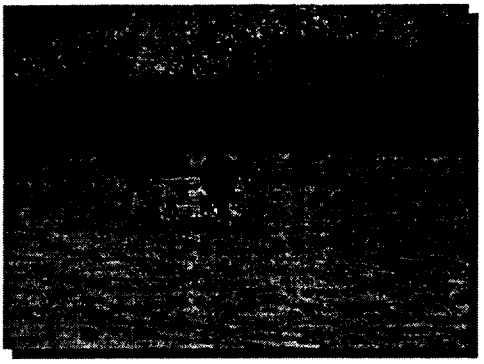
Project Description

Parsons was contracted to conduct an Engineering Evaluation/Cost Analysis (EE/CA) investigation of the former Camp Hero (the Camp) in Montauk, New York for the U.S. Army Corps of Engineers (USACE) Engineering and Support Center (USAESCH) and the USACE New York District. The purpose of the EE/CA is to characterize ordnance and explosives (OE) contamination, analyze risk management alternatives, and recommend feasible OE risk reduction alternatives for the Camp.

The former Camp Hero was established in 1942 to serve as a coastal defense installation during World War II. The Camp was built on approximately 469 acres and housed up to 600 enlisted men and 37 officers. In order to serve as a defense installation, three (3) batteries were constructed at the Camp: Battery 112, Battery 113, and Battery 216. Battery 112 and 113 each contained two 16-inch casemated guns. Battery 216 contained two 6-inch shielded guns. The guns were manned by troops from the 11th Coast Artillery Regiment and the 242nd Connecticut National Guard Coast Artillery Regiment. Batteries 112 and 113 used 16-inch 2240-pound projectiles. Battery 216 was equipped to handle 6-inch 90-pound high explosive rounds and 6-inch 105-pound armor piercing rounds. Reportedly, the 16-inch and 6-inch guns were fired only occasionally and only for practice purposes. According to historical documentation, the munitions for these guns were stored at an undisclosed location off-site. To protect against air attack, antiaircraft munitions such as 37mm weapons and .50 caliber anti aircraft automatic weapons were used. In 1947 the Camp was placed on inactive status and in 1949 declared excess and demilitarization and scrap removal of the batteries began.

The U.S. Air Force began utilizing the vacant Camp in 1951 for Antiaircraft Artillery (AAA) training. The munitions used during the training activities include 90mm guns, 120mm guns, .50 caliber machine guns, and 3.5-inch rockets. The training continued until 1957. During the years the U.S. Air Force occupied the Camp, they built and operated the Air Defense Direction Center at the Camp. The purpose of the center was to provide radar surveillance for the detection, identification, and interception of all aircraft entering its radar. The surveillance program was discontinued in 1980.

The Camp was gradually sectioned off and given to various stakeholders. The current stakeholders include the State of New York, the Coast Guard, and the town of East Hampton, which includes various private landowners. Most of the former Camp has been designated as a limited access public park.



As part of the EE/CA effort, a variety of tasks are conducted. Location surveys and mapping of the areas of interest are performed to identify the placement of sampling grids and "meandering paths" for the geophysical investigation. The geophysical investigation activities will include the use of grids and the "meandering path" geophysical methodology in order to delineate OE contamination at the Camp. The geophysical field effort will include the use of Global Positioning System (GPS) combined with the EM-61 Time Domain Metal Detector (pictured above) geophysical instrument selected during the equipment prove-out conducted during the week of March 5-March 9, 2001. This instrument will be used both in "wheel-mode" and "litter carry" configurations depending on the terrain features. The Parsons Geophysical Coordinator will determine which metallic anomalies recorded during the geophysical investigation will be intrusively investigated. The UXO subcontractor, USA Environmental, Inc. (USA), will perform the intrusive investigations of the anomalies selected by Parsons and approved by USAESCH. These tasks will characterize the OE contamination that may be present at the Camp.

In addition to the aforementioned activities, there are other tasks included in the EE/CA process. Technical Project Planning provides a mechanism for input from the Government and stakeholders regarding project objectives and constraints. Institutional Analysis is conducted to present site conditions in relation to ownership, zoning, future development plans and local and State participation in planning activities. An Impact Analysis model will be developed in order to determine the baseline public exposure and the predicted risk reduction for any proposed remediation areas.

All of the preceding project components are compiled in the project EE/CA Report. The report will include removal action alternatives, if warranted, and a risk assessment for each area of interest at the Camp. Upon approval of the Final EE/CA Report, an Action Memorandum will be prepared and submitted to USAESCH for review. The Action Memorandum will recommend feasible OE risk reduction alternatives for the Camp. Throughout the EE/CA process, Parsons will provide community relations support to USAESCH.

Key project team members:

Parsons

- **Ken Stockwell (Program Manager)**
- **Don Silkebakken (Project Manager)**
- **Greg Hedrick/John Kertesz (Site Manager)**
- **Mike Short (Technical Project Planning)**
- **Andy Schwartz/Greg Van (Geophysical Coordinator)**
- **Mary Jo Enderby (GIS Coordinator)**
- **USA Environmental, Inc. (UXO Subcontractor)**

Others

- **USACE, New York District**
- **New York State, Office of Parks, Recreation, and Historic Preservation**
- **Montauk Historical Society**

Project Website

- ***www.projecthost.com***

CHAPTER 6
INSTITUTIONAL DATA SURVEY FORMS

All persons contacted by Parsons were requested to respond to the questions provided in the Former Camp Hero Institutional Analysis Survey Form, which is included on the following pages. Forms were completed by Parsons for the following individuals, and are included on the following pages.

Abrosio, Thomas, Executive Director
Montauk Historical Society Lighthouse Commission
RFD 2 Box 112 Montauk, NY 11954
(631) 668-2544 ext. 23

Eberhard, John
New York State Parks Commission
Albany, NY 12238
(518) 486-2923

BLANK INSTITUTIONAL SURVEY FORM

Former Camp Hero Institutional Analysis

Date:
Time:
Place:

The purpose of this inquiry is to determine the organizations that will have ownership, jurisdiction, or other impact on the proposed reuse of the former Camp Hero. This information will be utilized in the preparation of recommendations for institutional controls for the proposed reuse. Not all of the questions may apply to you and your organization.

Your participation in this interview is appreciated.

1. Name of Respondent: _____

   Title: Executive Director _____

2. Name and address of organization: _____

   _____

3. Type of organization (check one)

☐ Private Business		Special Interest Group
☐ Federal Government	☐ Special District	☐ Environmental
☐ State Government	☐ Civic or Service Org.	☐ Recreation
☐ Local Government	☐ Professional Society	☐ Other (specify below)

   _____

4. What is the overall purpose of this organization?

   _____

5. What is the basis for the creation of your organization?

☐ Federal Law	☐ Public Charter
☐ State Law	☐ Special Act
☐ Local Law	☐ Private Charter
☐ Other (specify below)	

   _____

6. What is the jurisdictional level of the organization?

☐ National	☐ Suffolk County
☐ State of New York	☐ Other (specify below)

7. What powers and/or authorities does your organization exercise?

- ☐ Make Laws
- ☐ Make Rules
- ☐ Make Policy
- ☐ Taxing Power
- ☐ Purchase Property
- ☐ Condemn Land
- ☐ Make Contracts
- ☐ Sell Bonds
- ☐ Receive Gifts
- ☐ Land Use Control
- ☐ Enforce laws
- ☐ Other (specify below)

_____

8. What geographic area(s) is (are) served by the organization?

_____

9. Does your organization have a concern or responsibility for public safety and related land management?

☐ Yes ☐ No

10. Which of the following categories of work best describe your organization's activities (more than one may be checked)?

- ☐ Regulation
- ☐ Finance
- ☐ Operation of existing facilities
- ☐ Maintenance of existing facilities
- ☐ Planning new facilities
- ☐ Engineering and/or construction
- ☐ Advisory
- ☐ Enforcement
- ☐ Basic research
- ☐ Legislative involvement
- ☐ Public education
- ☐ Resource use

11. Which of the following subjects are important to the work of your organization?

- ☐ Public safety
- ☐ Recreational use of water/land resources
- ☐ Conservation of wildlife
- ☐ Management of resources related to water
- ☐ Control of land use
- ☐ Environmental preservation
- ☐ Other _____

12. What organizations do you regularly contact during the course of work?

_____

13. What specific regulations/rules dealing with public safety/management does your organization use?

- ☐ Federal laws/regulations
- ☐ Other sources
- ☐ Agency rules/policies
- ☐ State laws/regulations

14. Does your organization have jurisdiction over other organizations?

☐ Yes ☐ No

15. If the answer to question 14 is yes, please list these organizations.

a. _____

b. _____

c. _____

16. Other Information:

_____

_____

COMPLETED INSTITUTIONAL DATA SURVEY FORMS

Former Camp Hero Institutional Analysis

Date: 3/2/01

Time: 3:00

Place:

The purpose of this inquiry is to determine the organizations that will have ownership, jurisdiction, or other impact on the proposed reuse of the former Camp Hero. This information will be utilized in the preparation of recommendations for institutional controls for the proposed reuse. Not all of the questions may apply to you and your organization.

Your participation in this interview is appreciated.

1. Name of Respondent: Tom Abrosio

   Title: Executive Director

2. Name and address of organization: Montauk Historical Society Lighthouse Commission
   2000 Montauk Highway
   Montauk, NY 11954

3. Type of organization (check one)

- ☒ Private Business
- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☐ Special District
- ☐ Civic or Service Org.
- ☐ Professional Society

Special Interest Group

- ☐ Environmental
- ☐ Recreation
- ☒ Other (specify below)

Historical Landmark

4. What is the overall purpose of this organization?

   To oversee the Montauk Historical Lighthouse

5. What is the basis for the creation of your organization?

- ☐ Federal Law
- ☐ State Law
- ☐ Local Law
- ☐ Other (specify below)
- ☐ Public Charter
- ☐ Special Act
- ☒ Private Charter

6. What is the jurisdictional level of the organization?

- ☐ National
- ☐ State of New York
- ☐ Suffolk County
- ☐ Other (specify below)

7. What powers and/or authorities does your organization exercise?

☐ Make Laws	☐ Purchase Property	☐ Receive Gifts
☐ Make Rules	☐ Condemn Land	☐ Land Use Control
☐ Make Policy	☐ Make Contracts	☐ Enforce laws
☐ Taxing Power	☐ Sell Bonds	☒ Other (specify below)

The functioning of the Light House

8. What geographic area(s) is (are) served by the organization?

9. Does your organization have a concern or responsibility for public safety and related land management?

☒ Yes ☐ No

10. Which of the following categories of work best describe your organization's activities (more than one may be checked)?

☐ Regulation	☐ Advisory
☐ Finance	☐ Enforcement
☐ Operation of existing facilities	☐ Basic research
☐ Maintenance of existing facilities	☐ Legislative involvement
☐ Planning new facilities	☒ Public education
☐ Engineering and/or construction	☐ Resource use

11. Which of the following subjects are important to the work of your organization?

☐ Public safety	☐ Control of land use
☐ Recreational use of water/land resources	☐ Environmental preservation
☐ Conservation of wildlife	☒ Other Historical Preservation
☐ Management of resources related to water	

12. What organizations do you regularly contact during the course of work?

13. What specific regulations/rules dealing with public safety/management does your organization use?

☐ Federal laws/regulations	☐ Agency rules/policies
☐ Other sources	☐ State laws/regulations

14. Does your organization have jurisdiction over other organizations?

☐ Yes ☒ No

15. If the answer to question 14 is yes, please list these organizations.

a. _____

b. _____

c. _____

16. Other Information:

_____

_____

Former Camp Hero Institutional Analysis

Date: 8/6/01
Time: 3:00
Place:

The purpose of this inquiry is to determine the organizations that will have ownership, jurisdiction, or other impact on the proposed reuse of the former Camp Hero. This information will be utilized in the preparation of recommendations for institutional controls for the proposed reuse. Not all of the questions may apply to you and your organization.

Your participation in this interview is appreciated.

1. Name of Respondent: John Eberhard

   Title: New York State Park Commission

2. Name and address of organization: New York State Parks Commission
   Albany, NY 12238

3. Type of organization (check one)

☐ Private Business		Special Interest Group
☐ Federal Government	☐ Special District	☐ Environmental
☒ State Government	☐ Civic or Service Org.	☐ Recreation
☐ Local Government	☐ Professional Society	☐ Other (specify below)

4. What is the overall purpose of this organization?

   To manage New York State Parks

5. What is the basis for the creation of your organization?

☐ Federal Law	☐ Public Charter
☒ State Law	☐ Special Act
☐ Local Law	☐ Private Charter
☐ Other (specify below)	

6. What is the jurisdictional level of the organization?

☐ National	☐ Suffolk County
☒ State of New York	☐ Other (specify below)

7. What powers and/or authorities does your organization exercise?

- ☐ Make Laws
- ☒ Make Rules
- ☐ Make Policy
- ☐ Taxing Power
- ☒ Purchase Property
- ☐ Condemn Land
- ☐ Make Contracts
- ☐ Sell Bonds
- ☐ Receive Gifts
- ☒ Land Use Control
- ☐ Enforce laws
- ☐ Other (specify below)

_____

8. What geographic area(s) is (are) served by the organization?
State of New York_____

9. Does your organization have a concern or responsibility for public safety and related land management?

☒ Yes ☐ No

10. Which of the following categories of work best describe your organization's activities (more than one may be checked)?

- ☐ Regulation
- ☐ Finance
- ☒ Operation of existing facilities
- ☐ Maintenance of existing facilities
- ☐ Planning new facilities
- ☐ Engineering and/or construction
- ☐ Advisory
- ☐ Enforcement
- ☐ Basic research
- ☐ Legislative involvement
- ☒ Public education
- ☒ Resource use

11. Which of the following subjects are important to the work of your organization?

- ☒ Public safety
- ☒ Recreational use of water/land resources
- ☒ Conservation of wildlife
- ☒ Management of resources related to water
- ☒ Control of land use
- ☒ Environmental preservation
- ☐ Other _____

12. What organizations do you regularly contact during the course of work?

_____

13. What specific regulations/rules dealing with public safety/management does your organization use?

- ☐ Federal laws/regulations
- ☐ Other sources
- ☒ Agency rules/policies
- ☒ State laws/regulations

14. Does your organization have jurisdiction over other organizations?

☐ Yes ☒ No

15. If the answer to question 14 is yes, please list these organizations.

a. _____

b. _____

c. _____

16. Other Information:

_____

_____

APPENDIX E
RESPONSE TO COMMENTS

From: Belew, Roland G HNC [Roland.G.Belew@hnd01.usace.army.mil]
Sent: Tuesday, February 19, 2002 9:16 AM
To: Silkebakken, Don
Subject: FW: Revised Hero Sections

Importance: Low

-----Original Message-----
From: Edwards, Debra L HNC
Sent: Friday, February 15, 2002 4:47 PM
To: Belew, Roland G HNC
Cc: Don.Silkebakken@parsons.com
Subject: RE: Revised Hero Sections
Importance: Low

Below is my initial response on the revised sections. I may have additional comments upon further review.

1. My previous comment was: "Section 3.1.7.2 states that 544 anomalies investigated and there were 36 false positives. Subtracting 36 from 544 gives you 508. However, section 3.2.3.4 states that 507 of the 544 anomalies contained items..." This comment was not resolved. Restating this comment another way, in section 3.1.8.1, the following is stated "Twenty-nine anomalies were OE-related scrap items, 134 anomalies were non ordnance-related scrap items, and 344 anomalies were other items (mostly metal-bearing rocks)." Adding 29+134+344+36(false positives)=543. What is the 544th anomaly?

Upon recount, a non ordnance-related scrap item was not counted from Area H. This brings the total for that category to 135 for the site and the total number intrusively investigated remains at 544. 29 ordnance-related scrap anomalies were recovered during the intrusive investigation. In several instances, more than one item was recovered from a specific anomaly. The text of Section 3 was revised to clarity that in Area H 21 OE scrap items were found from 19 anomalies and in Area K 18 OE scrap items were found from 10 anomalies. NOTE: During brush cutting activity a number of ordnance-related debris was recovered on the surface of Area H. This debris was not attributable to a specific anomaly as the geophysics had yet to be conducted. Furthermore, the OE scrap encountered during the mag and dig intrusive investigation of the bluff was not digitally recorded and also not attributed to a specific anomaly. This fact is stated in the text in paragraph 3.1.3.4 second to last sentence and 3.1.3.5.

Addtional comments:

2. Section 9: Section 9 there is no recommendation addressed specifically for the parts of Area K which are not contained in the revised Area K. Will this be Institutional Controls (that was my original belief)? If so, see next comment.

Section 9 was expanded for clarification of the IC implementation.

3. ES10: This last sentence states: "No OE response action is proposed for the approximately 36 remaining acres of Area K." Does this mean no

Institutional Controls? (Recall one isolated OE scrap item was found along the beach of Area K outside of the revised Area K.) If Institutional Controls cover the entire Areas A, H, and K, make it clear.

The paragraph was revised for clarification. No OE REMOVAL action is recommended for the remainder of Area K but IC components will still be implemented.

-----Original Message-----
From: Belew, Roland G HNC
Sent: Wednesday, February 13, 2002 4:05 PM
To: Simmons, Margaret P HNC; Hamley, Toni S HNC; Edwards, Debra L HNC; Morgan, Cecil W HNC; LaHoud, Paul M HNC; Potter, John C HNC; Berry, Patricia T HNC; Youkey, Carol A HNC
Subject: FW: Revised Hero Sections

Enclosed are revisions to everyones comments from the contractor. The only exception is the Recurring Review plan which John Potter said will be done on all new unawarded EECAs but will not be retroactive to ones already awarded. Please review the corrections pertainiing to your comments and reply back with either concurrence or non-concurrence. Use same labor code from EECA review board.
thanks
Roland

-----Original Message-----
From: Don Silkebakken [mailto:Don.Silkebakken@parsons.com]
Sent: Tuesday, February 12, 2002 10:17 AM
To: Belew, Roland G HNC
Subject: Revised Hero Sections

Roland,

Attached are the response to Tech Review Board comments and the changes sections of the document as indicated in the responses. Outstanding issues remain Toni's request for Draft Recurring Review Plan and Manthey's Section 4 Comments. The section 4 comments are minor and all changes will be made as requested. Please provide concurrence with changes and I will issue the necessary slip pages for the document to all parties.

I will be in a management class the rest of the day and will provide the Section 4 details tomorrow.

Don

From: Belew, Roland G HNC [Roland.G.Belew@hnd01.usace.army.mil]
Sent: Wednesday, February 20, 2002 9:54 AM
To: Morgan, Cecil W HNC
Cc: Silkebakken, Don
Subject: RE: Hero

thanks Bud.

> -----Original Message-----
> From: Morgan, Cecil W HNC
> Sent: Wednesday, February 20, 2002 8:51 AM
> To: Belew, Roland G HNC
> Subject: Hero
>
> Roland,
> I reviewed the documents that you sent and it appears that my concerns
> were addressed. I had a bad printer, so my copy wasn't very good so I may
> have missed something, but for general concurrence, I agree that it meets
> my concerns. Thanks...Bud
>
> Cecil W. (Bud) Morgan
> Cecil W. (Bud) Morgan, PE
> Environmental/Civil Engineer
> CEHNC-ED-CS-P
> Ph:256-895-1642, FAX 256-895-1602
> cecil.w.morgan@hnd01.usace.army.mil
>

From: Spann-LaBato, Luz O NAN02
[Luz.O.Spann-LaBato@nan02.usace.army.mil]
Sent: Monday, January 14, 2002 4:07 PM
To: Belew, Roland G HNC
Subject: Camp Hero: Draft Final EE/CA comments

per your request, following are the review comments that I took part in on 11JAN02:
A. Executive Summary, 4th paragraph. Sentence regarding the golf course will be revised for clarity.

The recreational availability of the project site was clarified to indicate that the Park is generally open to passive recreational use such as hiking, walking, bird watching, and fishing.

B. 3.1.7.1, 3rd sentence will be revised.

The document text was revised for clarity.

C. 4.3.2.1, 3rd sentence will be expanded to state actual site conditions.

The document was revised for typographical error in paragraph as well as to specifically state that no UXO has been found at the site.

D. Maps will be revised to expand more on the meaning of "not investigated".

The document text in Section 3 was revised to explicitly state the meaning of the "not investigated" anomalies as indicated in the legend of the investigation figures. Further, a footnote was added to all of the Figure 3.9 figure set.

Silkebakken, Don

From: Belew, Roland G HNC [Roland.G.Belew@hnd01.usace.army.mil]
Sent: Wednesday, February 20, 2002 9:54 AM
To: Morgan, Cecil W HNC
Cc: Silkebakken, Don
Subject: RE: Hero


ATTACHMENT.TXT

thanks Bud.

> -----Original Message-----
> From: Morgan, Cecil W HNC
> Sent: Wednesday, February 20, 2002 8:51 AM
> To: Belew, Roland G HNC
> Subject: Hero
>
> Roland,
> I reviewed the documents that you sent and it appears that my concerns
> were addressed. I had a bad printer, so my copy wasn't very good so I may
> have missed something, but for general concurrence, I agree that it meets
> my concerns. Thanks...Bud
>
> Cecil W. (Bud) Morgan
> Cecil W. (Bud) Morgan, PE
> Environmental/Civil Engineer
> CEHNC-ED-CS-P
> Ph:256-895-1642, FAX 256-895-1602
> cecil.w.morgan@hnd01.usace.army.mil
>

From: Belew, Roland G HNC [Roland.G.Belew@hnd01.usace.army.mil]
Sent: Friday, February 08, 2002 4:37 PM
To: Silkebakken, Don
Cc: Hamley, Toni S HNC; Potter, John C HNC; LaHoud, Paul M HNC; Simmons, Margaret P HNC; Edwards, Debra L HNC; Morgan, Cecil W HNC; Manthey, James P HNC
Subject: EECA REview Board Comments

Don
Please prepare revisions to the EECA or rebuttals to the following comments and submit to me on Monday or Tuesday at the latest.

1. Removal Action for H and K justification needs to be beefed up. I verbally said why but the board said that is not in the document. i.e. the fact that demo sites in all probability "blow" ordnance into the ground as experienced during a removal action at Dutch harbor summer of 2001. The statement in table 4.6 that the site has "Limited restriction" for these areas is not correct as these areas are open to the public via pathway thru not only the beach but walking down the road. I showed photos of the fishing attached here. <<montauk.ppt>>

Table 4.6 reference to "limited restriction" does not apply to the level of security necessarily. Table 4.3 defines the terms used for considering site accessibility as part of the risk assessment. The term "limited restriction" is defined as "man-made barriers, vegetation that restricts access, water, snow or ice cover, and/or terrain restricts access." Area H and Area K both are impacted by one or more of these components. Thus, Table 4.6 was not revised and Parsons requests USAESCH review for concurrence.

The document was revised to include additional information regarding the characteristics of demolition areas and to provide stronger justification for the proposed removal actions where appropriate. Individual sections of the text where changes were made are listed below.

Minor Revision to ES8
Minor revision para 2.6.4.2
Minor revision para 3.2.2.1
Expansion to para 3.2.2.5
No changes to para 4.2.2.2 but demolition discussion present
Minor changes to para 7.3.6.2 but demolition discussion well detailed here
No changes to Subsections 7.5.3.1 and 7.5.5.1 but detailed justification in support of removal action presented.
Minor changes to Subsections 9.2.2 and 9.2.3

2. State in the EECA that we are not recommending a removal action for the wetlands.

Text was revised for clarification in para ES8, previously stated in 3.2.2.4, mentioned in 7.4.1.7 and 7.4.1.11, already stated in 7.4.1.2, previously stated in 7.5.5.1.3 and Table 8.7 with regards to implementation of a removal action.

3. Clarify your statement and fig 3.5 that state 6 out of 8 acres of area H was "surveyed". Clearly 6 acres was not mapped. You visually surveyed 6 acres but mapped less. Please clarify this. You do not need to discuss your visual survey, only what you mapped.

For Area H 3.29 acres of the possible 6 acres comprising the non-wetland portion of the site was digitally geophysically surveyed although all 6 acres were surface cleared of visual ordnance-related debris. Paragraph 3.2.2.4 was revised for clarity. Paragraphs 3.1.3.1 and 3.1.4.2 were revised to reflect the correct geophysical totals.

4. Add to the EECA that you recommend a beach walk after sever storms to see if ordnance has washed up on the beach.

The EE/CA report text was modified in paragraphs ES9, 7.5.5.1.2, 7.5.5.3, 8.2.2.4, 8.4, 8.5, and 9.2.3 to reflect recommendation of a visual post-removal surface clearance on an annual basis to confirm the absence of OE in Revised Area K. This effort should be conducted either just prior to commencement of the surf fishing season or after a severe storm event.

5. Add more detail to the Exec Summary with respect to institutional controls such as recurring reviews, signs, beach walks after sever storms etc.

The Executive Summary was expanded to include the above referenced IC components.

6. Delete the statement that the removal can be delayed until the current passive recreational use of the area is modified. This is a CENAN comment (We may want to call them Monday to discuss this) This would appear that they want us to be the ones saying a delay is ok and I will not say that.

Statement deleted from the Executive Summary as requested.

7. State in the EECA the intervals at which the recurring reviews will be conducted.

Paragraph 7.3.1.2 has been expanded to update the intervals for application of the recurring review process.

8. The inclusion of a draft recurring review plan will be addressed Monday since this guidance came out after the award of your contract. We may have to revise the doc to add it or not do it depending on what John Potter and Carol Youkey decide.

USAESCH determined recurring review plan is not in the scope of this project. No action was taken.

9. Your annotation on public participation was a disaster! You clearly had a brain failure on this. We have had several TPP meetings and stakeholder input but you reference meetings between the park service and their contractor leaving the impression that that was pertinent to our project. You also state that some of the "Factions" desires were unknown. These were some local people attending the meeting who we briefed without comment on their part. If they don't comment to us, then of course we will not know their final desires or comments until the EECA review period. All people were encouraged to participate and comment during the meetings. Those that did we listened to. Those that did not will have an opportunity to comment during the review phase next month. Your reply should have been short however you gave Toni the impression we had not met with anyone. Please

clean this up in a short statement.

Annotation revised as requested.

Finally, Jim Manthey's comments will come to you on Monday as I am leaving now.

GENERAL:

Paragraph 3.2.2.3 was revised to reflect previous changes requested in the Executive Summary regarding access and Park usage.

U. S. ARMY ENGINEER DIVISION HUNTSVILLE — CORPS ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT: Draft EE/CA for Camp Hero, Montauk, New York C#02-057-02 s: 8 Feb 2002

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	Draft
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	8 Feb 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☒ OTHER	NAME	Manthey (OE MCX 256-895-1588)
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	Table 4.1	Change 'will' to 'may' in type description in all cases but the scrap category. Do not use the Subcategory headings of "Death", etc. Use "Most severe", "Moderate", "Least Severe", and "No Injury" if you want to use descriptive terminology. Recommend just using 1 to 4.	A – Changes made as requested.
2.	Para 4.3.2.1	Revise last sentence to reflect comment 1.	A – Changes made as requested.
3.	Para 4.3.2.3	Recommend the description of OE presence to be qualitative terms. Suggest 4 categories: Potential for OE exists, OE not expected; Potential for OE exists, OE expected; Confirmed OE presence subsurface presence subsurface only; or Confirmed OE presence on surface. In this case I believe that the data may place the OE presence in category "Potential of OE exists, OE expected". Once you complete a removal you will be in the category "Potential of OE exists, OE not expected."	A – Changes made as requested.
4.	Table 4.6	Modify table per comments 1, 3.	A – Changes made as requested.
5.	general	Only Section 4 was reviewed. The comments above may also pertain to sections 7-9.	A – Comment noted.
6.	Section 10	If a recurring review plan is not to be drafted during the EE/CA, notify the district PM that the district is responsible for having a plan in place following the removal action.	A – Defer to the USAESCH PM for this notification.

ACTION CODES
A - ACCEPTED/CONCUR
D - ACTION DEFERRED
W - WITHDRAWN
N - NON-CONCUR
VE - VE POTENTIAL/VEP ATTACHED

From: Spann-LaBato, Luz O NAN02
[Luz.O.Spann-LaBato@nan02.usace.army.mil]
Sent: Monday, January 14, 2002 4:07 PM
To: Belew, Roland G HNC
Subject: Camp Hero: Draft Final EE/CA comments

per your request, following are the review comments that I took part in on 11JAN02:
A. Executive Summary, 4th paragraph. Sentence regarding the golf course will be revised for clarity.

The recreational availability of the project site was clarified to indicate that the Park is generally open to passive recreational use such as hiking, walking, bird watching, and fishing. The Executive Summary and other related portions of the report were revised to reflect that the proposed OE response alternatives could be delayed until such time as more invasive activities are considered for the project areas such as camping and/or cabin constrution.

B. 3.1.7.1, 3rd sentence will be revised.

The document text was revised for clarity.

C. 4.3.2.1, 3rd sentence will be expanded to state actual site conditions.

The document was revised for typographical error in paragraph as well as to specifically state that no UXO has been found at the site.

D. Maps will be revised to expand more on the meaning of "not investigated".

The document text in Section 3 was revised to explicitly state the meaning of the "not investigated" anomalies as indicated in the legend of the investigation figures. Further, a footnote was added to all of the Figure 3.9 figure set.

U. S. ARM . .NGINEERING AND SUPPORT CENTER - HUNTSVILLE CORPS O. ENGINEERS

DESIGN REVIEW COMMENTS PROJECT Camp Hero, NY EE/CA Report CN: 12-153-01 S: 27 Dec. 01

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG
■ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS	

REVIEW Draft Final
DATE ~~27 Dec. 01~~
NAME Bruce Whisenant, ED-CS-P

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1	Note to PM	CEHNC-ED-CS-P reviewed the Draft Final Engineering Evaluation/Cost Analysis for the former Camp Hero located at Montauk New York. The submittal was prepared by Parsons Engineering. The following comments are provided based upon the technical review conducted on this submittal.	A - Noted
2	General	The recommendations for removal actions at two areas (Area H and K) appear unjustified based upon the data collected. No UXO was found but a removal action is recommended. Since this area is under Government control and no UXO was located, institutional controls appear more appropriate for these areas.	A – Institutional Controls are part of the OE response action. However, based on numerous discussions with the project team and future proposed construction and invasive recreational activities, an OE removal is warranted. However, implementation of a removal action could be delayed until such time as the current passive recreational use is modified. The report text was expanded to address this issue.
3	Page ES-2 & ES-3 Par. ES8 & ES9	If area H and K can be adequately justified, then the clearance should be to depth, with 4 feet being the anticipated depth of clearance.	A – Several other reviewers requested changing the four foot depth clearance alternative to just state clearance to depth even though the appropriate default depth is four feet per the current guidance based on current and future land use. Where appropriate in the document text, the actual depth from which OE scrap was recovered was stated and the four foot reference was clarified in the text.
4	Page 3-10 Par. 3.3.3	The onsite CEHNC geophysicist should only be providing QA type anomaly digs. It is the responsibility of the contractor's geophysicist to select the anomalies for evaluation. It appears that the contractor is not taking ownership of the data of this report by the statement provided.	A – Paragraph 3.1.4 was expanded for clarity as to what the active roles were between CENHC and Parsons geophysicists and the anomaly selection process. Paragraph 3.3.3 was revised for

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VE - VE POTENTIAL/VEP ATTACHED

U. S. ARMY ENGINEERING AND SUPPORT CENTER - HUNTSVILLE — CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS — PROJECT Camp Hero, NY EE/CA Report CN: 12-153-01 S: 27 Dec. 01

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG
■ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS	

REVIEW DATE: Draft Final ~~27 Dec. 01~~

NAME: Bruce Whisenant, ED-CS-P

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
			clarification.
5	Page 3-10 Par. 3.2.3.4	State why a removal action to 4 feet is recommended when only scrap was found between 0-12 inches in Area K. This area was recommended for a 4 feet deep clearance.	A - Future land use for this property will likely include increased recreational public use. In accordance with DoD guidance (Ammunition and Explosive Safety Standards, DoD 6055.9-STD July 1999) clearance to depth is the appropriate removal response depth (once a removal is deemed appropriate) for a site with end-use for Public Access, such as Camp Hero. Based on the EE/CA data, It is anticipated that the majority of the OE scrap will be recovered from a depth or 18 inches or less.
6	Page 3-16 Area H and General to the other Site Maps	a) The geophysical data does not contain grid numbers in order to correlate the grids to the data collected. Drawings should be consistent with the data contained in Appendix B. b) The drawings do not provide a color bar scale to indicate the geophysical data intensity. Provide a color scale on the drawing.	A – A combination of grids and meandering path transects were conducted to collect geophysical data to characterize the site. At the current map scale, the details of the individual grids and transects would clutter the figure. This information is included, as well as the color scale, on the individual Anomaly Dig Maps. These maps, although not included in the report, will be provided to USAESCH as part of the final deliverable for the project.

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE — CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT: Camp Hero, N.Y. (Cntrl. No. 12-153-01) S: 27 December 2001

☒ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	Re-Draft EE/CA Report
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	28 January 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME	Tommy Hunt/ED-CS-D/mp
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	General	The following comments were generated for the Draft EE/CA Report for the Former Camp Hero, Montauk, NY., dated 12 October 2001.	A – Noted.
2.	Page 2-9, Figure 2.2	The scale is stated wrong in the title block. The bar scale is correct at 1" = 1000', however this would translate to 1:12,000. Change the title block.	A – Figure revised as requested.
3.	Multiple: Pages 3-19, 3-27, 3-28, and 3-30	The scale is stated wrong in the title block. Why would anyone use a scale or place a scale of 1" = 99.9 feet? The bar scale shown is correct. Where is your QC?	A – Figure revised as requested.
4.	Page 3-31, Figure 3.10	a. The scale is stated correctly within the title block, but I do not know how the bar scale was produced. Why place a bar scale of 1.4" = 420', and then state the scale as 1"=300'. b. The border tick marks are shown with 6 significant digits to the right of the decimal place. Why are we even showing a decimal place within grid ticks?	A – Figure scale and tick mark significant figures revised as requested.
5.	General	Why does Parson have such a difficult time with the QA/QC of there plotted mapping projects? I have had the same or similar comments on several of the last half dozen reports, produced by Parson, in the area of Surveying and Mapping deliverables! Is	A – GIS QC checks have been beefed up and a dedicated project specific QC person assigned.

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DESIGN REVIEW COMMENTS PROJECT Camp Hero, N.Y. (Cntrl. No. 12-153-01) S: 27 December 2001

☒ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	Re-Draft EE/CA Report
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	28 January 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME	Tommy Hunt/ED-CS-D/mp
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		there a lot of communications on the part of CEHNC-ED-CS-D, or a lack of production capabilities with the appropriate office at Parson Engineering Science, Inc.? The presentation of the field efforts look good, but it is the little things of producing engineering quality drawing that seems to be lacking!	
6.	Section 10	If recurring reviews are a recommendation of this report, then stating at what interval the recurring review are proposed shall complete the proposal. Some projects have a 3-year cycle, some projects have a 5-year cycle, and some project have a mix of cycles depending on the physical nature of the site. This will be driven somewhat by the requirements of the responsible District – New York.	A - Noted
7.	General	The Contractor shall supply CEHNC-ED-CS-D copies of all electronic data, figures and tables and other geophysical and mapping data, as part of this EE/CA Report submittal. A copy of this information should also be provided on PC CD-ROM as required by the SOW, prior to review and acceptance of the Final EE/CA Report.	A – All data, inclusive of the GIS database, will be submitted prior to project close-out once all changes to the database and final reports are complete.

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT Control No. 12-153-01, Proj C02NY002404, S: 27 December 01

■ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	Camp Hero EE/CA Draft Final
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	21 December 01
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME	Debra Edwards/ED-CS-G
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	Sect 3.3	It is true that two assumptions were not met. However, applicability of UXO Calculator can be determined invalid based on the one assumption listed in section 3.3.4. There is no reason to even consider using UXO Calculator further since the site does not meet the UXO Calculator requirements, and it is not necessary to include the discussion in section 3.3.3. Therefore, sections 3.3.2 and 3.3.5 can be modified to eliminate reference that 100% of anomalies was not investigated or the sections can be deleted.	A – Sections 3.3.4 and 3.3.5 have been eliminated from the text. Section 3.3 has been revised to limit discussion about UXO Calculator assumptions.
2.	Sect 7.5.3.1.2	Based on the pattern of OE scrap found, I agree with an iterative anomaly removal alternative on both sides of the concentrated OE scrap areas in Area H and Revised Area K. However, based on the lack of statistically significant investigation to the northwest of the scrap pattern, an iterative removal on either or both sides of the present concentrated OE scrap area may be warranted, based on the actual results of the recommended removal within Area H (as recommended in Section 9.2.2).	A – Because the delineation of the area of concern is not precise, the iterative process will provide a mechanism to ensure that the removal action encompasses the entire impacted area.
3.	Table 8.7	Paragraph ES8 states that there are approximately 8 acres in Area H where an OE removal alternative was selected. In Table 8.7 a cost estimate is presented for a total of 7 acres. Is this inaccurate and, in addition, should the additional unknown acreage which will be the result of the iterative removal be estimated and included?	A – Clarification to the number of acres surveyed within Area H can be found in Section 3.2.2.3. The rationale for the 7acre estimation in Table 8.7 has been included in the revised footnotes of that table.
4.	Table 8.8	Should the additional unknown acreage which will be the result of the iterative removal be estimated and included in the cost estimate?	A – See above response with respect to footnote.
5.	Chapters 8, 9 and/or 10	During a previous oral conversation between CEHNC and Parsons, the option to return to the beach and conduct periodic surface clearances was discussed. I did not find this additional recommendation discussed in the	A – References to this annual or seasonal visual surface clearance confirmation was added to the report as previously discussed.

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U. S. ARM[illegible] ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT

■ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME Debra Edwards/ED-CS-G
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		alternatives. Shouldn't it be included?	
6.	General	The following is a general comment which provides interesting supportive information but may not need to be incorporated into the document: Section 7.5.3.1.1 states that 39% of the OE scrap found was recovered within six inches of the surface. Based on my calculations, 94% of the OE scrap was recovered at a depth of 12 inches or less. Note: I have done my own quick-and-dirty calculations based on the dig sheets and come up with the following percentages: OE scrap recovered at six inches or less: 54% (which does not match the 39% listed in the report); OE scrap recovered at 12 inches or less: 94%.)	A – Recalculation of the OE scrap recovered within six inches of the surface produced result of 66%. The text was revised to reflect correction.
7.			
8.			

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DESIGN REVIEW COMMENTS

PROJECT: Draft EE/CA for Camp Hero, Montauk, New York - Control #12-153-01

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW: Camp Hero Draft EE/CA
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE: 20 Dec 01
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	
☒ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		NAME: Crystal Bennett-Echols 256-895-1053

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1	Table of Contents- Page iv	Section 7.5.4.3 is titled "Cost1" - Please correct typo.	A – The text was modified in accordance with the comment.
3	Page 1-4; Figure 1.1	Connect the Parsons Health & Safety Officer to the rest of the chart.	A – Figure 1.1 has been modified in accordance with the comment.
4	Page 2-2; Para. 2.3.1	Place a comma after the word campaigns to make the sentence read easier.	A – The text was modified in accordance with the comment.
5	Page 3-31; Figure 3.10	There is no reference to this Figure. Please include reference in text.	A – Reference to this figure has been added to the Section 3 document text.
6	Page 2-9; Fig. 2.2	Area L is not identified on this map. Please revise to include an Area L marker on the map.	A – Area L represents the water training ranges and a reference has been added to the figure.
8	Page 4-3; Para 4.2.2.4	Please remove the additional period (.) from the end of the paragraph.	A – The text was modified in accordance with the comment.
9	Page 7-6; Para. 7.3.6.1	The last sentence in this paragraph should be revised to read "…….. Area H and *Revised* Area K."	A – The text was modified in accordance with the comment. Paragraph is renumbered as 7.3.6.2.
10	Page 8-1; Para. 8.1.3	The first sentence in this paragraph should be included in paragraph 8.1.2 (summary of analysis). Paragraphs 8.1.3, 8.1.4, and 8.1.5 concern the individual alternatives.	A – The paragraph has been revised to include appropriate changes
11	Page 8-2; Para. 8.2.1	The second sentence in this paragraph should reference Table 8.1 AND Table 8.2.	A – The reference was modified in accordance with the comment.
12	Pg 8-2& 8-3; Para. 8.2.2.1, 8.2.2.2, & 8.2.2.4	The three references to Table 8.2 should be changed to reference Table 8.3 and Table 8.4. Please revise.	A – The references were revised in accordance with the comment.
12	Coversheet	Revise cover sheet to comply with DID OE-010, Item 10.1.3. Revisions shall include: • insert duplicate copy inside the binder • include the Contractor's Address	A – The cover sheet was modified in accordance with the comment.

ACTION CODES
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U. S. ARMY ENGINEERING & SUPPORT CENTER, HUNTSVILLE — CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS PROJECT Draft EE/CA for Camp Hero, Montauk, New York - Control #12-153-01

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	Camp Hero Draft EE/CA
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	20 Dec 01
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME	Crystal Bennett-Echols 256-895-1053
☒ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		• Change "US Corps of Engineers Huntsville Center" to "US ***Army*** Corps of Engineers Huntsville Center"	
13	General	Use the terminology "Clearance to Depth" rather than "Clearance to four feet." This terminology should be used consistently throughout the report. Please revise.	A – The text was modified in accordance with the comment.
14	General	A site where no UXO was found does not warrant clearance to depth. Recommend that risk alternatives be re-evaluated and discuss these alternatives with the project team.	A – The lack of the presence of UXO does not necessarily preclude an OE removal action. In this case, sufficient HE ordnance debris was recovered to confirm that UXO was disposed in Area H and K. Further, planned public recreational use of this area may change to be more invasive than the current passive recreation currently in place, such as construction of cabins. The project team has actively discussed this issue and believes that the recommendations are appropriate. However, the text was revised to indicate that in the absence of invasive activity, the OE response action can be delayed until such time as the land use is modified as planned.

ACTION CODES
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VE - VE POTENTIAL/VEP ATTACHED

U. S. ARM . _NGINEER DIVISION HUNTSVILLE — CORPS OF ENGINEEI

DESIGN REVIEW COMMENTS

PROJECT Former Camp Hero, Montauk New York DACA87-00-D-0038 DO# 0002

☐ SITE DEV & GEO	☐ MECHANICAL	☒ OE SAFETY	☐ SYSTEMS ENG	REVIEW Draft Final EE/CA CN# 12-153-01
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE 28 December, 2001
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME John Younghans, 5-1883
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	General	Title Page missing from the inside of the binder. IAW DID OE-001 paragraph 10.1.3. Include Title Page.	A – Title page has now been included inside binder.
2.	General	IAW DID OE-001 paragraph 10.1.4; last sentence "A dated summary page listing all revised pages shall be submitted with each revision." Although this document appears to be a complete revision a summary page is still required. Include a summary page.	A – All Form 7 response to comments have been included in Appendix E and reference both the change and location in the document.
3.	Page ES-2 paragraph ES8	Last sentence change "to four feet" to "to depth".	A – Text has been changed from "to four feet" to "to depth".
4.	Page ES-3 paragraph ES9	See comment # 3 above.	A – Text has been changed from "to four feet" to "to depth".
5.	Page 3-1 paragraph 3.3.3	Clarify why the "USAESCH geophysicist" and not the Company's geophysicist" is selecting the anomalies that require investigation.	A – Paragraph 3.3.3 has been modified for clarity.
6.	Page 3-6 paragraph 3.1.10	Last sentence states that a "DoD Form 1348-1A is provided in Appendix C." Appendix C does not contain a DoD Form 1348-1A it only has a Certificate of Inert/Non Hazardous Debris Disposal. Include the DoD Form 1348-1A.	A – The text was revised to state that the equivalent information for completion of the Form 1348-1A was provided in Appendix C. The official form cannot be completed and signed at this time and was not available at the time of scrap disposal.
7.	Figure 3.2	Add the locations, to the captions, where these items were located.	A – Items depicted were discovered on ground surface, the exact locations

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U. S. ARM_ _NGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEER

PROJECT

DESIGN REVIEW COMMENTS

☐ SITE DEV & GEO	☐ MECHANICAL	☒ OE SAFETY	☐ SYSTEMS ENG	REVIEW
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME John Younghans, 5-1883
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
			of the items were not recorded at the time of discovery during brush removal. Since OE-Scrap only, location .

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U. S. ARMY ENGINEERING & SUPPORT CENTER, HUNTSVILLE

CORPS ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT: Draft EE/CA Report, Former Camp Hero, Montauk, NY
Revision 0, 17 August 2001

☐ SITE DEV & GEO ☐ MECHANICAL ☐ SAFETY ☐ SYSTEMS ENG
☐ ENVIR PROT& UTIL ☐ MFG TECHNOLOGY ☐ ADV TECH ☐ VALUE ENG
☐ ARCHITECTURAL ☐ ELECTRICAL ☐ ESTIMATING ☒ OE CX TECH REVIEW TEAM
☐ STRUCTURAL ☐ INST & CONTROLS ☐ SPECIFICATIONS

REVIEW: CN: 08-189-01 S: 13 Sep 01
DATE: Friday, February 22, 2002
NAME: John Sikes, OE-MCX, 256-895-1334

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	General	Review of this document indicates an obvious lack of quality control and an inadequate internal review process during its development. Numerous paragraphs are inconsistent, alternatives are not completely formulated, and selected alternatives are not fully supported. See specific comments provided below.	A – The EE/CA Report has been revised to meet the DID format requirements and to incorporate all review comments.
2.	Para ES 6	Area L was excluded based on a USACE Memorandum. This memorandum states that certain areas under water may be excluded if there is a determination that no exposure pathway exists. Recommend this be done, and a statement added to the ES. You may want to simply refer to SOW para 2.4 as your reason for not evaluating Area L.	A – The text was revised as suggested.
3.	Para ES 8	This para recommends further characterization. Isn't that what this EE/CA was supposed to do? "Further Characterization" is not listed as one of the alternatives for consideration.	A – The text has been modified to clarify the recommended OE response alternative for each area investigated at the site.
4.	Para 1.2	Replace with SOW para 1.2, and delete all discussion about permits. This is current Office of Counsel guidance.	A – The text was revised as suggested.
5.	Para 1.5	Recommend using the objectives as documented in SOW para 1.1.	A – The text was revised as suggested.
6.	Para 2.6.2	See comment #2 above.	A – The text was revised for clarification.
7.	Para 2.6.4.2	Here and throughout the entire document you use the term OE, or OE Items, when talking about fragments, or expended cartridge cases. By definition, these ARE NOT OE. Continued incorrect use of terminology overblows the risk at this site. From what I have seen in this document, and from comments you have made, you found no OE or UXO during this EE/CA. Please correct this throughout the document. This will probably mean, alternatives will have to be reconsidered, and the risk assessment will have to be reevaluated.	A – The document has been revised to clarify that OE scrap was found at the site and no OE/UXO. However, Paragraphs 2.6.4.2, 2.6.4.3, and 2.6.4.4 which use the term "OE items" and "OE" in reference to historical findings were copied verbatim from the ASR document prepared by USACE.
8.	Para 2.6.4.3	See comment #7.	A – Please see response to #7.
9.	Para 2.6.4.4	Last sentence: This is not completely correct. Agreed, it may not be technically feasible, but this implies that this area was studied, and an exposure pathway	A – The text was revised for clarification.

ACTION CODES
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DESIGN REVIEW COMMENTS PROJECT

☐ SITE DEV & GEO ☐ MECHANICAL ☐ SAFETY ☐ SYSTEMS ENG
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REVIEW CN: 08-189-01 S: 13 Sep 01
DATE Friday, February 22, 2002
NAME John Sikes, OE-MCX, 256-895-1334

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		exists. Para ES 6 says it wasn't included based on the 1994 Memo. Assure these paragraphs are consistent, and that Area L has been given appropriate attention.	
10.	Para 2.6.4.6	Last sentence: who are the stakeholders mentioned here? I see no evidence of any public meetings held or who was involved in this EE/CA. There is no mention of a community relation plan. Later paragraphs discussing the acceptance of alternatives indicate that stakeholders, the landowners, and the community may not have been involved adequately. This is evidenced by statements that you don't know if certain alternatives will be accepted or not. Please clarify	A – The stakeholders referred to in this paragraph include the local public as several community groups. We have had several TPP meetings and stakeholder input was solicited and documented in the meeting minutes. All people attendees were encouraged to participate and comment during the meetings. Additional comments will be solicited during the review phase next month.
11.	Para 2.6.5.1	Second sentence: What does "confirmed with potential presence of OE" mean? Please clarify.	A – The ASR findings and recommendations report uses this terminology to describe areas at the Camp with reference to need for EE/CA investigation. This determination is described in the prior section 2.6.5. The text was revised for clarity.
12.	Para 2.6.5.2	What OE items? See comment #7.	A – Text was revised to read "OE scrap".
13.		Withdrawn	
14.	Para 3.1.3.4	Last sentence: What OE items? See comment #7.	A – Text was revised to read "OE scrap".
15.	Para 3.1.3.5	Would it be beneficial to have GPS coordinates identified to indicate exactly where work stopped?	A – The navigational limitations were related to real-time movements and holding satellite lock and accuracy. GPS coordinates were readily obtainable for points. Thus all grid corners, wetland extent, reference points, and other pertinent features were recorded. This information was conveyed to the GIS database and is depicted on figures (3.5 and 3.8).
16.	Para 3.1.7.1	The anomaly types identified are not IAW HNC Guidance. See CX Interim Guidance 98-04 at	A – The text was revised with the correct reference. Also, the text in para 3.1.7.1 was revised as

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☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	CN: 08-189-01 S: 13 Sep 01
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	Friday, February 22, 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☒ OE CX TECH REVIEW TEAM	NAME	John Sikes, OE-MCX, 256-895-1334
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		http://www.hnd.usace.army.mil/oew/policy/IntGuidRegs/9804.pdf. This guidance will be updated in the near future to include a category for "OE" also. There should be only four categories for reporting purposes: OE, UXO, Ordnance Scrap, and Other. Also, under para 3.1.7.1, you say UXO are items "related to".....UXO items ARE "military munitions that have been.....", not items "related to". Delete "related to" in this sentence".	requested to remove "related to".
17.	Para 3.1.9	Fragments ARE NOT OE. See comment #7.	A – The text was revised as OE scrap.
18.	Para 3.2.2.4	I think the potential hazard here is overstated. We have found nothing but fragments while intentionally looking for OE, but we say there is still an explosive safety risk to the public. Recommend toning these types of statement down throughout the document.	A – The text was revised to clarify the findings. However, the presence of this material in Area H confirms the site as a demolition area. The text specifically does point out that "no UXO items were found at Area H". Given the intended use of the site for unlimited recreational activities as a State Park the project team believed a removal action is warranted. The presence of the type of OE scrap found at the site is indicative of the likely presence of UXO items based on similar historically investigated sites. There is precedent for OE removals at sites where only circumstantial evidence of UXO was present. The text was revised for clarification.
19.	Para 3.2.2.6	Why is the EE/CA recommending further characterization? That was the objective of this SOW. Project DQO's obviously were not adequate, nor were they adjusted as the project progressed. Please clarify.	A – The format of the document has been revised. Further characterization is not recommended nor necessary for determination of the need for an OE response alternative.
20.	Para 3.2.3.5	I don't understand the sentence that begins "Parsons recommends previously uninvestigated anomalies...." You recommend that they what? If you recommend that they be investigated, how does that recommendation fit in with	A – The format of the document has been revised. Further characterization is not recommended nor necessary for determination of the need for an OE

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REVIEW CN: 08-189-01 S: 13 Sep 01
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ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		the alternatives being evaluated? Please clarify. This para implies that this EE/CA did not adequately characterize the site in order to support subsequent decisions.	response alternative.
21.	Para 3.3.3 and 3.3.5	I don't believe this is an accurate description of UXO Calculator and how it was used on this site. If no UXO were found, the tool assumes one was found, and provides estimates based on that assumption. Include a discussion on this in this section. It appears that the "OE Items" (Fragments) actually found may have been used incorrectly which means the density estimates are not correct. I am not an expert on UXO Calculator, please consult with Jim Manthey on this entire section.	A – Reference to UXO calculator was removed from this portion of the text. The nature of the areas of concern being non-impact areas tends to weaken the hypothesis of homogeneity necessary in the model. Instead, qualitative discussion was added to characterize and evaluate the findings in appropriate sections of the report.
22.	Figure 3.2	The sign in picture 1 and the description of the picture underneath it are not consistent with you definitions. The picture says the items are "Scrap", but the text underneath says items are "fragments". Please clarify.	A – The text in the caption was revised to agree with the text in the picture.
23.	Para 4.3.2.1	Second sentence: You did not find a 105mm HE round. Recommend deleting this sentence.	A - The text item was revised for clarification.
24.	Para 5.2	This paragraph and the IC Report paragraph 2.2.2 don't appear to be consistent. Para 5.2 says only two agencies have "primary" control over the site, while para 2.2.2 says interviews were conducted with personnel from Suffolk County and East Hampton. However, there are no forms documenting these interviews. Also, there is no mention who owns the former Air Force Housing Units and no mention of interviews with the US Coast Guard. These two are listed as "owners" of property in Figure 2.3. Please clarify.	A - Paragraph 2.2.2 was altered to be consistent with paragraph 5.2. Interviews were not conducted with Suffolk County or East Hampton. The Institutional Data forms are in the back of Appendix D, which documents the interviews (page D6-7). The Air Force Housing Units, although within the former Camp, were not within the study area, and were therefore not discussed. Interviews were conducted with the Montauk Historical Society, which leases the land from the U.S. Coast Guard.
25.	Para 7.3.1.2	Next to last sentence: The EE/CA is not revised based on recurring reviews. The EE/CA is to characterize the site, make recommendations for action, the action memo documents the decision, and the recurring review is to ensure that appropriate site safety and security measures remain in place and to maintain the	A – The text has been revised and expanded.

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DESIGN REVIEW COMMENTS PROJECT

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW	CN: 08-189-01 S: 13 Sep 01
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	Friday, February 22, 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☒ OE CX TECH REVIEW TEAM	NAME	John Sikes, OE-MCX, 256-895-1334
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ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		integrity of any site controls such as fences and signs. The purpose is not to second-guess decisions made. If a determination is made that actions taken are no longer protective, then additional actions may be necessary. Please reword accordingly.	
26.	Para 7.3.2.2	Please cite the DOD policy that is referenced here concerning NDAI. If this policy is true, then NDAI would the recommended alternative for all areas in this EE/CA since no OE was present during the field investigation.	A – The text has been revised and the statement deleted.
27.	Para 7.5.3.1.1	First sentence states surface clearance will provide "overall protection" of the public. This is not consistent with para 7.5.2.1 which says, IC's in combination with other OE response actions would be effective for "overall protection". This implies that surface clearance alone provides overall protection. Please clarify.	A – Both paragraphs were revised to indicate that neither response is as effective alone as their combination.
28.	Para 7.5.4.1	First sentence is in direct conflict with para 7.5.3.1.1 and 7.5.2.1. This sentence states that surface clearance and IC are not effective, but the other paragraphs state they are. Please clarify.	A – The text has been modified to explain that surface clearance has "limited effectiveness."
29.	Para 7.5.5.1.2	First sentence: No removal action guarantees complete removal and no residual risk. Equating clearance to depth with complete removal is not correct. Please clarify. Second sentence: Do you mean Institutional Controls instead of recurring reviews? Please clarify.	A – The text has been clarified in both sentences per the comment.
30.	Para 7.5.5.1.3	This EE/CA should identify ARARs and their impact on the alternatives being evaluated. DID OE-010 requires an evaluation of ARAR's. This paragraph implies that ARARs have not been identified or evaluated. Please clarify.	A – The text has been revised for clarification. The paragraph has been removed.
31.	Para 7.5.5.1.1	Clearance actions do not have an impact on the type of OE found at a site. We cannot guarantee all items were found even after a removal action is conducted. Removal actions do have an impact on density, as you have stated. Please delete sentence on the impact on OE type.	A – The text was modified for clarification by removing the sentence on impact on OE type.

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REVIEW CN: 08-189-01 S: 13 Sep 01
DATE Friday, February 22, 2002
NAME John Sikes, OE-MCX, 256-895-1334

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
32.	Table 7.1	"TYPE" column refers to footnote 1, which says items listed are those from the EE/CA versus those of the ASR and SI, however the column list items from the ASR and SI. Please clarify. "TYPE" is not impacted by clearance actions. "Depth" column: Footnote 3 says this denotes depth of OE items found. *No OE items were found.* See comment #7.	A – The table has been clarified to show the origin of each OE item and OE scrap item. – The "TYPE" column was modified to say "No Impact." – The footnote text was revised to read "OE scrap items."
33.	Para 7.5.6.2	The statement that acceptance of this alternative by the community is not known implies there was no public involvement during this EE/CA. If you had stakeholder meetings, why do we not know what they will accept? Please identify somewhere in the EE/CA what was done to involve the public in the process.	A – The stakeholders include the local public as well as a loosely organized public watchdog group who have been actively involved in all aspects of the Park's activities and related (such as the Lighthouse). Three stakeholder TPP meetings as well as one Public Meeting have been conducted as part of the EE/CA process. The primary stakeholder, NY State Parks, has been very cooperative and their views regarding subsequent proposed actions are fairly well understood.
34.	Para 7.6	"Summary of Remaining OE Response Action Alternatives": "Remaining" from what? Please clarify.	A – The text has been modified for clarification.
35.	Para 8.1.1	Next to last sentence says IC's were determined to be effective. This is not consistent with para 7.5.2.1.1 which states that IC's "in combination" with other actions is effective. Please clarify.	A – The text was revised based on a reformulation of the alternatives.
36.	Para 8.1.3	States the effectiveness of the alternatives used four criteria for evaluation, one being compliance with ARARs. I did not see where ARARs were identified. Please clarify.	A – A table of the ARARs identified for consideration at the site and associated text has been added to the text in Section 7.
37.	Para 8.2.2.3	See comments #7 and #29 and #32 ("TYPE"). It doesn't appear that the last sentence is complete.	A – The text was revised to remove "type" as a characteristic that is affected by clearance. The paragraph was rewritten for clarification.

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☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☒ OE CX TECH REVIEW TEAM	NAME	John Sikes, OE-MCX, 256-895-1334
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38.	Para 8.2.2.4	Mentions possibility of items being deposited on the beach after storm events. I don't recall any mention of doing a visual search of the beach after such events as part of the IC plan, or as part of the recurring review plan. Is this worth considering?	A – Concur, especially if performed in advance of the annual surf fishing season. A discussion of an annual visual search of the beach will be added as an IC component of the selected OE response action.
39.	Para 8.2.2.5	If all OE items are removed, is there a need for IC's? The reason for IC's is because we cannot guarantee complete removal. Please reword accordingly.	A – The text has been revised for clarification.
40.	Para 8.2.3	What ARARs have been identified and what is their impact on the proposed alternatives? This implies that alternatives were not completely formulated and evaluated. Please clarify.	A – See response to Comment #36.
41.	Para 8.2.4	This para states that clearance of OE to depth "will not provide long-term effectiveness". This is in direct conflict with para 7.5.5.1.2 which says it does because it removes all the OE and will not leave any residual risk. Either it does, or it doesn't. Please clarify.	A – Paragraph 7.5.5.1.2 has been modified to say clearance cannot remove all potentially existing OE.
42.	Para 8.3.5, 8.3.6, and 8.3.7	Please explain what is meant by the statements concerning acceptance of the remaining alternatives not being known, "however generally property owners (local agencies, communities) prefer the most ambitious clearance alternative"? This also implies that there has not been adequate public, community involvement in this entire process. Alternatives cannot be fully developed and evaluated if we do not know if they will be accepted. Please clarify.	A – The property owner (NY Parks Service) have made their viewpoint for response actions known through several TPP meeting and Public Meetings. The text was revised for clarification. See also response to Comment #10 and #33 abouve.
43.	Para 8.5	See comment #42. Are we saying that the only chance the public will have for involvement will be reviewing this report? Please clarify.	A – In addition to the public review period, the public has been involved with the EE/CA process since the initial public meetings.
44.	Para 9.2.1.2	You cannot have "NDAI" with "IC's". NDAI means exactly that, No DOD Action Indicated. Implementing IC's is an action. Please revise.	A – Report text was revised.
45.	Para 9.2.2.1	NO OE items were found. Please revise.	A – The text was revised to say "OE scrap items."
		I have no idea what you are talking about in the paragraph. "Additional	– Agree. The text has been revised to reflect

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☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	Friday, February 22, 2002
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☒ OE CX TECH REVIEW TEAM	NAME	John Sikes, OE-MCX, 256-895-1334
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ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		characterization" and "iterative mapping" and "intrusive investigation" all constituting "Clearance or OE to Depth". Then after all that recommending NDAI. This makes no sense whatsoever to me. None of these are alternatives that were evaluated. Why not simply recommend clearance to depth and support that recommendation?	"Clearance to Depth with Institutional Controls" as the proposed recommendation.
46.	Para 9.2.3	Again, This recommendation makes no sense. Further characterization was not one of the alternatives. Please clarify.	A – The recommendations portion of the text was revised.
47.	Para 10.1.2	Delete. The purpose of the recurring review is not to determine if actions were taken and if they were impractical, or to reconsider prior decision. Decisions were based on the available information at the time they were made and documented in the Action Memorandum. The purpose of the recurring review is to ensure that appropriate site safety and security measures remain in place and to maintain the integrity of any site controls, such as fences and signs. In other words to see if action taken remain protective of the public. If new information or site conditions warrant further action, then another decision will be made, but it will not impact the EE/CA and does not mean that prior decisions were bad in any way. Please contact Toni Hamley for appropriate guidance on this chapter.	A – Section 10 text was revised to emphasize the purpose of the recurring review process not the question the EE/CA conclusions but instead to review changes that might warrant additional consideration at the site.

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE — CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT: Former Camp Hero, NY Control # 08-189-01

☐ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	■ SYSTEMS ENG
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS	

REVIEW: DRAFT EE/CA
DATE: 24 August 2001
NAME: Tim Howard 5-1778 ED-SY-O

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	Executive Summary, page ES-1	Paragraph ES-1, the second sentence needs to be re-written for clarity. Suggested revision: "During and after WWII it was utilized as a Coastal Defense Installation to defend New York..."	A – The text was modified in accordance with the comment.
2.	Page 2-5	Paragraph 2.6.2, first bullet: What are fee acres?	A – The text was modified for clarity.
3.	Page 3-8	Paragraph 3.2.2.2, last sentence; Recommend a rewrite for clarification. Suggested revision: "An inspection of the southern portion of this area during the ASR reconnaissance revealed several weathered OE items exposed above ground surface from the bluff..."	A – The text was modified for clarity.
4.	Page 3-13	Table 3.1 should place more emphasis on the fact that Areas H and K were revised in size, and these values apply to the revised areas only.	A – Table 3.1 was removed because UXO Calculator was not applicable.
5.	Page 4-1	In paragraph 4.1 is it appropriate to mention the focus of the risk evaluation is the revised areas?	A – The text has been updated to clarify "Revised Area K"
6.	Page 4-1	Recommend heading 4.2 be rewritten as follows: Definition of Risk Evaluation Factors, Categories, and Subcategories"	A – Heading was modified to reflect comment.
7.	Page 4-1	Paragraph 4.2.1 introduces the three primary risk factors. From this point on, the document should use consistent terminology for these factors, categories and sub-categories. For example, if the first of three primary risk factors is called: "presence of OE", then the heading for paragraph 4.2.2 should be "presence of OE Factor. Adherence to a naming convention will add clarity to section 4.	A – Heading was adjusted according to comment.
8.	Page 4-1	Paragraph 4.2.2.1 identifies the fourth category in the OE primary risk factor as distribution. This is inconsistent with the name of this category in subsequent paragraphs (4.2.2.5). Recommend the category be named "depth distribution".	A – Category has revised for clarity.
9.	Page 4-1	Paragraph 4.2.2.2 has a typo in that the 8th line of this paragraph has the word "associated" misspelled. Recommend spell check.	A – The typo has been corrected per the comment.
10.	Page 4.2	Paragraph 4.2.2.4 introduces a question by discussing UXO Density while the preceding and following paragraphs are discussing OE. Recommend the difference be clarified, or the terminology made consistent.	A – The text has been modified for clarification.

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☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE	
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME	
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS			

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
11.	Page 4-6	Paragraph 4.3.2.3. Recommend adding in parenthesis following the second sentence: "(Revised Area H)" and following the third sentence "(Revised Area K)".	A – The text was modified for clarification.
12	Page 4-7	Table 4.6 can be clarified by using more descriptive terms under the columns for type and sensitivity. (see tables 7.1 and 8.2)	A – The text in the tables was modified to include more descriptive terms.
13	Page 4-7	Table 4.6 - what are the units for the population column?	A – The text has been modified to include population column units.

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE — CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT: Control No. 08-189-01 , Proj C02NY002404, S: 13 September 01

■ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW: Camp Hero EE/CA Work Plan
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE: 2 September 01
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME: Debra Edwards/ED-CS-G
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	Sect 3.2.2.6	In the report a "Revised Area H" was delineated where the OE frag items were found. It states that the data is sufficient to confirm the former use of this Revised Area H as a demolition area. However, I would contend that the data is not sufficient to define the demolition area at this time. There is a large percentage of uninvestigated anomalies (62% of the total number of anomalies) within Area H and a false positive ratio of approximately 20%. I agree that additional site characterization of this AOI is warranted but do not agree that the demolition area can be definitely delineated within Area H without the additional characterization.	A – The text has been modified per telephone conversations between Parsons and USAESCH.
2.	Sect 3.2.2.6	I agree that additional investigation outside of Area H, however, the exact location of the additional mag-and-dig location will be determined after the additional anomalies in Area H are investigated. Of specific interest, there is a cluster of anomalies to the north and west of where frag was found where is to the most part uninvestigated.	A – The text has been modified per telephone conversations between Parsons and USAESCH. The areas on either side of Area H designated for "mag and dig" investigation have been identified (see Figure 3.7)
3.	Sect 3.2.3.5	I agree that remaining anomalies should be investigated within the area designated as Revised K and I also agree with a strategy to investigate outside Revised Area K. In addition, according to the maps in the report, there appears to be whole grids in which no anomalies were investigated. These grids are located: - There's a stretch of beach to the south and east of the Revised Area K in which no anomalies were investigated. I strongly recommend further investigation to the south and east of Revised Area K. - Immediately to the north of Revised Area K there are several uninvestigated anomalies where transects were run, I recommend investigating these anomalies. - Just to the north and east of these transects along the beach, there are grid(s) which have some individual anomalies and a large anomalous area in which no anomalies were investigated. Recommend a limited strategy (percentage of these anomalies or mag-and-dig a portion of this area) to check out this area.	A – The text has been modified per telephone conversations between Parsons and USAESCH. The areas on either side of Revised Area K designated for "mag and dig" investigation have been identified (see Figure 3.7)

ACTION CODES
A - ACCEPTED/CONCUR
D - ACTION DEFERRED
W - WITHDRAWN
N - NON-CONCUR
VE - VE POTENTIAL/VEP ATTACHED

U. S. Ar... ENGINEER DIVISION HUNTSVILLE — CORPS ... ENGINEERS

DESIGN REVIEW COMMENTS PROJECT

■ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG	REVIEW
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG	DATE
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER	NAME Debra Edwards/ED-CS-G
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS		

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		- There are grids on Figure 3.9 Map 4 of 6 in which no anomalies were investigated. It may be advisable to rank these anomalies and thereby investigate a percentage of them. - No anomalies were investigated in grid 0430blf along the beach (Map 5 of 6).	
4.	Figs 3.8 and 3.9 Map 5 of 6	Missing Data: There is a long section of beach where geophysical surveys were conducted and geophysics shows that anomalies are present (Fig 3.8). However, there are no anomalies identified in Figure 3.9 for any of that area.	A – No anomalies were investigated in this map because the only likely hazardous area in Area K is the section east and southeast of Area H, where OE items and OE scrap items are thought to have weathered from.
5.	Maps 2 of 6 and 3 of 6	There appears to be a section missing between these 2 maps. Included in the missing section are some transects that are in grids 0513G1and 0513g2.	A – In order to include all geophysical survey images, and for better reference in relation to the entire former Camp Hero, a poster-sized map has been created that includes all AOIs and geophysical survey images.
6.	Maps	Recommend adding cultural features as known. For example, in Figure 3.8 Map 4 of 6 there is some cabling which is mapped and is seen coming out of the top of the bluff. Also, the parking area is on this map.	A – Maps were modified with data gathered from the EE/CA fieldwork.
7.	Area H	There is a linear trend in the northeastern corner of Area H. No anomalies had been selected. Although it may be related to a cultural feature, I recommend selecting a few candidate anomalies along that trend.	A – The EE/CA response alternative recommendation for Area H is to "mag and dig" the entire Area H, which will address any potentially existing anomalies.

ACTION CODES
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W - WITHDRAWN
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VE - VE POTENTIAL/VEP ATTACHED