US Army Corps
of Engineers
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

FINAL

U.S. Department of Defense

Base Realignment and Closure

Ordnance and Explosives

ARCHIVES SEARCH REPORT

CONCLUSIONS AND RECOMMENDATIONS

SENECA ARMY DEPOT

ROMULUS, SENECA COUNTY, NEW YORK

DECEMBER 1998

Prepared by

US ARMY CORPS OF ENGINEERS

ST. LOUIS DISTRICT

TABLE OF CONTENTS

APPENDICES

REPORT PLATES

1.0 INTRODUCTION

1.1 Authority

Congress has enacted two laws since 1988 that provide for the closure, in part or in whole, of 125 military bases/facilities and the realignment of almost 100 others. The principal mechanism for implementing the policy in both statues has been an independent, bipartisan commission. Two of the most pressing issues are (1) providing assistance to local communities economically impacted by base closures and (2) establishing a cost-effective program of environmental clean-up at bases prior to their disposition.

During the decade of the 1980's, no major military bases were closed, largely because of procedural requirements established by Congress. After several legislative efforts to break the deadlock failed, Congress introduced a new base closure procedure in P.L. 100-526, enacted October 24, 1988. The statute established a bipartisan commission to make recommendations to Congress and the Secretary of Defense on closures and realignments.

On December 28, 1988, the commission issued its report, recommending closure of 86 installations, partial closure of 5, and realignment of 54 others. The Secretary of Defense approved its recommendation on January 5, 1989. Since the commission approach adopted by Congress was successful, new base closure legislation was introduced (P.L. 101-510) which also relied upon the services of an independent commission. This commission, in accordance with a statutory provision, is to meet in 1991, 1993, and 1995.

The Defense Base Closure and Realignment of 1990 (1990 Base Closure Act), Public Law 101-510 established the process by which Department of Defense (DoD) installations would be closed and/or realigned. The Defense Base Realignment and Closure Commission's 1995 (BRAC 95) report recommended Seneca Army Depot be closed.

On April 5, 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH) was designated as the United States Army Corps of Engineers (USACE) Mandatory Center of Expertise (MCX) and Design Center for Ordnance and Explosive (OE) projects. USAESCH will also design and implement OE remediation programs for other branches of the Department of Defense when requested. In cooperation with the U.S. Army Engineering Support Center, Huntsville, the St. Louis District has been assigned the task of preparing an Archives Search Report (ASR) for Seneca Army Depot (SEAD), detailing ordnance, ammunition, and explosives, suspected chemical warfare materials (CWM) and any other warfare materials (i.e., radiological, biological).

1.2 Subject

SEAD is located west of, and adjacent to, Romulus, New York (see Plate 1).

SEAD consists of 10,600 acres and is made up of the main depot, the Seneca Army Airfield, and a portion of the former Lake Housing Area (see Plate 2).

Ordnance activities and facilities included receiving, storage, and shipment of ammunition; demilitarization and destruction of ammunition; function testing of ammunition; reconditioning of ammunition; small arms ranges; a grenade range; EOD ranges; liquid propellant storage; and special weapons storage.

The site is currently an active installation in the process of closing under Base Realignment and Closure (BRAC). Presently, ammunition activities consist of the gradual removal of all ammunition from the site.

Plans for the site after closure are shown on Plate 13.

1.3 Purpose

This ASR compiles ordnance related information obtained through historical research at various archives and records-holding facilities, aerial photography analysis review, interviews with persons associated with the site, and a site inspection. All efforts were directed at determining the ordnance related areas on the site that will require removal actions prior to closure.

1.4 Scope

This is clearly a complex site. There are more than 500 ordnance related structures such as: igloos; magazines; ammunition rework shops; popping plants; and warehouses. There are demolition areas, EOD ranges, small arms ranges, suspected burial areas, function test ranges, and burn pads. It is likely there is contamination from ammunition washout activities. Some buildings are likely to have explosive residues still present. There have been, and continue to be, many studies of how to deal with HTRW and ordnance contamination on the site.

This report does not attempt to assess the condition of the interior of any buildings on the site. It is assumed that all buildings will be closed by SEAD in accordance with DA Regulation 385-64 and that magazines will be closed in accordance with Department of Defense Explosive Safety Board (DDESB) procedures.

There are HTRW issues at this site that are not within the scope of this report; Inhibited Red Fuming Nitric Acid (IRFNA) ponds and washout areas, burial sites in the Special

Weapons Area, and the igloos used for the Manhattan Project storage. These are mentioned briefly in this report but the specific previous studies (see Section 2.0, Previous Investigations, in the Findings volume) provide detailed information.

This report focuses on ordnance activities and is intended to supplement previous and ongoing studies at the site.

This report attempts to, as clearly and simply as possible, 1) identify all areas where ordnance activities occurred; 2) assess the likelihood that ordnance remains as a result of the activity; and 3) make recommendations regarding the areas that will require further action/investigation.

2.0 CONCLUSIONS

2.1 Summary of Conclusions

Historical documents, aerial photography , interviews, and ordnance observed during the site inspection confirm that a wide variety of ordnance activities occurred at this site.

A variety of conventional ammunition was stored, shipped, reworked, demilitarized, and destroyed at this facility. There are igloos, magazines, warehouses, rework shops, a disassembly plant, powder and ammunition burn pads, and demolition grounds.

EOD activities occurred at several locations.

There are several small arms ranges and a grenade range.

There is a function test area. There is a 3.5" rocket range where rocket motors were tested.

There is a suspected ammunition burial area.

The only known CWM activities on the site are the storage of incendiary ammunition and the gas chamber near the airfield.

The following paragraphs provide an analysis of these ordnance related areas and activities. They are divided into; 1) areas recommended for further action/investigation and, 2) areas not recommended for further action/investigation.

Areas Recommended for Further Action/Investigation

Many of the areas recommended for further action have been previously identified and designated as solid waste management units (SWMU). These SWMU designations (SEAD numbers) are included where appropriate.

These areas are shown on Plate 4.

1) Burn Pads (SEAD 23) and Demolition Grounds (SEAD 45). These areas appear on drawings and aerial photography. They were the topic of several interviews and they have been the subject of several studies.

Conventional ammunition stored at SEAD has the potential to be destroyed in this area (up to the 200 lb explosive limit). During the site inspection we found the remains of ammunition ranging from small arms up to 155mm HE. We did not find live ordnance,

but it is likely there is live ordnance in this area as a result of kickouts from the burn pads and the demolition grounds.

Drawings show the blast radius for the demolition grounds and the burn pads as 1800'. This radius is consistent with the distance from the demolition grounds where we found fragments.

In addition to the current burn pad configuration, aerial photography (1954) indicate there may have been two other burn pads. By 1978, these possible burn pads are no longer visible (see Plate 5).

2) EOD Area #1 (SEAD 57). This EOD area appears on drawings and aerial photography, was the topic of interviews, and is the subject of studies. It consists of a berm approximately 30' in diameter and 6' high.

According to former EOD personnel we interviewed, there was a 10 lb explosive limit. We found the remains of many flares in and surrounding the berm. We found spent small arms ammunition inside the berm. We also found shot holes on the opposite side of the access road from the berm which contained destroyed flares. We also found the remains of destroyed flares at the end of the access road past the berm. The blast radius for this EOD area is 1800'.

The berm at this EOD area does not appear on aerial photography until after 1978. There are four areas on the 1963 aerial photography that may be shot holes. They are on the south side of the access road. The second area is approximately the location where we found shot holes during the site inspection (see Plate 6).

3) Demo Range (No SEAD designation). This range appeared on a drawing entitled Seneca Army Depot General Site and Building Plan dated 14 January 1988. We were uncertain if demo meant demolition or demonstration. During our inspection we found a 75mm projectile in this area that had been split open. It is our assumption that it was a demolition area. It appears on the drawing as approximately 40 acres. The coordinates where the 75mm round was found are: N 42° 46.13', W 76° 53.06'.

4) Function Test Area (No SEAD designation) and Nearby Pits (SEAD 44, Location A) (see Plate 7). Information regarding the function test area came from interviews. The road leading to this area appears on several drawings. The exact extent of function tests in this area is unknown but it is suspected that fuzes were tested. The remains of 40mm grenades can be seen on the road near the test area along with spent small arms ammunition. One interviewee reported finding live 40mm grenades in the area.

According to Mr. Conover, current employee at the demolition grounds, there was another test area near the function test area, but he was not able to find the area during

our initial visit to the site. We found an area along the road to the function test area that may be it. There are two pits. One has an ammunition box in it. The other is full of water. We have no specific knowledge about these pits. The coordinates for the pits are: N 42° 42.46', W 76° 50.06'.

5) Burial Area Near Indian Creek (No SEAD Designation) (see Plate 8). Information about this area was provided by Mr. George, a former ammunition supervisor. He indicated there was an attitude that if an item could not be destroyed it should be buried. He believes ammunition and non ordnance items were buried in this area. The area shown on Plate 3 and 8 is the general location he marked on our inspection map. We did not see surface evidence of burial activities. The area appears scarred on aerial photography.

6) Popping Plants (SEAD 16 and 17). The popping plants appear on drawings and aerial photography, were the topic of interviews, and are the subject of HTRW studies listed in Section 2.0, Previous Investigations, of the Findings volume.

During the site inspection, we couldn't walk 10' feet in any direction without finding some variety of spent small arms ammunition near these facilities. Mr. George specifically mentioned the popping plants as areas that should be investigated further.

7) Grenade Range (No SEAD designation). The grenade range appears on drawings and aerial photography and was the subject of interviews. According to Mr. Conover, only 40mm practice grenades were used on this range. During our site inspection, we found several intact 40mm practice projectiles. There are mannequins, wood structures, and armor vehicles set up on the range for targets. There are foxholes at the firing line. There is no evidence on the targets or on the ground that HE grenades were used.

8) Igloo Area (SEAD 53). There are over 500 igloos and they appear on every drawing and aerial photograph of the site. Although random tossing of ammunition is not part of ammunition handling procedures, we decided to randomly inspect the area near a few igloos (see Plate 14). We inspected a portion of Igloo Area D, specifically the ditch across from the igloos and the area surrounding the igloos. We got several 10+ hits on the back side of the ditch using a Schoenstedt magnetometer.

9) 3.5" Rocket Range (SEAD 46) (see Plate 9). This range appears on drawings as a range but not specifically as a 3.5" rocket range. The interview with Mr. Battaglia, a New York District Corps of Engineers employee stationed at SEAD, raised the suspicion about 3.5" rockets and the interview with Mr. White confirmed that 3.5" rocket motors were tested in the area. Although the rocket motors were static fired according to Mr. White, spent rocket motors have been found scattered over the area. We did not find ordnance during our inspection of the area.

10) Liquid Propellant Storage Area (SEAD 43). This area appears on drawings and aerial photography and was brought up during interviews as an area that should be investigated further. We did not find ordnance during our visit to this area. IRFNA was stored there and it is uncertain what the hazard associated with IRFNA may be.

11) EOD Area #3 (No SEAD designation) (see Plate 9). This area was reported by Mr. Battaglia. It is a flat area roughly 150' in diameter and appears to be surrounded by a berm (except a portion of the south end is open). The area appears on aerial photography, but there is no evidence of a berm on the photos. Early photos show the surrounding area as clear. The most recent aerial photography show the surrounding area to be wooded which is consistent with the current conditions. Personnel from UXB, an ordnance removal contractor, told Mr. Battaglia the area was an EOD disposal area. We did not find ordnance but the lack of vegetation within the flat area raises concern regarding how the area was used. The coordinates for EOD Area #3 are: N 42° 45.92', W 76° 50.75'. This area did not appear on any drawings.

12) EOD Area #2 (No SEAD designation). Mr. Fisher, retired MSG, EOD, informed us of this area. It is now covered with water (duck pond). According to Mr. Fisher, explosive devices were used in this area, and non explosive metal projectiles were thrown into the water (see Plate 10). This area appears to be within the IRFNA Disposal Site (SEAD 13) but the EOD activities were not related to the IRFNA disposal activities.

Areas Not Recommended for Further Action/Investigation

1) Areas surrounding ordnance related buildings (Items 12, 13, 14, 15, 16, 17, 18, 23, 32 & 37 on Plate 3). The list of ordnance related buildings was developed from historical documents and drawings. The area surrounding these buildings was inspected to see if ammunition had been randomly tossed. All we found was spent small arms ammunition and a spoon from a smoke grenade at one location. It appears these items are the result of National Guard, Army Reserve, and ROTC use of the facility.

There is anecdotal evidence that a file cabinet containing spare ammunition was buried in the field east of Ammunition Workshop #1 (Item 16 on Plate 3). We did not find evidence of this burial area during the site visit. Mr. Schwartz, a Parsons Engineering employee, reported surveying this area and finding no anomalies. There was no evidence of a burial area on aerial photography.

2) Small Arms Ranges. We developed the list of small arms ranges from drawings and aerial photography. We only found spent small arms ammunition at the small arms ranges.

3) Storage Pads and X Sites. There are numerous pads that appear on drawings and aerial photography. These pads were used at least in part for open air ammunition storage. We inspected many of these storage pads and found some spent small arms ammunition and packing materials.

There are several storage sheds known as X sites. We inspected these sheds and only found packing materials.

4) Landing Zones. Numerous landing zones appear on the drawing entitled Seneca Army Depot General Site and Building Plan (Culverts) dated 1 March 1990. We inspected three of the landing zones (see Plate 3). We did not find ordnance.

5) Suspect Rail Car and Truck Areas. Two suspect rail car areas and one suspect truck area appear on drawings. These were areas where rail cars and trucks were placed while problems with shipping documents or the vehicles were resolved. We did not find ordnance in these areas.

6) Berms. Two horseshoe shaped berms appear on drawings with no description of the intended use (Item 27 on Plate 3). There was no evidence of these berms visible on the aerial photography. We did not find either of the berms or ordnance during our inspection of these areas.

7) Drums reported by Randy Battaglia. We found one drum during our site inspection. It was marked as a carbine container. In a later conversation with Mr. Battaglia, he verified the drum we found was in the area he had indicated.

8) Abandoned Powder Burn Area (SEAD 24). This area appears on many drawings and aerial photography. We found water pipes and a drain, but there was no evidence of open burn operations or ordnance (see Plate 11).

9) Loading/Unloading Platforms. These platforms appear on nearly all drawings. We inspected a random sampling of platforms looking for tossed ammunition. At platform 2130, we found spent fuzes and spent small arms ammunition that appeared to be burnt. It appears that items destroyed at the popping plants were loaded on to rail cars at this platform.

10) Propellant Charge Burn Area. Mr. Critchfield, retired employee, informed us of this area. We did not find evidence of any burning activities in this area during our site inspection. It is now designated a fill area.

11) Ammunition Disassembly Plant. This facility appears on many drawings. It is located within the blast radius for EOD Area #1 and the demolition grounds. We did not find ordnance in the immediate vicinity of this facility during our site inspection.

12) Detonator Destruction Furnace (within SEAD 23). This facility appears on a drawing. It is located near the burn pads and demolition grounds and is within the blast radius of the demolition grounds. We did not find ordnance in the immediate vicinity of this structure during our site inspection.

13) Explosive Scrap Furnace (within SEAD 45). This facility appears on a drawing. It is located near and within the blast radius of the demolition grounds. We did not find ordnance in the immediate vicinity of this structure during our site inspection.

14) Berm near the Bundle Ammunition Buildings (Item 35 on Plate 3). Mr. Battaglia reported this berm. There is no evidence of the berm on the aerial photography.

15) R&D Area/Fuze Storage (SEAD 44, Location B) (Item 41 on Plate 3). This area appears on the drawing entitled Seneca Army Depot, Basic Information Maps, General Recreation Plan (South), dated 15 July 1958. Building 603 was an R&D building and building S-615 was used for fuze storage. There is a locked metal shed remaining on the site along with a concrete pad and metal pole. We did not find ordnance in this area during the site inspection.

2.2 Historical Site Summary

2.2.1 General History

When the Army arrived in Seneca, New York in 1941, the nearly 10,000 acres in Central New York State were abundant farmland. In June 1941, the War Department approved the munitions project, and in July 1941, construction for the Seneca Ordnance Depot (Depot) began. Construction workers completed nearly 500 storage igloos and six above ground magazines by the end of the year (Johnson 1984). With the construction of the administrative area, ammunition facilities, warehouses, utility structures and a few housing quarters completed in 1943, the Depot began its primary mission of receipt, storage, maintenance and supply of ammunition. As a filler Depot, it also issued and reconditioned ammunition for the First and Second Service Commands and for the Boston Port of Embarkation. This included all classes of ammunition and explosives except chemical ammunition other than smoke. In 1946, the Army assigned the Depot to the First Army, which included the New England States of New York, New Jersey and Delaware (Seneca Ordnance Depot 1946).

Established in 1941, the Demolition Pits served as the grounds for conducting ammunition disassembly, detonation and burning. This included numerous types of ammunition, components, guided missiles and explosives. An Explosive Scrap Furnace supported the detonation operation at the site. The Burn Pads functioned as the burning area for ammunition and ordnance contaminated material such as bulk explosives, pyrotechnics, artillery projectiles, fuzes, machine gun ammunition and

projectiles using TNT (Organizational Manual 1961; Metcalf 1989). The nine burn pads are identified as A - I. Pads G and J were used for trash containing contamination from propellants, explosives and pyrotechnics. The Demolition Pits and Burning Pads together comprise 90 acres of demolition area at SEAD.

The Explosive Ordnance Disposal (EOD) Area has been active since 1941 and bomb squad training occurred there for many years (Parsons Engineering 1995a). Depot personnel performed detonations of conventional ammunition and explosives weighing less than 5 pounds (Parsons Engineering 1996a). The Ammunition Disassembly Plant buildings are also near the EOD area. The Army built them in the 1940's and 1950's. Army Reserve and National Guard troops utilized a Grenade Range near the EOD Range. All evidence indicates the troops used practice/training grenades only.

During the 1940's, the Army stored radioactive materials in connection with the Manhattan Project in igloos E0801 through E0811, on the south end of the Depot (Office of the Post Engineer 1977). The Army RADCON team performed a survey on these igloos during the week of 13 May 1985 (DTIC 1986).

Surveillance Laboratory activities began during the 1941 thru 1943 time period in buildings 17 and 18. Throughout World War II (WWII) inspectors determined suitability of ammunition, ammunition components and explosives for storage and issue. Sample lots were continually inspected for serviceable condition (Seneca Ordnance Depot 1945a). The Army built Bundle Ammunition Packing Buildings near the Surveillance Laboratory during 1941 thru 1943 (Industrial Mobilization 1942).

The original Popping Plant, Building S311, was built during 1942 and 1943. The Abandoned Deactivation Furnace is located in this building. An additional Popping Plant, Building 367, was built near the original one in 1961. The existing Deactivation Furnace was active in Building 367 from 1962 thru 1989. The furnace at the Popping Plant processed fired brass or steel cartridge cases at a temperature of 1,400° F. Cartridge cases having a live primer were popped and rendered inert (History 1943).

During 1941 thru 1943 the Army constructed several warehouse buildings on SEAD outside the fenced igloo area. These buildings stored general supplies and possibly small arms ammunition. The Small Arms Storage Building, Number 333, dates back to 1941 thru 1943. The Army constructed Ordnance Repair Shops in 1941 thru 1943 for maintenance on all depot vehicles and equipment. The Combat Equipment Area, established in 1942, was approximately 4.5 acres and was used to store all types of inert material including Jeeps, command cars, tanks, carry-alls, etc.

As the Depot experienced an increase of returned ammunition from overseas after WWII, the mission shifted from supply to storage maintenance and disposal. The Army also tasked SEAD with receipt, storage, care and maintenance of general supplies.

In 1950, the Army constructed Ammunition Workshops in two locations and SEAD personnel conducted washout, refuzing, removal, deboostering and normal maintenance on rocket heads, high explosive shells, fuzes and hand grenades (Seneca Ordnance Depot 1953). The renovation and demilitarization of ammunition also included surveillance function testing. SEAD personnel sampled test lots of ammunition, including pyrotechnics, establishing the degree of serviceability (Seneca Ordnance Depot 1954).

Due to the increase in ammunition returned from overseas, and returns from Posts, Camps and Stations in 1946, the Army built outside storage sheds, also known as 'X' sites, and outside storage pads for storage of 2,000 pound bombs and other ammunition (Seneca Ordnance Depot 1945a). In January 1949, there were 26,480 tons of small arms ammunition of all conditions and grades in outside storage (Seneca Ordnance Depot 1949). By 1955, the Army sent 737 tons of grade 3 small arms ammunition and 2,093 tons of 20mm ammunition into open unprotected storage at Seneca Ordnance Depot (Warren 1955). In addition to outside storage, the Army constructed a Magazine Area, Buildings 701 thru 708, in 1954 thru 1956 for storing ammunition.

The War Department established Sampson Air Force Base in 1942 as a Navy Training Center. The Base was an Air Force training facility from 1950 until 1957 (Marienthal 1979: Bogardus n.d.). On June 24, 1958, the Department of the Air Force transferred 622.87 acres of the former Sampson Air Force Base to SEAD (Facilities Data 1975). This addition included a 5,000 foot long paved runway and the Lake Housing Area.

A Small Arms Range (aka 3.5" Rocket Range) is located on the northeastern portion of SEAD. A large berm is currently present. In addition to small arms, to include tracers and blanks, 3.5 inch rockets are reported to have been used there (Parsons Engineering 1996b).

Construction on the Liquid Propellant Test Laboratory, Building 606, began in July 1955 (Warren 1955). Laboratory personnel conducted operational or functional testing of explosive devices. These tests are believed to have occurred on the concrete foundation northwest of Building 606. Since 1976, herbicides and pesticides have been stored in Building 606 (Parsons Engineering 1995b). Construction of the Fuze Storage Building, in connection with Eastman Kodak Company and Picatinny Arsenal, began in September 1955 (Warren 1955).

Soldiers and Security Guards utilized Range 114 and Building 2302 for shotgun and revolver practice as well as rifle and machine gun firing (US Army Toxic Hazardous Materials Agency 1980). Between 1976 and 1979, the Army constructed a skeet and trap range adjacent to the rifle range. The Army built the Ronald Lee Kostenbader

Physical Activity Center, Building 744, in 1981. The lower level of this building was used as a firing and indoor rifle range (RKG Associates, Inc. 1996).

Ammunition Inspectors from SEAD regularly sent ammunition, including unserviceable 150 pound bombs in June 1945 and 62,000 high explosive anti-tank mines in April 1946, to Pine Camp for demilitarization (Seneca Ordnance Depot 1945b; Seneca Ordnance Depot 1946). The Army redesignated Pine Camp as Camp Drum in 1951, and finally as Fort Drum in 1974 (Roberts 1988). Proposals for dumping ammunition at sea during 1955 thru 1957 required approval from Naval Ammunition Depot (NAD) Earle, New Jersey. The Ordnance Corps contemplated sending various types of unserviceable ammunition from SEAD to NAD Earle for sea disposal (Warren 1955; File 1955a). Historical documents do not indicate if shipments occurred.

Existing structures at SEAD include 519 igloos, 8 standard magazines, 2 inert magazines, 2 small arms warehouses and 19 general purpose warehouses. National Guard and Army Reserve units currently conduct annual training at SEAD (Seneca Army Depot Activity 1994). The DoD placed SEAD on the BRAC list in 1995.

2.2.2 Other Activities at SEAD

In 1956, the Atomic Energy Commission (AEC) built several buildings and 17 igloos for the Special Weapons Mission at the north end of SEAD. In 1961, the Commanding Officer, SEAD, assumed overall command of the Depot including the North Depot Activity. The 833rd Ordnance Company provided direction and general support for this Special Weapons Mission. Numerous reports exist about the status of contamination in the North Depot Area. In 1962, the Army changed the name of the Depot from Seneca Ordnance Depot to Seneca Army Depot (Osborne 1996).

The General Services Administration (GSA) constructed two large warehouses during 1953 and 1954 as SEAD received the mission of storage and issue of general supplies. During WW II, the Depot had a branch Prisoner of War (POW) Camp, holding over 200 prisoners working in the food industry (Osborne 1996). The exact location of this POW Camp is unknown. In 1969, SEAD received the function of storing Industrial Production Equipment (IPE). This new IPE mission required conversion of several buildings into machine shops. The US Coast Guard built a Loran C Transmitting Station at SEAD in 1977. During the 1980's, a major Medical and Dental operation resided at SEAD. The US Army Reserve and National Guard Components have conducted many years of training at SEAD (Johnson 1984).

2.2.3 Ordnance and Ordnance Related Items

The following list represents the types of ordnance found in documentation during research for SEAD. Although the research uncovered a large number of items, it is completely possible more ordnance appeared at SEAD.

White Phosphorous (WP)
Tetryl
HC Smoke
Propellent M10
Propellant M7
WP - Tetryl
PETN - Tetryl
PETN - Black Powder
Composition A-3
Tetrytol
High explosive tank mines
MK 1, high explosive 75mm shells
37mm rounds
3 inch practice trench mortar shells
M106 fuzes
M52, 100 pound, armor piercing bombs
M42, high explosive, 3 inch rounds
M45 37mm high explosive shells
155 mm powder charges and projectiles
2,000 pound bombs
tracer mixture
nitrocellulose
chemical ammunition:
- persistent vesicants
chemical ammunition:
- toxics, irritants and smoke
chemical ammunition:
- spontaneously inflammable
chemical ammunition:
- incendiary and readily inflammable
spotting and smoke puff charges
anti tank mine fuzes
primers and primer detonators
fuzes, time and detonating
blank ammunition for cannon
practice bombs with spotting charges
grenades-fragmentation and practice
light mortar shells (81mm or less)
explosive 'D'
D.N.T.
Black Powder
TNT - Composition "B"
Smoke (Rifle Grenade)
Propellant M1
RDX
PETN
PETN - TNT
PETN - Composition A-3
TNT
Composition C-4
primer percussion, MK11A3, 18 gr.
MK11 high explosive grenades
M10A3 fuzes
20mm ball ammunition
Anti-tank practice rockets (2.36 inch)
.45 caliber ammunition
3 inch shrapnel rounds
76 mm projectiles
81 mm smoke WP
smokeless powder
Flashlight powder
Photoflash bombs
60 mm shells
8 inch Howitzer projectiles
Ball caliber 22 long rifle ammunition
12 guage shot gun shells
.50 caliber blank ammunition
cartridge, 20 mm, M99 target practice rounds
20 mm, M10, AC rounds
75 mm, M64, WP shells
adapters and boosters
grenade fuzes
detonators and blasting caps
small arms ammunition
fragmentation bombs
M308A1 cartridges for 57 mm rifle, w/ fuze M503
cartridge grenades
dynamite
picric acid
cluster, fragmentation bomb

depth charges
torpedoes
various demo.bombs:
100, 250 and 500 pounds
90 mm shells
trinitrotoluene
.50 and .30 caliber ammunition
4.5 inch shells
75 mm smoke shells
57 mm ammunition
240 mm propellant charges
260 pound fragmentation bombs
10,000 pound bombs
90 pound fragmentation bombs
325 and 350 pound depth charge bombs
M51 fuzes
M504A1 fuzes
M308 WP smoke cartridges
81 mm high explosive mortars
M44 series 1,000 pound bombs
propellant charges
M1A1 cluster fragmentation bombs
M4 cluster fragmentation bombs
M40 TNT fragmentation bombs
AN-M64A1, comp. B, GP bombs
T2001, 4.5 inch practice rocket heads
MK 1, 3 inch rocket motors, British
155 mm mortars
M306A1 High explosive cartridges
M82, 90 pound fragmentation bombs
M3 anti-personnel mines with fuzes
.60 caliber cartridges
T206, inert, 30 mm, cartridges
M71, 90 mm, high explosive cartridges
M48, high explosive, 75 mm cartridges
M309A1, high explosive, 75 mm cartridges
T159, 30 mm cartridges
T158, 30 mm cartridges
T239E15, 30 mm projectiles
M1 delay firing devices
M6 parachute bombs
M8A1, aircraft, parachute flare
M9, practice, anti-tank mines
T199, 20 mm, electric cartridges
MK 148, rocket nose fuzes
20 mm Navy MKS Mod 0 fuzes
M43A1, TP shell
tetryl, electric
detonators, percussion
M28A2, high explosive, 3.5 inch rockets
M10, practice AT mines
3 inch AA shells
bangalore torpedoes
M500 Fuzes
105 mm shells
antipersonnel mines
refuzing cluster bombs
76 mm ammunition
1,000 pound bombs
M9 flares
anti-personnel mines, M2A1
M502 fuzes
M97 fuzes
M61 and M61A1 fuzes
M306 high explosive cartridges
4.2 inch high explosive mortars
M71A1, light, inert, AT, mines
M66, HEAT shells
M26 cluster fragmentation bombs
M110A1 bomb nose fuzes
AN-M64 TNT and Amatol 500 pound bombs
M111 flare fuzes
M26, M21A4, M20A1 boosters
.60 caliber bullets
Primer, depth charge, CE 1.5", MK VIII, filled NH
M308A1 white phosphorous cartridges
M7A1 combination mines
7.62 mm dummy cartridges
M99, 20 mm, electric cartridges
T205, dummy, 30 mm, cartridges
M337, 75 mm blank cartridges
75 mm WP smoke cartridges
M3 and M7A1 mines
30 mm TP (British) cartridges
T204, 30 mm cartridges
T205, inert, dummy, 30 mm cartridges
M68, 81mm, training projectiles
M40, 23 pound, TNT fragmentation bomb
5 inch rockets
M55A1, 20 mm, ball, cartridges
MK 9, mod. 0, 2.25 inch rockets
M8, smoke grenade, HC with M200A2 fuzes
M22 detonator assemblies
M52A2, 81 mm mortar shell

Propellants M10, M1, M7
(Von Hoene 1979; Seneca Ordnance Depot 1945b; Seneca Ordnance Depot 1946; Magazine Area 1942; History 1943; History 1944; Bonner 1944; Warren 1955; Bramlette 1957; Valigorsky 1957; Barber 1957a; Barber 1957b; Busbee 1957; Guenzler 1955; File 1955b; US Army Toxic and Hazardous Materials Agency 1980)

2.3 Real Estate

SEAD consists of 10,600 acres and is made up of the main depot, the Seneca Army Airfield, and a portion of the former Lake Housing Area (see Plate 2).

The site is currently an active installation in the process of closing under BRAC. Ammunition activities consist of the gradual removal of all ammunition from the site.

Plans for the site after closure are shown on Plate 13.

2.4 Site Inspection

2.4.1 General

This site visit was performed from 20-24 July 1998.

Corps of Engineers Participants:

Ted Moore	Project Manager
Hank Counts	UXO Specialist and Safety Officer
Jim Luebbert	Historian

Seneca Army Depot Participant:

Tom Grasek

We coordinated the site visit with Mr. Steve Absolom, Base Environmental Coordinator. In addition to our inspection activities, we performed several interviews.

2.4.2 Analysis of Ordnance Activities

There are more than 500 ordnance related structures at SEAD. Our inspection strategy was to assume that the interiors of all structures would have to be properly cleared by SEAD personnel prior to disposal. In addition, ammunition is still being stored and disposed of. Our strategy was to inspect the areas surrounding buildings, but not the

interior. An added note, assuming the interior of each building could be inspected in 15 minutes (including travel time and unlocking), it would have taken at least 4 weeks just to inspect building interiors.

The areas inspected are shown on Plates 3 and 14.

3.5" Rocket Range. We inspected the firing point, berm, and the areas in between. We did not find evidence of 3.5" rockets. We found spent small arms ammunition at the berm.

Bundle Ammunition Buildings. We found a blank 5.56mm round. These buildings appear to have been abandoned many years ago.

Surveillance Laboratory. We did not find ordnance in this area.

Original Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building. This popping plant appears to have been abandoned many years ago.

Current Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building.

Ordnance Repair Shops. We marked these on our map prior to knowing they are vehicle maintenance shops.

Small Arms Storage Building. We did not find ordnance in this area.

Warehouses. We selected a path that would sample the area between two rows of warehouses. We found spent 7.62mm ammunition near warehouses 327, 328, and 329.

Berm (Item 27 on Plate 3). There is no berm.

Fuze Storage Building (Item 41 on Plate 3). The building (shack) is still present. There is also a concrete slab and a metal pole. We did not find ordnance in this area.

Liquid Propellant Storage Area. We did not inspect this area during this visit. We visited this area during the kickoff trip and briefly walked the area. We did not find ordnance in this area.

Function Test Range. There are four pipes in the ground in this area that appear to have been used for tests. There is also a large berm next to the test area. We found four strands of what appears to be shot wires that lead to a box on a utility pole. We did

not find ordnance near the pipes, but we found the remains of two 40mm grenades and 5.56mm blank ammunition on the road near the test area.

There is also an area on the right side of the road to the Function Test Range where there is a pit about 15' long X 5' wide X 3" deep that appears to have been used as a burn area. There was also an ammunition box in the hole. There is another pit that is now filled in with water and vegetation. We did not find ordnance in this area.

Ammunition Workshops (Item 16 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and 7.62mm links in this area. We also got several 10+ hits on the Schoenstedt in the grassy areas near the buildings.

.45 Cal. Range. The range does not appear on drawings, but the drawings do show a range shack. The target berm is still present, but there is no evidence of the range shack. There are .38 cal and .45 cal projectiles in the berm. We did not find any other ordnance.

Suspect Rail Car Spur (Item 26 on Plate 3). We did not find evidence of a berm or ordnance.

Berm (Item 27 on Plate 3). There is no evidence of a berm or ordnance.

Suspect Rail Car Spur (Item 26, SW portion of site, Plate 3). The berm is still present. We did not find ordnance in this area.

Ammunition Workshops (Item 17 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and a smoke grenade spoon in this area.

Rifle Range near the airfield. The rifle range clearly has been used for many years. There is a leadership reaction course, what appears to be a close combat range, and a gas chamber near the rifle range. We did not find ordnance in this area.

Skeet Range near the airfield. The range structures are still in place. We did not find ordnance related to the skeet range, but we found blank 5.56mm ammunition in the parking area near the range.

Landfill near the Burn Pits. We have verification the burn pits were used for trash. We did not inspect this area.

Burn Pit Area. We inspected this area and did not find ordnance. There were originally just burn pits in this area. An incinerator has been added.

Original Powder Burn Pit. There are a hydrant and drain remaining in this area, but no evidence of powder burning activities.

Rifle Range near the Lake Housing Area. We found a tower and a small shack, but there is no target berm or evidence of ordnance in the area.

Magazine Area. We did not find ordnance in this area.

Suspect Truck Barricade. We did not find evidence of a barricade or ordnance.

Demo Range (Item 3 on Plate 3). It is near EOD Area #1. We found a 75mm round in this area that had been split open using a shape charge.

EOD Area #1 (Item 2 on Plate 3). There is a berm where we found the remains of flares and small arms ammunition. There is a second area just across the road from the berm where there are shot holes and the remains of flares. We also found the remains of flares along the road that runs past the EOD area.

Grenade Range. This is a very well constructed range with numerous targets. We found the remains of several 40mm practice grenades. We did not find evidence of use of HE grenades.

Ammunition Disassembly Plant. There is a building, two berms, and a concrete shield. There are also small storage containers that were used by EOD. We did not find ordnance in this area.

Burn Pad Area. We inspected the burn pads and the areas outside and between the burn pads. We found the remains of small arms ammunition, fuzes, 3.5" rockets, igniter tubes, and trash. These items were found in and between the burn pads. In an area southwest of the two large burn pads, we found a 155mm projectile that had been split in half, base plates, and large solid metal projectiles. It is uncertain if these items had been buried at one time or if they are kickouts from the demolition pits.

There are shot wires at Burn Pad A. We got several 10+ hits in the open area between Burn Pads A and C.

Detonator Destruction Furnace. We did not find ordnance near this structure.

Demolition Pit Area. We did not go near the demo pits but did walk the area in front of the pits on our way to the Explosive Scrap Furnace. There are large amounts of kickout material surrounding the demolition pits.

Explosive Scrap Furnace. We did not find ordnance in this area.

Indoor Rifle Range (Bldg. 744). We did not find ordnance in this area.

Igloos. We inspected the area in front of, and across the road from, two rows of igloos in the D Igloo Area. We got several 10+ hits along the ditch.

Loading/Unloading Platforms. We inspected the areas surrounding six loading platforms. We found the remains of spent fuzes and spent small arms ammunition near platform 2130.

Storage Sheds (X Sites). We did not find ordnance in these areas.

Open Storage Pads. We inspected a sampling of storage pads. We found a large amount of packing material on many of the pads, but we did not find ordnance.

Landing Zones. We inspected three landing zones. We did not find ordnance in these areas.

Areas from Information Obtained During Interviews:

We inspected the area where Mr. Battaglia reported propellant drums. We found one drum that was marked "10 - .30 cal carbines".

We inspected the area where Mr. Critchfield reported EOD burned prop charges. There was no evidence of burning activities. There is a sign on the nearby fence indicating the area is now used for fill.

We inspected an area near the 3.5" rocket range that Randy Battaglia indicated was an EOD range. There is a low berm (3-4' high) and the area within the berm is a circle about 150' in diameter. We did not find evidence of EOD activities.

2.4.3 Current Site Characterization

The site is still an active DoD installation but ordnance activities are winding down as the facility moves toward closure. Access to all parts of the installation requires neither special vehicles or an excessive amount of walking, but the site is fenced and patrolled and access is restricted to the main gate. Access to the ammunition area is also restricted.

2.5 Confirmed Ordnance Presence

The following areas appear on Plates 3 and 4.

Some of the igloos are still being used for ammunition storage. One of the warehouses

(Bldg 328) is being used for small arms ammunition storage.

There are spent flares and spent small arms ammunition in EOD Area #1.

There is an exploded 75mm artillery round in the Demo Area.

There are 40mm practice grenade projectiles on the grenade range.

There is exploded and burnt ammunition on and between the burn pads and within the blast radius of demolition grounds.

There are spent 3.5" rocket motors at the 3.5" rocket range.

The remains of 40mm HE grenades have been found at the function test range.

There is spent small arms ammunition surrounding both popping plants.

There is spent small arms ammunition scattered over the site as a result of NG, reserves, and ROTC use of the site.

2.6 Potential Ordnance Presence

There is a suspected ammunition burial area near Indian Creek.

Strong "hits" on the Schoenstedt magnetometer near some of the igloos suggests there may be metal objects that should be verified.

2.7 Uncontaminated Areas

If spent small arms ammunition is removed from consideration, the areas not included in the list of areas requiring further action/investigation are probably not contaminated.

2.8 Site Information Analysis

Historical documents, aerial photography, interviews, and ordnance observed during the site inspection confirm that a wide variety of ordnance activities occurred at this site.

A variety of conventional ammunition was stored, shipped, reworked, demilitarized, and destroyed at this facility. There are igloos, magazines, warehouses, rework shops, a disassembly plant, powder and ammunition burn areas, and demolition grounds.

EOD activities occurred at several locations.

There are several small arms ranges and a grenade range.

There is a function test area. There is a 3.5" rocket range where rocket motors were tested.

There is a suspected ammunition burial area.

The site is still an active DoD installation but ordnance activities are winding down as the facility moves toward closure.

Access to all parts of the installation requires neither special vehicles or an excessive amount of walking, but the site is fenced and patrolled and access is restricted to the main gate. Access to the ammunition area is also restricted.

3.0 RECOMMENDATIONS

3.1 Summary of Recommendations

The following actions are recommended for the areas listed in Section 2.0, Conclusions, Areas Recommended For Further Action/Investigation.

The following areas are shown on Plate 4.

1) Burn Pads and Demolition Grounds. Conduct a statistical sweep in these areas. There is currently an ordnance removal project underway in the Burn Pad area in conjunction with HTRW activities. The results of this ordnance removal project should factored into the statistical sweep.

2) EOD Area #1. Conduct a statistical sweep in this area.

3) Demo Range. Conduct a statistical sweep in this area.

4) Function Test Area and Nearby Pits. Conduct a statistical sweep in these areas.

5) Burial Area near Indian Creek. Conduct a statistical sweep to determine the extent of explosive ordnance.

6) Popping Plants. Conduct a statistical sweep in this area.

7) Grenade Range. Conduct a statistical sweep in this area.

8) Igloo Area. Conduct a statistical sweep to determine the extent of explosive ordnance.

9) 3.5" Rocket Range. Conduct a statistical sweep in this area.

10) Liquid Propellant Storage Area. IRFNA was stored there and it is unclear what the hazard associated with IRFNA may be. Based on interview data, a statistical sweep to determine the presence of explosive ordnance is recommended in this area.

11) EOD Area #2. Lower the water level of the duck pond and conduct a statistical sweep to determine the extent of explosive ordnance.

12) EOD Area #3. Conduct a statistical sweep to determine the extent of explosive ordnance.

It is recommended that all buildings be closed by SEAD in accordance with DA Regulation 385-64 and that magazines be closed in accordance with DDESB procedures.

3.2 Preliminary Assessment Activities

None recommended.

3.3 Other Environmental Actions

The following areas are primarily HTRW concerns. In some cases, ordnance and explosives may become an issue depending upon the results of sampling.

1) The soil near the washout building near Ammunition Workshop #1 should be sampled to determine; 1) if explosive material is present, and 2) if so, is the next step an HTRW action or an ordnance action. The washout building is shown on Plate 12.

2) The soil outside all ammunition rework buildings should be sampled to determine; 1) if explosive material is present, and 2) if so, is the next step an HTRW action or an ordnance action. This includes Ammunition Workshops #1 and #2 and the Bundle Ammunition Buildings (see Plate 3).

3) Parsons Engineering prepared a Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study at Building 804, the Associated Radioactive Waste Burial Sites, and the Miscellaneous Components Burial Site in June 1998. A statistical sample to determine the extent of explosive ordnance should be included in any further actions regarding these burial sites.

4) Special Publication BRL-SP-51, Radiological Survey of Seneca Army Depot, January 1986 (see Section 2 of the Findings), provides the results of a survey of the igloos used for the storage of Manhattan Project materials during World War II (see Plate 3). The report also provides decontamination recommendations. This information has been included in this report strictly as a reminder regarding closure of these igloos.

APPENDIX A

GLOSSARY AND ACRONYMS

AAF	Army Air Field
AA	Anti-Aircraft
ADC	Air Defense Command
AEC	Army Environmental Center
AEC	Atomic Energy Commission
AFBCA	Air Force Base Conversion Agency
AFCS	Air Force Communications Service
AFLC	Air Force Logistics Command
AGO	Adjutant General's Office
AKA	Also Known As
AMA	Air Materiel Area
AMC	Air Materiel Command
ANG	Army National Guard
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ARDC	Air Research and Development Command
ASR	Archives Search Report
ATV	All Terrain Vehicle
Aux	Auxiliary
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Realignment And Closure
CADD	Computer-Aided Design/Drafting
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHNC	Corps of Engineers, Huntsville Support Center
CELMS	Corps of Engineers, St. Louis
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
COE	Chief of Engineers
COMP	Composition
CTG	Cartridge

CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DDESB	Department of Defense Explosive Safety Board
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-Formerly Used Defense Sites
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
DTC	Desert Training Center
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
4WD	Four Wheel Drive
F	Fahrenheit
FAA	Federal Aviation Administration
FDE	Findings and Determination of Eligibility
FFMC	Federal Farm Mortgage Corporation
FLCH	Flechette
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GEEIA	Ground Electronics Engineering Installation Agency
GIS	Graphic Information System
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	Plastic
HE-S	Illuminating
HS	Mustard Gas
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
INPR	Inventory Project Report
IPE	Industrial Production Equipment

IRFNA	Inhibited Red Fuming Nitric Acid
IRP	Installation Restoration Program
JATO	Jet Assisted Take Off
MCX	Mandatory Center of Expertise
MG	Machine Gun
MG	Major General
mm	Millimeter
mph	Miles Per Hour
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAS	Naval Air Station
NASA	National Aeronautical and Space Administration
NCA	Northern Communications Agency
NCDC	National Climatic Data Center
NCO	Non Commissioned Officer
NCP	National Contingency Plan
NEADS	Northeast Air Defense Sector
NFS	National Forest Service
NG	National Guard
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NYDEC	New York State Department of Environmental Conservation
OE	Ordnance and Explosives
OSHA	Occupational Safety and Health Act
PA	Preliminary Assessment
PBR	Precision Bombing Range
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
POE	Port of Embarkations
POC	Point of Contact
POW	Prisoner of War
QASAS	Quality Assurance Specialist Ammunition Surveillance
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study

SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SEAD	Seneca Army Depot
SLD	St. Louis District, Corps of Engineers
SSHO	Site Safety and Health Officer
SSHP	Site Specific Safety and Health Plan
SWMU	Solid Waste Management Units
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers USADACS
	U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAESCH	U.S. Army Engineering and Support Center, Huntsville, AL
USATHMA	U.S. Army, Corps of Engineers, Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Army
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
WAA	War Assets Administration
WCAFTC	West Coast Air Force Training Center
WD	War Department
WNRC	Washington National Records Center
WWII	World War II

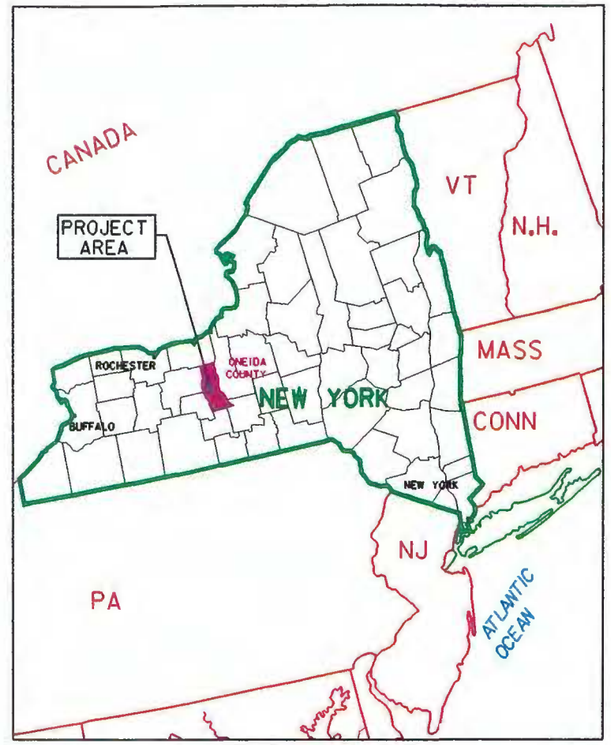
APPENDIX B

REPORT DISTRIBUTION LIST

FINAL DISTRIBUTION

Addressee	No. Copies
Commander, U.S. Army Engineering Support Center Huntsville, ATTN: CEHNC-ED-SY P.O. Box 1600 Huntsville, AL 35807-4301	2
Commander, Seneca Army Depot Activity ATTN: SIOSE-IE (Mr. Stephen Absolom) 5786 State Route 96 Romulus, NY 14541-5001	2
Project Manager Chemical Demilitarization, Non-Stockpile ATTN: SFAE-CD-N, Bldg E4585 Aberdeen Proving Ground, MD 21010-5401	1
Commander, U.S. Army Chemical & Biological Defense Command ATTN: AMSCB-CIH, Bldg E5183 Aberdeen Proving Ground, MD 21010-5423	1
U.S. Army Technical Center for Explosives Safety ATTN: SIOAC-ESM Savanna, IL 61074-9639	1

REPORT PLATES



LEGEND

SITE LOCATION

0 35000 70000

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

VICINITY MAP

PROJ. DATE: SEPTEMBER, 1998	DATE OF MAP: 1997	PLATE NO. 1
11-SEP-1998 09:09	h:\cow38\newyork\seneca\photos\plate1.dgn	

KEY TO FEATURES (CONTINUED FROM PLATE 3):

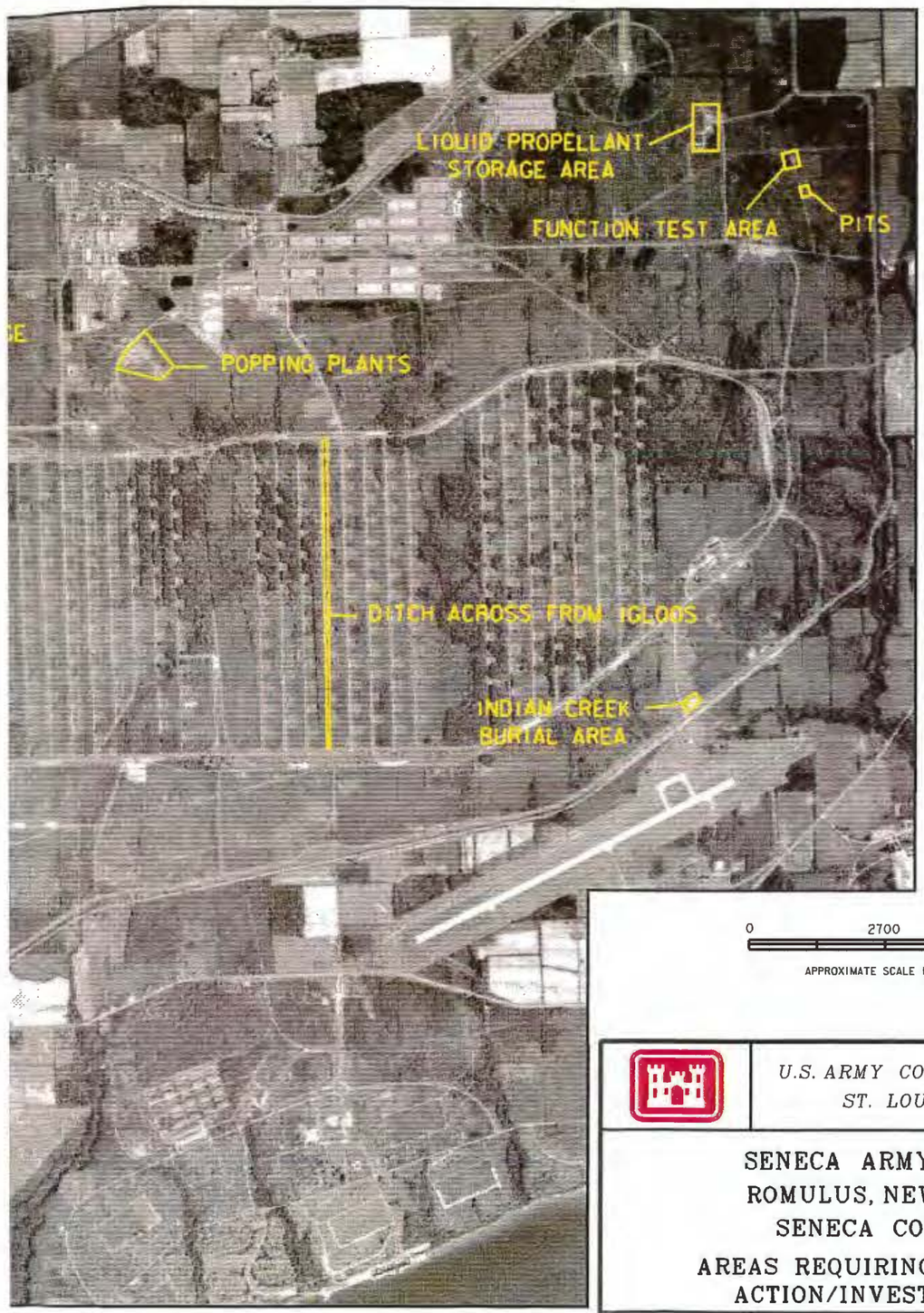
FEATURE NUMBER	FEATURE DESCRIPTION
	(CONTINUED FROM PLATE 3)
20.	SKEET RANGE
21.	SMALL ARMS RANGE
22.	.45 CAL RANGE
23.	INDOOR RIFLE RANGE (BLDG 744)
24.	OPEN AIR STORAGE PADS
25.	LANDING ZONES
26.	SUSPECT RAIL CAR AND TRUCK AREAS
27.	BERMS
28.	EOD AREA #2
29.	DRUMS (REPORTED BY R. BATTAGLIA)
30.	LOADING PLATFORM #2130
31.	PROPELLANT CHARGE BURN AREA
32.	AMMUNITION DISASSEMBLY PLANT
33.	DETONATOR DESTRUCTION FURNACE
34.	EXPLOSIVE SCRAP FURNACE
35.	BERM (REPORTED BY R. BATTAGLIA)
36.	ABANDONED POWDER BURN AREA
37.	STORAGE SHED
38.	ROW OF IGLOOS USED FOR MANHATTAN PROJECT STORAGE
39.	SPECIAL WEAPONS AREA
40.	SPECIAL WEAPONS AREA BOUNDARY
41.	R&D AREA/FUSE STORAGE

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

ORDNANCE ACTIVITIES

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1991	PLATE NO. 3A
16-SEP-1998 10:01	t:\oew98b\newyork\seneca\photos\plate3.dgn	



0 2700 5400

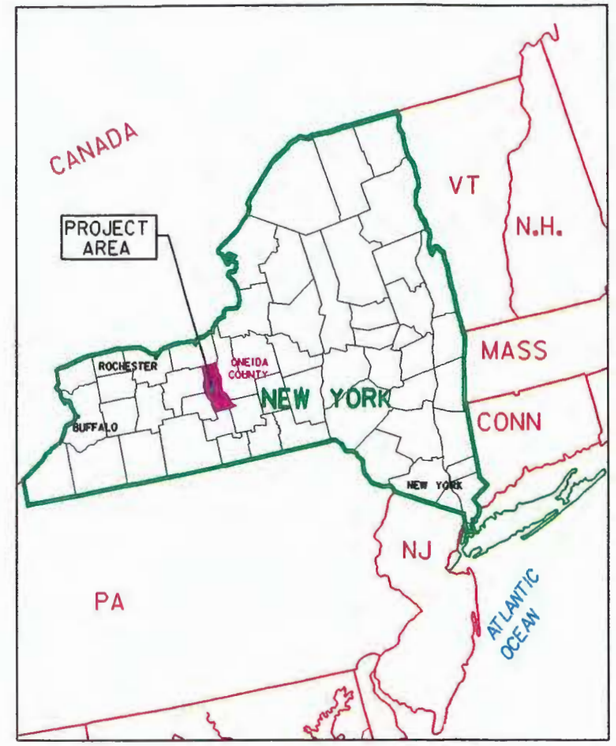
APPROXIMATE SCALE IN FEET

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

AREAS REQUIRING FURTHER ACTION/INVESTIGATION

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1991	PLATE NO. 4
15-SEP-1998 16:03	t:\oew98b\newyork\seneca\photos\plate4.dgn	



LEGEND

SITE LOCATION

0 35000 70000

APPROXIMATE SCALE IN FEET

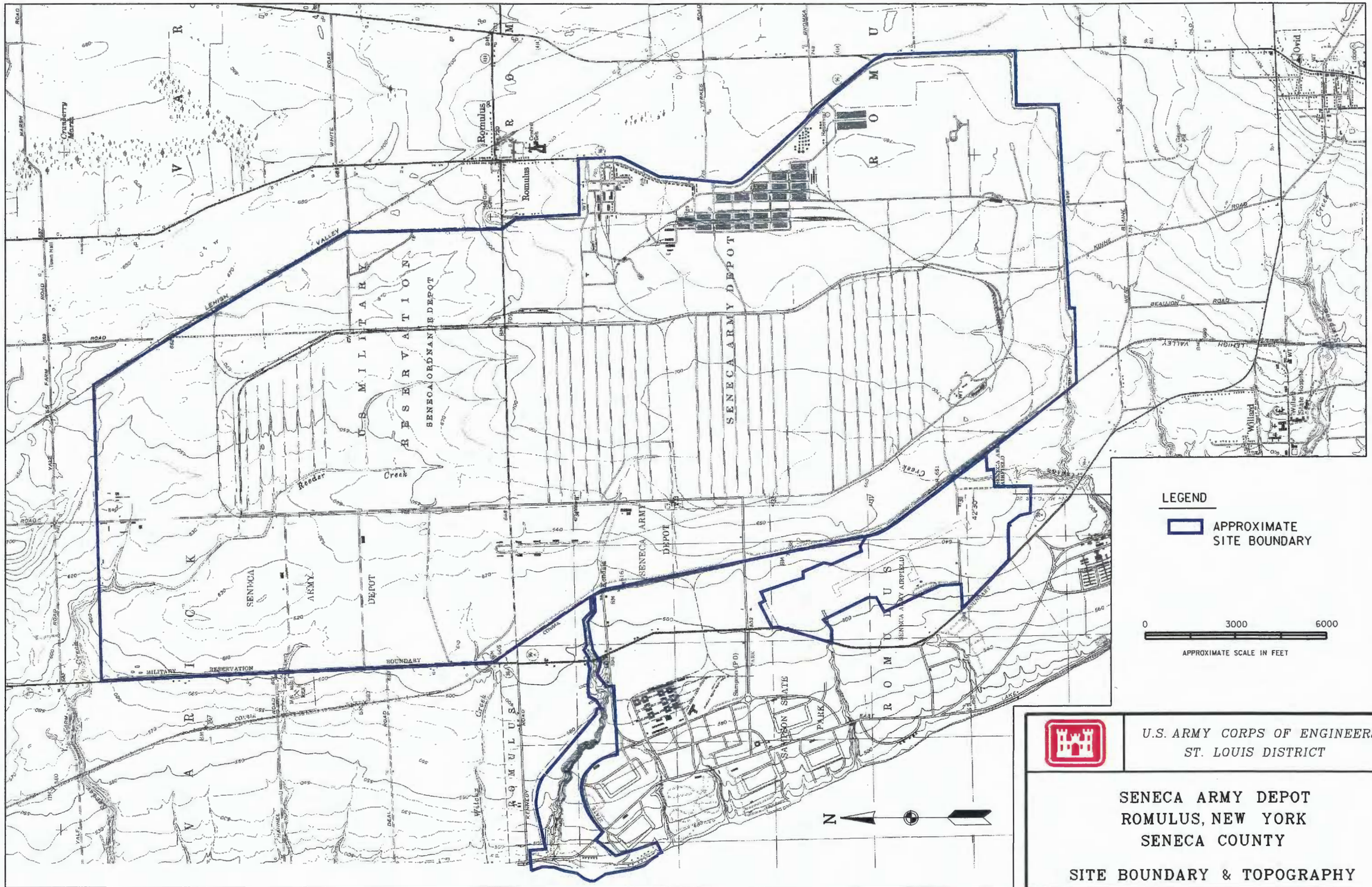
N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

VICINITY MAP

PROJ. DATE: SEPTEMBER, 1998 11-SEP-1998 09:09	DATE OF MAP: 1997 t:\gsw38\newyork\senecaphotos\plate1.dgn	PLATE NO. 1



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

SITE BOUNDARY & TOPOGRAPHY

PROJ. DATE: SEPTEMBER, 1998	DATE OF QUAD: 1978	PLATE NO. 2
10-SEP-1998 09:38	f:\proev30\newyork\seneca\quads\senetopo.dgn	

KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
1.	BURN PADS AND DEMOLITION GROUNDS
2.	EOD AREA #1
3.	DEMO RANGE
4.	FUNCTION TEST AREA AND NEARBY PITS
5.	INDIAN CREEK BURIAL AREA
6.	POPPING PLANTS
7.	GRENADE RANGE
8.	IGLOOS
9.	3.5" ROCKET RANGE
10.	LIQUID PROPELLANT STORAGE AREA
11.	EOD AREA #3
12.	BUNDLE AMMUNITION BUILDINGS
13.	WAREHOUSE BLDG #328
14.	SMALL ARMS STORAGE
15.	SURVEILLANCE LAB
16.	AMMUNITION WORKSHOPS #1
17.	AMMUNITION WORKSHOPS #2
18.	MAGAZINES
19.	LAKE HOUSING SMALL ARMS RANGE

(CONTINUED ON PLATE 3A)

0 3000 6000

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
ORDNANCE ACTIVITIES

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1991	PLATE NO. 3
14-DEC-1998 07:56	f:\new98b\newyork\senecaphotos\plate3.dgn	

1954 PHOTO

1978 PHOTO

0 900 1800

APPROXIMATE SCALE IN FEET

N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

BURN PADS/DEMOLITION GROUNDS

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1954&1978	PLATE NO. 5
11-SEP-1998 11:16	t:\nae98b4newyork\senecaphotos\plate5.dgn	

1963 PHOTO

1991 PHOTO

0 700 1400

APPROXIMATE SCALE IN FEET

N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

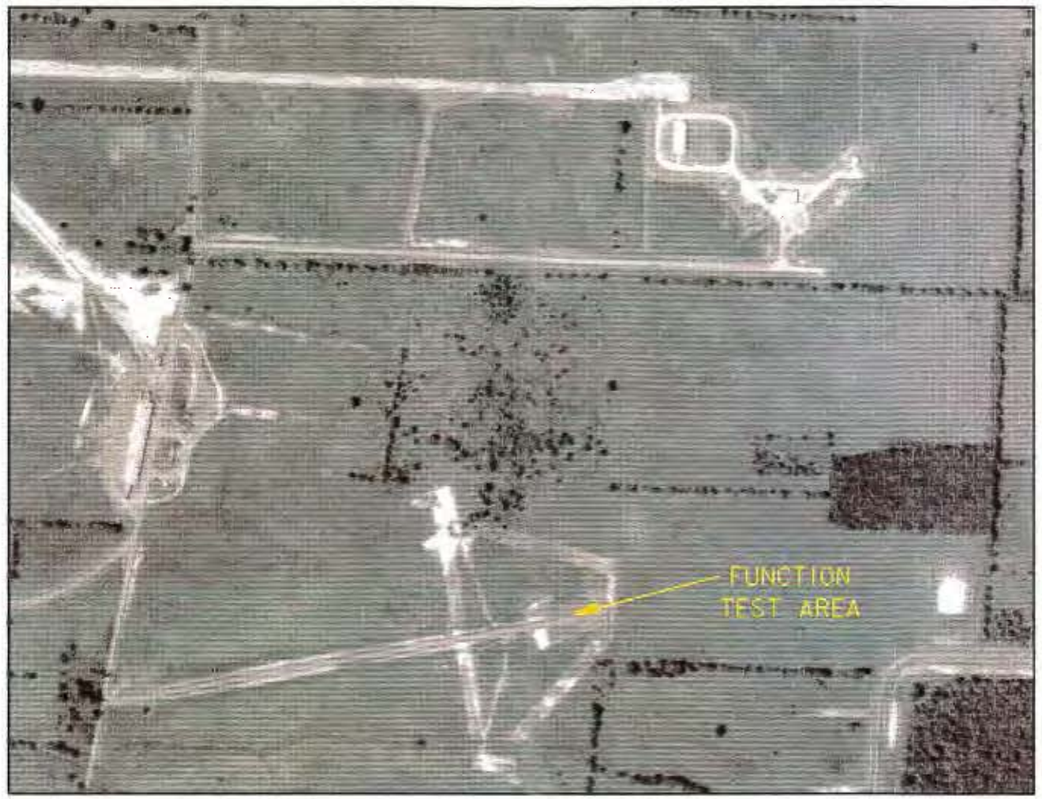
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

EOD AREA #1

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1963 &1991	PLATE NO. 6
11-SEP-1998 11:10	t:\oew38b\newyork\seneca\photos\plate6.dgn	

1991 PHOTO



1963 PHOTO

0 600 1200

APPROXIMATE SCALE IN FEET

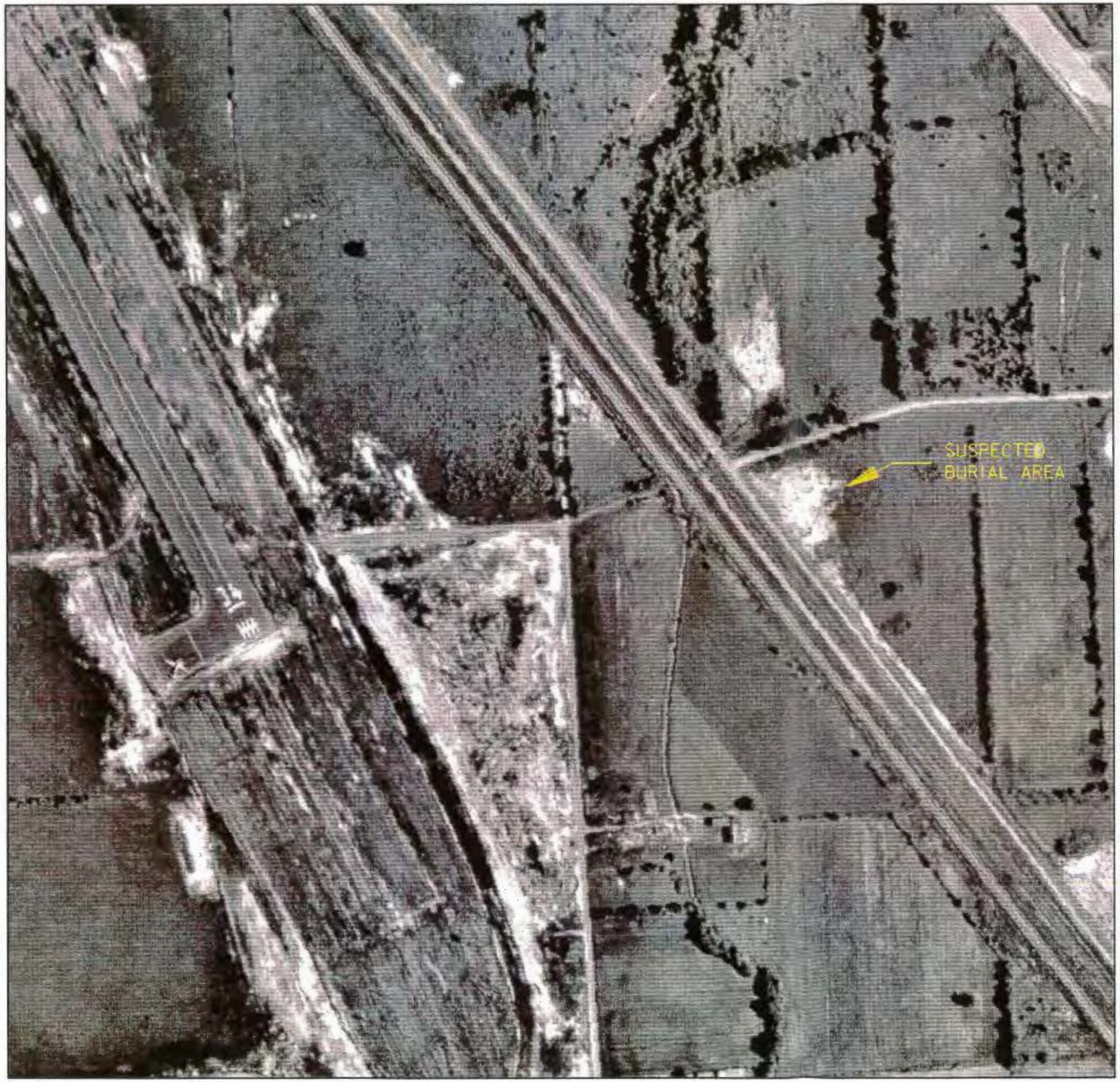
N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
FUNCTION TEST AREA

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1991 & 1963	PLATE NO. 7
15-SEP-1998 07:03	h:\oew98b\newyork\seneca\photos\plate7.dgn	



1954 PHOTO

0 350 1000

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

BURIAL AREA-INDIAN CREEK

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1954	PLATE NO. 8
14-SEP-1998 14:15	t:\nae98b\newyork\seneca\photos\plate8.dgn	

1954 PHOTO

0 400 800

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

EOD AREA #3 & 3.5" ROCKET RANGE

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1954	PLATE NO. 9
14-SEP-1998 13:32	t:\nae98\newyork\seneca\photos\plate9.dgn	

1963 PHOTO

1991 PHOTO

0 550 1100

APPROXIMATE SCALE IN FEET

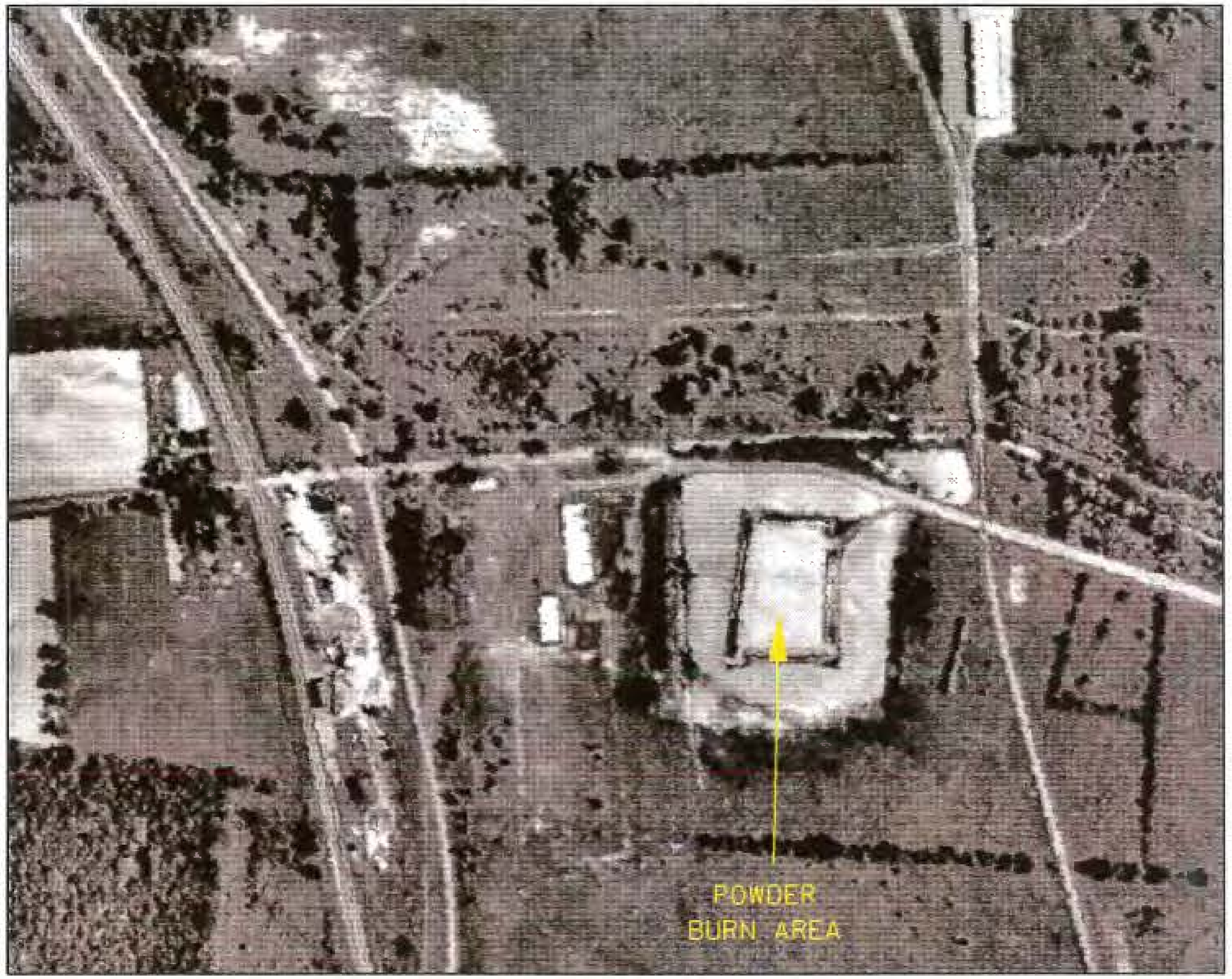
N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
EOD AREA #2

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1963 & 1991	PLATE NO. 10
14-SEP-1998 13:41	t:\nae98b\newyork\seneca\photos\plate10.dgn	



1954 PHOTO

1978 PHOTO

0 375 750
APPROXIMATE SCALE IN FEET

N

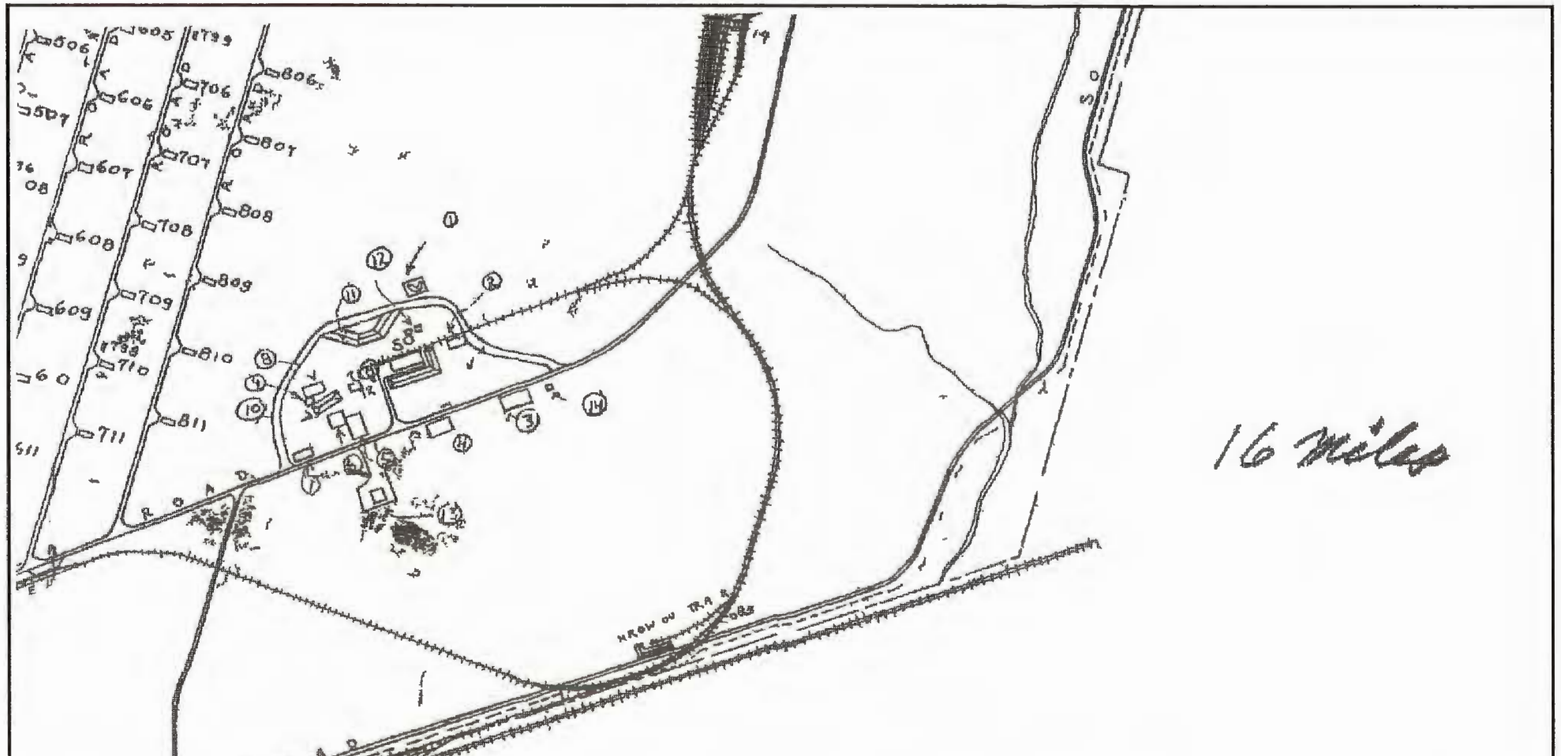
NOTE: PHOTO ON LEFT IS GEOREFERENCED

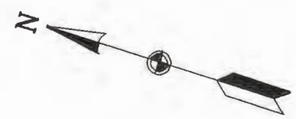
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

ABANDONED POWDER BURN AREA

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1954 & 1978	PLATE NO. 11
14-DEC-1998 08:58	h:\oew38b\newyork\seneca\photos\plate11.dgn	

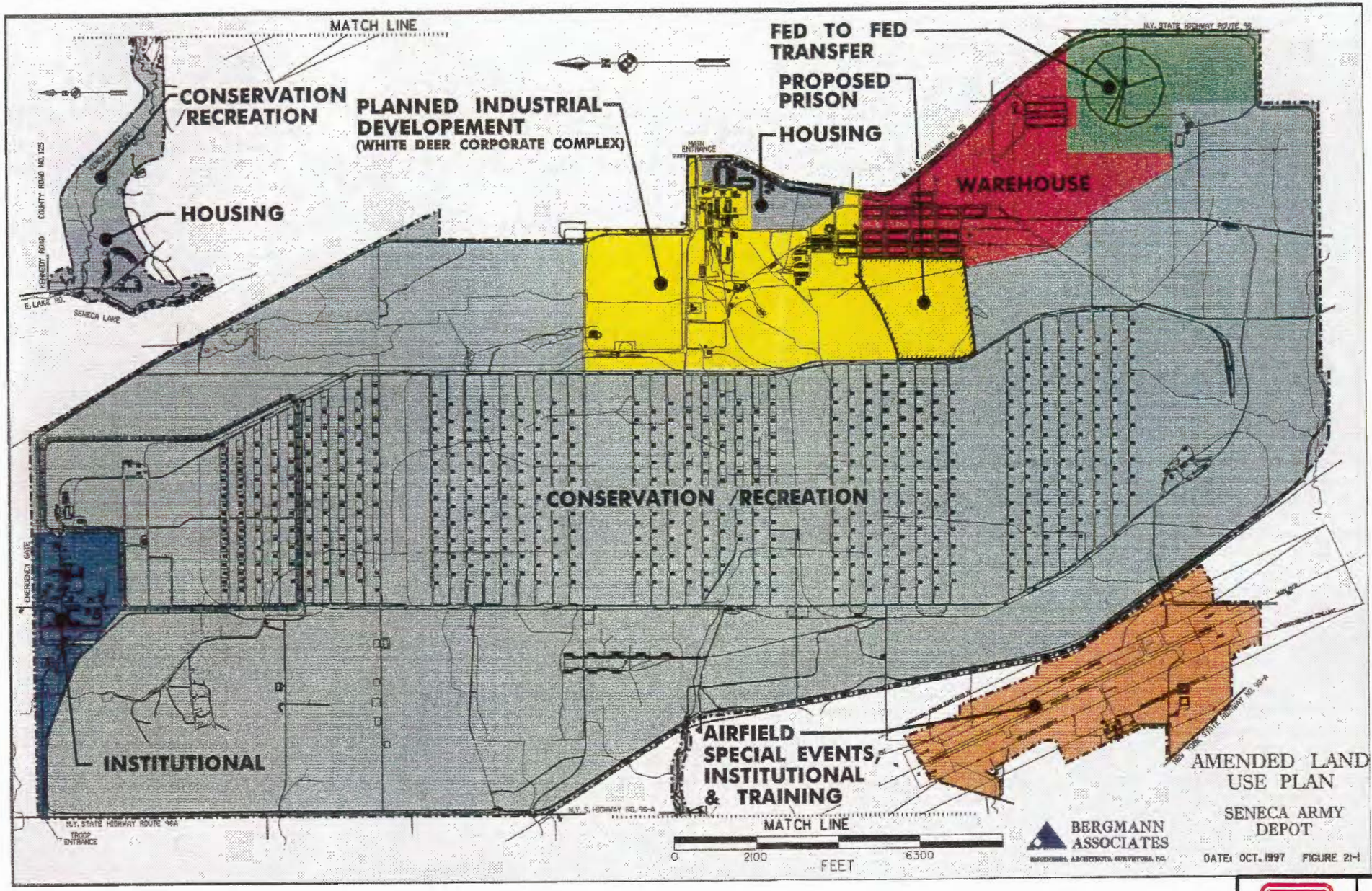




U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
AMMUNITION WORKSHOP #1

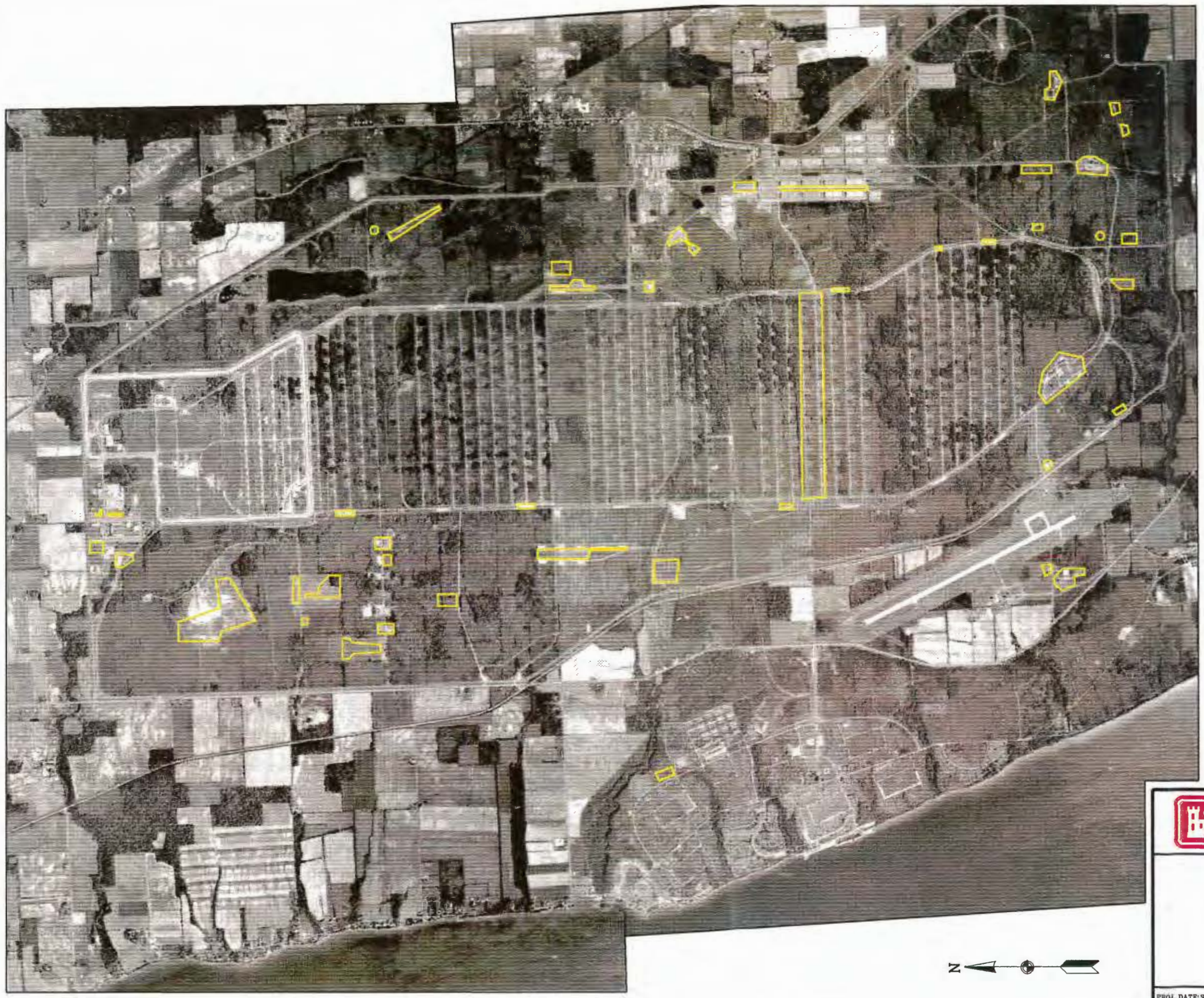
PROJ. DATE: SEPTEMBER, 1998	DATE OF MAP: 1946	PLATE NO. 12
14-DEC-1998 08:45	f:\nae98b\newyork\seneca\map\plate12.dgn	



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
FUTURE USE

PROJ. DATE: SEPTEMBER, 1998	DATE OF MAP: 1997	PLATE NO. 13
14-DEC-1998 08:57	f:\oew98b\newyork\seneca\photos\plate13.dgn	



NOTE: AREAS ENCLOSED BY YELLOW LINES INDICATE AREAS INSPECTED.

0 3000 6000

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
AREAS INSPECTED

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1991	PLATE NO. 14
14-DEC-1998 08:57	t:\coe938\newyork\seneca\photos\plate14.dgn	