

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. A Performance Based Contract was procured to take this site to Response Complete. All planned costs for groundwater monitoring for 5 years and one Five Year Review have been captured in the PBC contract. No further monitoring or review costs beyond that are anticipated. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Closeout.

Site: SEAD-4, Munitions Washout Facility and SEAD-38 (Boiler Blowdown Pit).
NOTE: SEAD-38 is now included with SEAD-4 project. The boiler house and blowdown pit are located within the Munitions Washout Facility complex at Building 2079 and will be addressed with the PBC remediation contract for this site.

Source:

1. Draft Record of Decision Munitions Washout Facility (SEAD-4) and Building 2079 Boiler Blowdown Pit (SEAD-38) August 2007
2. Contract FA8903-04-D-8675, 20 Jun 2006
3. Corps of Engineers S&A letter dated 31 March 2004
4. RACER estimate for Site Closeout based on professional judgment and site knowledge

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well Abandonment (LTM):

1. Number of wells: 13
2. Depth of wells: 15 feet
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-4

LTM

Site Closeout & Well Abandonment (RACER) 63,758

Corps of Engineers oversight
(63,758 x 0.07) 4,463

Total Site Cost \$68,221

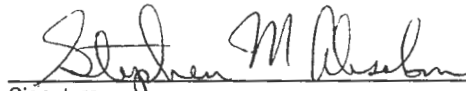
Cost Increase > 10% from 2007 Report? Yes

Reason: RACER Update.

Prepared by: Janet R. Fallo


Signature _____ Date 2/22/08

Reviewed by: Stephen M. Absolom


Signature _____ Date 2/22/08

US Army Corps of Engineers



**Air Force Center for
Engineering and the Environment**



**Seneca Army Depot Activity
Romulus, New York**



**DRAFT
RECORD OF DECISION**

**FOR THE MUNITIONS WASHOUT FACILITY (SEAD-4) AND
THE BUILDING 2079 BOILER BLOWDOWN PIT (SEAD-38)
SENECA ARMY DEPOT ACTIVITY**

AFCEE CONTRACT NO. FA8903-04-D-8675
TASK ORDER NO. 0031
CDRL A001C

EPA SITE ID# NY0213820830
NY SITE ID# 8-50-006

PARSONS
AUGUST 2007

1.0 DECLARATION OF THE RECORD OF DECISION

Name and Location of Areas of Concern (AOCs)

The Munitions Washout Facility (SEAD-4) and the Building 2079 Boiler Blowdown Pit (SEAD-38)
Seneca Army Depot Activity
5786 State Route 96
Romulus, New York 14541
EPA Site ID: NY0213820830; NY Site ID: 8-50-006

Statement of Basis and Purpose

This Record of Decision (ROD) documents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (EPA's) selection of a remedy for the Munitions Washout Facility (SEAD-4) and the Building 2079 Boiler Blowdown Pit (SEAD-38) located in the Seneca Army Depot Activity (SEDA), Romulus, New York. The remedy selected for the two Areas of Concerns was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601, *et seq.* and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the Director, Emergency and Remedial Response Division, EPA Region II have been delegated the authority to approve this ROD.

This decision document presents and explains the factual and legal basis for selecting the remedy for the AOCs. This ROD is based on the Administrative Record that has been developed by the Army in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The attached index (see Appendix A) identifies the items that comprise the Administrative Record upon which the selection of the remedy is based.

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the planned remedy in accordance with CERCLA Section 121(f), 42 U.S.C. Section 9621(f). NYSDEC forwarded a letter of concurrence to the EPA regarding the selection of a remedial action in the future. This letter of concurrence has been placed in Appendix B.

AOC Assessment

Actual or threatened releases of hazardous substances from the AOCs, if not addressed by implementing the response action selected in this ROD, may present a substantial endangerment to public health, welfare, and the environment.

Description of the Selected Remedy

The selected remedy for SEAD-4/38 includes the following components:

- Removing debris from vacant buildings 2073, 2076, 2078, 2084, and 2085 and sweeping and vacuuming building floors;
- Demolishing Building 2079;
- Excavating ditch soil until the cleanup goal for total chromium (hereafter referred to as chromium; 60 mg/kg) is reached;
- Excavating the hot spot SD4-28 with vanadium concentrations greater than 150 mg/kg;
- Excavating surface and subsurface soils until the cleanup goals for lead and chromium (167 mg/kg and 60 mg/kg, respectively) are achieved;
- Dewatering the man-made lagoon and allowing water to percolate into the ground at a location outside of the excavation areas;
- Once the lagoon is empty, excavating soil from the man-made lagoon until the chromium cleanup goal of 60 mg/kg is achieved;
- Removing the temporary berm at the end of the lagoon and allowing the man-made lagoon to return to its natural condition;
- Stabilizing soils, ditch soil, lagoon soil, and building debris and building material exceeding the waste characterization criteria;
- Disposing the excavated soil and recovered debris in an off-site landfill;
- Backfilling excavation areas that cannot be graded to promote positive drainage and excavation areas deeper than 4 feet near the road or buildings with clean backfill as necessary; and
- Submitting a Completion Report once the remedial action is completed.

State Concurrence

NYSDEC forwarded a letter of concurrence to the EPA regarding the selection of a remedial action in the future. This letter of concurrence has been placed in Appendix B.

Declaration

CERCLA and the NCP require each selected remedy to be protective of human health, public welfare, and the environment; be cost-effective; comply with other statutory laws; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent practicable. CERCLA and the NCP also state a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The selected remedy described above is consistent with CERCLA and the NCP and is protective of human health and the environment, comply with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, and are cost-effective. These remedies have been evaluated against toxicity, mobility, or volume of hazardous substances and pollutants or contaminants.

The remedy identified will result in hazardous substances and pollutants or contaminants remaining on-site consistent with levels that allow for unlimited use and unrestricted exposure.

The estimated capital cost for the selected soil remedy is \$533,000 and no O&M cost is expected after the remedial action.

Drainage Ditch Soil Investigation

A total of 55 ditch soil samples were collected at the depth intervals of 0-2 or 0-6 inches bgs. from the drainage ditches at SEAD-4 and SEAD-38. Each of the ditch soil samples was analyzed for VOCs, SVOCs, pesticides, PCBs, explosives, and metals. Six ditch soil samples were also analyzed for herbicides. The 95% UCL calculated for all compounds were below the NYSDEC industrial soil cleanup objectives. The ditch soil results are summarized in Table 5.

The highest ditch soil concentrations of PAHs and metals such as iron and vanadium were detected in the samples collected from locations within the drainage ditch at the northern edge of the AOCs. The maximum chromium concentration (4,800 mg/kg) was detected in the drainage ditch located to the southwest of Building T30.

Groundwater

Groundwater samples were collected from thirteen monitoring wells during the ESI, RI, and 2004 sampling events. The maximum concentrations were compared to federal and state criteria including New York State Class GA Groundwater Standards, federal Maximum Contaminant Levels (MCLs) and federal Secondary Drinking Water Standards (SEC). The federal MCLs and SECs are considered TBC criteria because they pertain specifically to drinking water, and the groundwater at SEAD-4/38 is not used as a source of drinking water. The groundwater results from the ESI and RI investigations at SEAD-4/38 are presented in Tables 6A and 6B, respectively.

13 wells to abandon

ESI and RI Results

Six metals (i.e., antimony, beryllium, cadmium, iron, manganese, and sodium) were detected in at least one groundwater sample at concentrations that exceeded their respective NYSDEC Class GA Ambient Water Quality Standards (AWQSs) or federal MCL values. In addition, aluminum and magnesium were detected in groundwater above the standard specified in the National Secondary Drinking Water Regulation and the NYSDEC GA guidance value, respectively. Among the metals with groundwater criteria exceedances, only beryllium and cadmium were detected at levels that were higher than their respective maximum concentrations observed in Seneca background groundwater samples. Beryllium concentrations detected in all groundwater samples were below the maximum Seneca background value of 2.2 µg/L except the beryllium concentration detected in monitoring well MW4-3 during the ESI. Cadmium was not detected in any groundwater samples except the sample collected from MW4-3 during the ESI. Beryllium and cadmium were not detected in any of the other wells during the ESI and were not detected in the same well (i.e., MW4-3) during the two rounds conducted in 1999.

Concentrations of benzene, ethylbenzene, 4-nitrotoluene, and nitrobenzene exceeded their respective NYSDEC GA Standards during the RI sampling event. However, these compounds were only detected in one monitoring well (i.e., MW4-10) during one round of sampling (March 1999). None of these SVOCs were detected in MW4-10 or any other groundwater monitoring wells during the second round of groundwater sampling in July 1999 or during the ESI sampling event. Further, the concentrations of these compounds in SEAD-4/38 groundwater do not pose significant risk to potential receptors.

Alternative 2 can be constructed easily since they involve leaving soils in place and constructing a soil cover. The construction of the soil cover involves routine earthmoving tasks, such as hauling, spreading, and compacting soils. Numerous contractors are available and qualified to perform these tasks.

Alternative 3 can also be constructed easily, though they involve more excavation, stockpiling, testing, and transportation.

For Alternatives 2 and 3, on-site stabilization may be necessary prior to disposal. In addition, a licensed off-site landfill capable of accepting the material from the AOCs would be needed.

Cost

Capital costs, operating costs, and administrative costs were estimated for Alternatives 1, 2, and 3. Capital costs include those costs for professional labor, construction and equipment, field work, monitoring and testing, and treatment and disposal. Operating costs include costs for administrative and professional labor, monitoring, and utilities. Administrative costs include the costs for land use restrictions.

The present worth cost associated with all alternatives is calculated using a discount rate of seven percent (7%) and an assumption of 30-year time interval. The estimated capital, operation, maintenance, and monitoring, and the present-worth costs are presented in Table 11 and summarized below.

Alternative	Capital Cost	Annual OM&M Costs	Total Present-Worth Costs
1. No Action	\$0	\$6,000	\$74,460
2. On-Site Containment	\$370,000	\$44,400	\$921,000
3. Off-Site Disposal	\$533,000	\$0	\$533,000

Alternative 1 (no action) is the least costly alternative at \$74,460 for SEAD-4/38. Alternative 2 is more expensive than Alternative 3. Alternative 3 costs \$533,000 and Alternative 2 costs \$921,000.

State Acceptance

NYSDEC concurs with the preferred remedial alternative (Appendix B).

Community Acceptance

Community acceptance of the preferred alternative will be assessed in the ROD following review of the public comments received on the RI report, FS report, Proposed Plan, and this ROD.

8.4 SELECTED REMEDY

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives and public comments, the Army has determined that Alternative 3 (Off-Site Disposal) best satisfies the requirements of CERCLA Section 121,42 U.S.C. Section 9621, and provides the best balance of tradeoffs among the remedial alternatives with respect to the NCP's nine evaluation criteria, 40 CFR Section 300.430(e)(9).

Contract

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675				2. DELIVERY ORDER/ CALL NO. 0031		3. DATE OF ORDER/CALL (YYYYMMDD) 20 JUN 2006		4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE		5. PRIORITY DO-C9	
6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil						7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES P.O. BOX 9608 MISSION HILLS CA 91346-9608 DCMALOSANGELES@DCMA.MIL		8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER <small>(See Schedule if other)</small>			
9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC 100 W WALNUT ST PASADENA CA 91124-0001 (626) 440-2000						10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE		11. X IF BUSINESS IS SMALL SMALL DISAD- VANTAGED WOMEN- OWNED			
14. SHIP TO SEE SCHEDULE						15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-COWEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T		13. MAIL INVOICES TO ADDRESS IN BLOCK SEE BLOCK 15 (PAYMENT OFFICE)			
16. TYPE OF ORDER		DELIVERY/ CALL		PURCHASE		This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract. Reference your _____ furnish the following on items specified herein. ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.					
NAME OF CONTRACTOR		SIGNATURE		TYPED NAME AND TITLE		DATE SIGNED(YYYYMMDD)					
17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE SEE SCHEDULE											
18. ITEM NO.											
19. SCHEDULE OF SUPPLIES/SERVICES											
20. QUANTITY ORDERED/ ACCEPTED*											
21. UNIT											
22. UNIT PRICE											
23. AMOUNT											
24. UNITED STATES OF AMERICA //signed// EDWIN CUSTODIO BY: _____						25. TOTAL \$10,820,000.00					
26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED						27. SHIP NO.		28. D.O. VOUCHER NO.		29. DIFFERENCES	
DATE SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE						32. PAID BY		33. AMOUNT VERIFIED CORRECT FOR			
36. CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER						32. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		34. CHECK NUMBER			
37. RECEIVED AT						38. RECEIVED BY (Print)		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS	
37. RECEIVED AT						38. RECEIVED BY (Print)		39. DATE RECEIVED (YYYYMMDD)		41. S/R ACCOUNT NO.	
37. RECEIVED AT						38. RECEIVED BY (Print)		39. DATE RECEIVED (YYYYMMDD)		42. S/R VOUCHER NO.	

PARSONS

INVOICE

Parsons Infrastructure & Technology Group, Inc.

Remittance Address: PO Box 88954 • Chicago, IL 60695-1954 • www.parsons.com
 Wire transfer: Account 323289711 • ABA 021000021

Billed to:

DFAS-Columbus Center
 West Entitlement Operations
 P.O. Box 182381
 Columbus, OH 43218-2381

Invoice date: 2006/10/10
Shipment number: SER0004
Invoice number: 06100626
Client number: 72483
Job number: 745172

Project name: Seneca Army Depot
 Remedial Actions

Invoice amount: \$ 10,980

Authorization: Contract FA8903-04-D-8675 order 0031

CLIN 0001

SUMMARY BY ACRN

SEAD 4

ACRN	Contract amount	Previously billed	Current billing	Cumulative billed
AA	\$ 39,614	\$ 39,614	\$ -	\$ 39,614
AB	\$ 600,000	\$ 160,320	\$ 10,980	\$ 171,300
AC	\$ 548,386	\$ -	\$ -	\$ -
AD	\$ 601,000	\$ 107,304	\$ -	\$ 107,304
AE	\$ 4,870,000	\$ 1,017,093	\$ -	\$ 1,017,093
AF	\$ 4,161,000	\$ 397,813	\$ -	\$ 397,813
	\$ 10,820,000	\$ 1,722,144	\$ 10,980	\$ 1,733,124

SEE MILESTONE DETAIL BEGINNING ON NEXT PAGE.

Jesse Perez

Shipment number SER0004, invoice number 06100626, continued

Milestone	ACRN	Milestone payment	Previously billed	Current billing	Cumulative billed
SEAD 16/17 Mobilization (5%)	AA	\$ 39,614	\$ 39,614	\$ -	\$ 39,614
SEAD 16/17 Mobilization (5%)	AB	\$ 19,786	\$ 19,786	\$ -	\$ 19,786
SEAD 16/17 Insurance/Bonds Schedule	AB	\$ 134,166	\$ 134,166	\$ -	\$ 134,166
SEAD 16/17 Approval of QPP/Work Plan	AB	\$ 6,368	\$ 6,368	\$ -	\$ 6,368
SEAD 16/17 WP Submittal	AB	\$ 10,980	\$ -	\$ 10,980	\$ 10,980
SEAD 16/17 RA WP Approval	AB	\$ 50,000	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 50% Complete	AB	\$ 50,000	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 50% Complete	AB	\$ 328,700	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 100% Complete	AC	\$ 168,858	\$ -	\$ -	\$ -
SEAD 16/17 RA Report Approval	AC	\$ 300,000	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 1 LTM Report	AC	\$ 40,000	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 2 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 3 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 4 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 5 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Approval of SEAD 16/17 5-Year Report Response Complete SEAD 16/17	AC	\$ 6,588	\$ -	\$ -	\$ -
	AC	\$ 5,490	\$ -	\$ -	\$ -
SEAD 4/38 Mobilization (5%)	AF	\$ 208,050	\$ 208,050	\$ -	\$ 208,050
SEAD 4/38 Insurance/Bonds	AF	\$ 129,001	\$ 129,001	\$ -	\$ 129,001
SEAD 4/38 Submittal of WBS and Schedule	AF	\$ 22,305	\$ 22,305	\$ -	\$ 22,305
SEAD 4/38 Approval of QPP/Work Plan	AF	\$ 38,457	\$ 38,457	\$ -	\$ 38,457
SEAD 4/38 PRAP Submittal	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 ROD Approval	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 WP Submittal	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 RA Work Plan Submittal	AF	\$ 50,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 25% Complete	AF	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 50% Complete	AF	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 75% Complete	AF	\$ 650,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 100% Complete	AF	\$ 559,745	\$ -	\$ -	\$ -
SEAD 4/38 RA Report Approval	AF	\$ 40,000	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 1 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 2 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 3 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 4 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 5 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Approval of SEAD 4/38 5-Year Report Response Complete SEAD 4/38	AF	\$ 23,074	\$ -	\$ -	\$ -
	AF	\$ 19,228	\$ -	\$ -	\$ -

Annual LTM

5yr review

Shipment number SER0004, invoice number 06100626, continued

Milestone	ACRN	Milestone payment	Previously billed	Current billing	Cumulative billed
SEAD 11 Mobilization (5%)	AE	\$ 243,500	\$ 243,500	\$ -	\$ 243,500
SEAD 11 Insurance/Bonds	AE	\$ 542,479	\$ 542,479	\$ -	\$ 542,479
SEAD 11 Submittal of WBS and Schedule	AE	\$ 56,105	\$ 56,105	\$ -	\$ 56,105
SEAD 11 Approval of QPP/Work Plan	AE	\$ 75,009	\$ 75,009	\$ -	\$ 75,009
SEAD 11 RA WP Submittal	AE	\$ 100,000	\$ 100,000	\$ -	\$ 100,000
SEAD 11 RA WP Approval	AE	\$ 50,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 25% Complete	AE	\$ 1,100,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 50% Complete	AE	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 75% Complete	AE	\$ 705,871	\$ -	\$ -	\$ -
SEAD 11 Excavation 100% Complete	AE	\$ 685,000	\$ -	\$ -	\$ -
SEAD 11 RA Report Approval	AE	\$ 40,000	\$ -	\$ -	\$ -
SEAD 11 PRAP Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 ROD Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 LTM Plan Approval	AE	\$ 10,000	\$ -	\$ -	\$ -
Submit SEAD 11 Year 1 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 2 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 3 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 4 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 5 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Approval of SEAD 11 5-Year Report	AE	\$ 27,006	\$ -	\$ -	\$ -
Response Complete SEAD 11	AE	\$ 22,505	\$ -	\$ -	\$ -
SEAD 121C Mobilization (5%)	AD	\$ 30,050	\$ 30,050	\$ -	\$ 30,050
SEAD 121C Insurance/Bonds	AD	\$ 68,477	\$ 68,477	\$ -	\$ 68,477
SEAD 121C Submittal of WBS and Schedule	AD	\$ 3,222	\$ 3,222	\$ -	\$ 3,222
SEAD 121C Approval of QPP/Work Plan	AD	\$ 5,555	\$ 5,555	\$ -	\$ 5,555
SEAD 121C RA WP Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C Excavation 50% Complete	AD	\$ 174,100	\$ -	\$ -	\$ -
SEAD 121C Excavation 100% Complete	AD	\$ 139,601	\$ -	\$ -	\$ -
SEAD 121C RA Report Approval	AD	\$ 40,000	\$ -	\$ -	\$ -
SEAD 121C PRAP Submittal	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C ROD Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C LTM Plan Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
Submit SEAD 121C Year 1 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 2 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 3 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 4 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 5 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Approval of SEAD 121C 5-Year Report	AD	\$ 3,333	\$ -	\$ -	\$ -
Response Complete 121C	AD	\$ 2,777	\$ -	\$ -	\$ -
		<u>\$ 10,820,000</u>	<u>\$ 1,722,144</u>	<u>\$ 10,980</u>	<u>\$ 1,733,124</u>



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

S: 26 April 2004
31 March 2004

CERM-P (37)

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDERS

SUBJECT: Defense Environmental Restoration Program (DERP) Supervision and Administration (S&A) Rate Change

1. The actual DERP S&A costs have been about one percent below the rate charged customers since the beginning of fiscal year 2002. The Director of Military Programs has asked that the cost saving from these efficiencies be passed on to the customer through lower S&A flat rates.
2. Effective 1 April 2004 the flat rate for DERP and BRAC environmental work will be reduced one percent. The new rates will be 7.0% for CONUS and 7.5% OCONUS. All locations outside the continental 48 states and DC are classified as OCONUS by the Department of Defense. S&A
RATE
3. Please provide your district and MSC mid-year S&A schedules reflecting the lower DERP rates by 26 April 2004 in the standard electronic format. MSC-specific formats will be emailed individually to your POCs within a week.
4. POC is Mr. Philip Blount, CERM-P at (202) 761-5620.

FOR THE COMMANDER:


STEPHEN COAKLEY
Director of Resource Management

CF:
CEMP-I
CEMP-SWD

SEAD 004

Phase	2009	2010	2011	2012	2013	2014	2015	Outyears
CO					64			
COE					4			
					68			

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-4
Project Name: SEAD-4
Project Category: Training Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

Munitions Washout Facility- Location where munition items were disassembled in addition to other munitions maintenance operations.

Site: SEAD-4, Munitions Washout Facility and SEAD-38 (Boiler Blowdown Pit). NOTE: SEAD-38 is now included with SEAD-4 project. The boiler house and blowdown pit are located within the Munitions Washout Facility complex at Building 2079 and will be addressed with the upcoming PBC remediation contract for this site. As with the other Boiler Blowdown Pits, NFA at SEAD-38 will be proposed following the remediation.

Source:

1. Final Feasibility Study at the Munitions Washout Facility, March 2005
2. RACER estimate for Site Closeout based on professional judgment and on site knowledge.

Estimate Documentation Report

Groundwater Monitoring Assumptions:

Groundwater monitoring cost was calculated based on the cost per year noted in the FS. Duration is for five years of data for the five year review period.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-4
Site Name: Munitions Washout Facility
Site Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-4 Munitions Washout Facility
SEAD-38- Boiler Blowdown Pits at SEAD-4.
Support Team: Stephen M. Absolom- SEDA BEC
Janet R. Fallo- US Army Corps of Engineers, Project Engineer
References: Source:
1. Draft Record of Decision Munitions Washout Facility (SEAD-4) and Building
2079 Boiler Blowdown Pit (SEAD-38) August 2007
2. RACER estimate for Site Closeout based on professional judgment and on
site knowledge.

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/13/2008

Estimator Signature: _____ **Date:** _____

Estimate Documentation Report

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM	\$30,110	\$63,758
Total Cost:	\$30,110	\$63,758

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Site Close-out documentation.

Start Date: September, 2013
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$63,758

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		13	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 19 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. Future monitoring cost is based on PBC cost for one year of monitoring. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the 5-Year Review period, Site Closeout costs, and for LUCs. Groundwater monitoring costs were obtained from the current PBC contract.

Site: SEAD-6/3/8/14/15, Ash Landfill Site

Source:

1. Final Record of Decision, Ash Landfill, January 2005
2. Performance Based Contract SOW Contract #: FA8903-04-D-8675, January 2005
3. Professional judgment based on site knowledge

RACER Assumptions:

Five-Year Review (RA-O):

1. 3 review cycles
2. Reviews cycle begins 2007, first review in 2012
3. Moderate complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Site Closeout Documentation (RA-O):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well Abandonment (RA-0):

1. Three well groups: Group 1 (61 wells), Biowall (11 wells), Trench (11 wells)
2. Well depth: 15 feet
3. Well diameter: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (LTM phase):

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually

Cost Summary SEAD-6, 3,8,14,15

RAO

GW Monitoring: Actual Contract Cost with FY06 Escalation \$2,689,078
183,000 (contract cost) x 1.0496 = 192,077 per year
192,077 per year x 14 years = \$2,689,078

5-Year Reviews (RACER) 124,698

Site Closeout (RACER) 41,865

Well Abandonment (RACER) 128,829

LTM

Land Use Controls (RACER) 244,361

Total Site Cost \$3,228,831

Cost Increase > 10% from 2007 Report? No

Prepared by: Janet R. Fallo

Janet Fallo 5 Mar 08
Signature Date

Reviewed by: Stephen M. Absolom

Stephen M. Absolom 3/5/08
Signature Date

**FINAL
RECORD OF DECISION
FOR
ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA**

Prepared By:

**PARSONS
150 Federal St, 4th Floor
Boston, Massachusetts**

**Contract Number: DACA87-95-D-0031
Delivery Order 0022**

January 2005

natural biodegradation, since the chemical and biological reactions in the reactive wall release hydrogen, a substance that is used up in microbial dechlorination. This would decrease contaminant levels, which can be expected to significantly reduce the time to achieve ARAR compliance compared to Alternatives MC-3, MC-5 and MC-6.

Alternatives MC-5 and MC-6 include surface water discharge of treated groundwater. Discharge requirements are generally the federal and State AWQC. The discharge from the groundwater treatment system would be designed to meet the federal AWQC and the anti-degradation limits.

Alternatives MC-5 and MC-6 are expected to achieve other ARARs including the RCRA requirements for treatment facilities, the Department of Transportation (DOT) requirements for off-site transportation of any residual materials, and the New York Solid and Hazardous Waste Regulations and the Occupational Safety and Health Act (OSHA). In addition, the operation of the treatment system in Alternative MC-4 would comply with federal and state air standards.

10.2.3 Long-Term Effectiveness and Permanence

Alternatives SC-1, MC-1 and MC-2 would not remove or contain contaminants in the groundwater in a continuous or active manner, with the exception of what would be removed by the reactive barrier wall that is currently in place and operating. Contaminants would continue to migrate and the volume of contaminated groundwater would increase. The No-Action alternative, MC-1, and the alternative water supply alternative, MC-2, are not considered to be effective over the long-term because contaminated groundwater, other than that captured via the reactive barrier wall, remains on-site and some migration off of the property would occur. This condition currently does not affect the drinking water of off-site residents and groundwater modeling has indicated that the concentrations of contaminants would be below drinking water standards by the time the groundwater reaches these wells. These alternatives would require long-term monitoring and sampling.

Alternatives MC-3, MC-5 and MC-6 are all expected to be equal in providing long-term permanence, since each alternative would operate until the desired concentration levels are achieved. The limiting factor in achieving this goal is the rate at which contaminants can be flushed out of the soil matrix. Since the aquifer matrix is glacial till and is high in clay content, diffusion is likely to play an important role in releasing contamination from the aquifer. This means the time for cleanup would be long, estimated to be approximately 45 years. MC 3a is expected to take 15 years. *Time - GW monitoring*

Alternative SC-2 is ranked high for long-term effectiveness and permanence since all materials would be excavated and disposed of in an off-site landfill. Once in the landfill, the contaminated materials are permanently entombed. However, since this alternative does not permanently fix the contaminants and involves such large volume of soil, these wastes may not be as permanently entombed as Alternative SC-4. Therefore, although SC-2 is ranked high for permanence, Alternative

11.0 SELECTED REMEDY

Action

Based on an evaluation of the various options, the selected remedy is Alternative SC-5 for source control and Alternative MC-3a for migration control (Figure 11-1). The elements that compose the selected remedy include the following:

- Excavation and off-site disposal of debris piles and establishment and maintenance of a vegetative soil cover for the Ash Landfill and the Non-Combustion Fill Landfill (NCFL) for source control;
- Installation of three in-situ permeable reactive barrier walls, and maintenance of the proposed walls and the existing wall for migration control of the groundwater plume;
- A Contingency Plan will be developed to include one of the following options; provision of an alternative water supply for potential downgradient receptors (farmhouse) or air sparging of the plume in the event that groundwater conditions downgradient of the recommended remedial action described above exceed trigger values;
- Land Use Controls (LUCs) to attain the remedial action objectives; and,
- Completion of a review of the selected remedy every five-years (at minimum), in accordance with Section 121(c) of the CERCLA. *5 yr review* If a wall material other than iron is selected, the Army will conduct a review of the remedy's effectiveness one year after the walls are installed. Subsequent annual reviews will be performed until the first five year review. The typical five year review schedule will be followed thereafter.

Land Use Control Performance Objectives

The LUC performance objectives for the Ash Landfill are to:

- Prevent access or use of the groundwater until cleanup levels are met.
- Maintain the integrity of any current or future remedial or monitoring system such as monitoring wells and impermeable reactive barriers.
- Prohibit excavation of the soil or construction of inhabitable structures (temporary or permanent) above the area of the existing groundwater plume.
- Maintain the vegetative soil layer over the ash fill areas and the NCFL to limit ecological contact.

The groundwater LUCs will be continued until such time that the concentration of hazardous substances in the groundwater have been reduced to levels that allow for unlimited exposure and unrestricted use. Intrusive restrictions for those areas requiring a vegetative soil cover will continue indefinitely. These land use controls will be implemented over the area of the groundwater plume,

NCFL, and the Ash Landfill, as shown on **Figure 1-1**.

LUC Remedial Design

In order to implement the Army's remedy, which includes the imposition of land use controls, a LUC Remedial Design for the Ash Landfill will be prepared which satisfies the applicable requirements of Paragraphs (a) and (c), Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for the Ash Landfill, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of the property's transfer from federal ownership. A schedule for completion of the draft Ash Landfill LUC Remedial Design Plan (LUC RD) will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA).

The Army shall implement, inspect, report, and enforce the LUCs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity. Should the Army transfer these responsibilities, the Army shall provide timely written notice to the regulators of the transferee which shall include the entity's name, address, and general remedial responsibility.

During the excavation of the Debris Piles, the Incinerator Cooling Water Pond area will be re-graded to fill the pond.

The five-year reviews are intended to evaluate whether the response actions remain protective of public health and the environment, and they will consist of document review, ARAR review, interviews, inspection/technology review, and reporting.

A contingency plan will be developed as part of this preferred alternative. The contingency plan will include additional monitoring and air sparging, as necessary, and implementation of an alternative water supply for potential downgradient receptor (farmhouse), if required based on trigger criteria. Following installation of the reactive walls, groundwater from monitoring well MW-56 will be analyzed, and the VOC results will be compared to the Class GA groundwater standards (trigger criteria). If a statistical analysis of the data for this well shows exceedances of Class GA standards, additional remedial action would be required. Temporary wells will be installed in the vicinity of MW-56, and the results will be used to develop an approach for air sparging. A description of the air sparging process is summarized in Alternative MC-3. If concentrations at MW-56 continue to exceed the trigger values following air sparging, an activated carbon system for the farmhouse water supply system would be installed or public water would be delivered to the house. More extensive air sparging would be performed until trigger values are no longer exceeded.

Alternative SC-5 was selected as the preferred source control alternative because the vegetative cover will be an effective barrier against exposure and is therefore one of the highest ranked alternatives for protectiveness to human and ecological receptors. The alternative minimizes the negative short-term effects, such as truck traffic and dust problems, that a large excavation would cause. SC-5 will be compliant with all ARARs. This alternative also minimizes the amount of off-site land filling that will be required. SC-5 is the easiest to implement and has the lowest cost.

Alternative MC-3a was selected as the preferred management of migration alternative because it will achieve substantial risk reduction by chemically destroying the dissolved chlorinated ethene compounds in groundwater. This alternative is effective in achieving these reductions. The alternative will be protective of human health and the environment by preventing off-site migration of the VOC plume. Monitoring of the plume will ensure that downgradient receptors are protected. The monitoring plan will provide adequate warning should monitoring data indicate that the plume is threatening the drinking water supply wells of site neighbors, i.e., the farmhouse wells.

GW Monitoring

ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 7

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675	2. DELIVERY ORDER/ CALL NO. 0012	3. DATE OF ORDER/CALL (YYYYMMDD) 06 APR 2005	4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE	5. PRIORITY N
8. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil		CODE FA8903	7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES 16111 PLUMMER STREET BLDG. 10, 2ND FLOOR SEPULVEDA CA 91343 DCMALOSANGELES@DCMA.MIL SCD: C PAS: (NONE)	
9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC. 100 WEST WALNUT STREET PASADENA CA 91124-0001 (626) 440-6165		CODE 1BVK6	FACILITY	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE
ORIGINAL		12. DISCOUNT ITEMS N		11. X IF BUSINESS IS <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER <small>(See Schedule if other)</small>
		13. MAIL INVOICES TO ADDRESS IN BLOCK See Field 15 (Payment Office) and Section G		

14. SHIP TO SEE SCHEDULE	CODE	15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T	CODE HQ0339	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.
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16. TYPE OF ORDER	DELIVERY/ CALL	<input checked="" type="checkbox"/>	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
	PURCHASE		Reference your _____ furnish the following on items specified herein.
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.			

NAME OF CONTRACTOR _____ SIGNATURE _____ TYPED NAME AND TITLE _____ DATE SIGNED (YYYYMMDD) _____

If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
SEE SCHEDULE

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT

<small>*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.</small>	24. UNITED STATES OF AMERICA EDWIN CUSTODIO BY:	25. TOTAL \$3,906,958.00
--	---	-----------------------------

26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED	27. S/R NO.	28. D.O. VOUCHER NO.	29. INITIALS
DATE _____ SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____	32. PAID BY <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		33. AMOUNT VERIFIED CORRECT FOR
38. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE _____ SIGNATURE AND TITLE OF CERTIFYING OFFICER _____	32. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		34. CHECK NUMBER
37. RECEIVED AT	38. RECEIVED BY (Print)	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS
		41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675	2. DELIVERY ORDER/ CALL NO. 0012	3. DATE OF ORDER/CALL (YYYYMMDD) 06 APR 2005	4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE	5. PRIORITY N
--	--	---	---	-------------------------

6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil	CODE FA8903	7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES 16111 PLUMMER STREET BLDG. 10, 2ND FLOOR SEPULVEDA CA 91343 DCMALOSANGELES@DCMA.MIL SCD: C PAS: (NONE)	CODE S0512A	8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)
--	-----------------------	--	-----------------------	---

9. CONTRACTOR PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC. 100 WEST WALNUT STREET PASADENA CA 91124-0001 (626) 440-6165	CODE 1BVK6	FACILITY	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. <input checked="" type="checkbox"/> IF BUSINESS IS SMALL SMALL DISAD- VANTAGED WOMEN- OWNED	12. DISCOUNT ITEMS N	13. MAIL INVOICES TO ADDRESS IN BLOCK See Field 15 (Payment Office) and Section G
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14. SHIP TO SEE SCHEDULE	CODE	15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T	CODE HQ0339	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.
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16. TYPE OF ORDER	DELIVERY/ CALL <input checked="" type="checkbox"/>	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
	PURCHASE	Reference your _____ furnish the following on items specified herein. ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

NAME OF CONTRACTOR _____ SIGNATURE _____ TYPED NAME AND TITLE _____ DATE SIGNED (YYYYMMDD) _____

If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
SEE SCHEDULE

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT

*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.	24. UNITED STATES OF AMERICA <p style="text-align: center;">//signed// EDWIN CUSTODIO</p> BY: _____	25. TOTAL \$3,906,958.00
---	---	------------------------------------

26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED	27. SHIP NO.	28. D.O. VOUCHER NO.	30. INITIALS
DATE _____ SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	32. PAID BY	33. AMOUNT VERIFIED CORRECT FOR
36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE _____ SIGNATURE AND TITLE OF CERTIFYING OFFICER _____	32. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		34. CHECK NUMBER
			35. BILL OF LADING

37. RECEIVED AT	38. RECEIVED BY (Print)	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.
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SCHEDULE

1. In accordance with the provisions and the authority of FAR Clause 52.216-18 "Ordering (OCT 1995)" of the Basic Contract FA8903-04-D-8675 and this Task Order 0012, the Contractor shall accomplish the effort described in the Statement of Work(SOW) dated 20 January 2005, Attachment 1 hereto, at a total Firm Fixed Price (FFP) of \$3,906,958.00.

2. SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS:

B028 CONTRACT TYPE: FIRM FIXED PRICE (FEB 1997)

TOTAL PRICE: \$3,906,958.00

Applicable to the following Line Items: CLIN 0001 and 0002

ITEM	SUPPLIES OR SERVICES	Qty Purch Unit	Unit Price Total Item Amount
0001		1	\$3,906,958.00
		Lot	\$3,906,958.00
	<i>Noun:</i>	ENVIRONMENTAL REMEDIATION AND CONSTRUCTION EFFORTS	
	<i>ACRN:</i>	9	
	<i>NSN:</i>	N - Not Applicable	
	<i>Contract type:</i>	J - FIRM FIXED PRICE	
	<i>Inspection:</i>	DESTINATION	
	<i>Acceptance:</i>	DESTINATION	
	<i>FOB:</i>	DESTINATION	
	<i>Descriptive Data:</i>		
		The Contractor shall provide the necessary effort for environmental remediation and construction efforts as set forth in the attached Statement of Work (SOW) dated 20 January 2005, Attachment 1, and attached to Section J.	
000101			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AA \$1,008,632.49	
	<i>PR/MIPR:</i>	FY7624-04-08470	\$1,008,632.49
	<i>Descriptive Data:</i>		
	Project # SEN 04-1		
000102			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AB \$994,055.59	
	<i>PR/MIPR:</i>	FY7624-04-08470	\$994,055.59
	<i>Descriptive Data:</i>		
	Project # SEN 04-1		

STATEMENT OF WORK

**REMEDICATION OF THE
SENECA ARMY DEPOT ACTIVITY**

CONTRACT: FA8903-04-D-8675
TASK ORDER: 0012
Project Number: SEN 04-1

20 January 2005

The following provides a description of the sites identified in this SOW. It is the responsibility of the Contractor to schedule a site visit, research, investigate, and reach their own conclusions regarding site conditions.

All work under this contract will be conducted under the FFA, as provided.

SEAD 25:

The Fire Training and Demonstration Pad (SEAD 25) was in use from the late 1960s to the late 1980s. The pad was used for fire control training. During the 1980s, the pad was used twice for fire fighting demonstrations, once in 1982 or 1983 and in 1987. The soil and groundwater is contaminated with volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The future intended use of the site is industrial.

The selected remedy for this site as detailed in the ROD includes the following components:

- Excavate soil at the source in an area approximately 60 feet by 100 feet by 6 feet deep (approximately 1,350 cy).
- Excavate sediment from an area 780 feet by 3 feet by 2 feet deep (175 cy) from the northwest ditch.
- Dewater the excavation pit.
- Treat groundwater recovered from the pit.
- Backfill the excavations.
- Conduct semi-annual groundwater monitoring.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, if necessary.

SEAD 26:

The Fire Training Pit and Area (SEAD 26) was in use from 1977 to 1994. The pit is approximately 75 feet in diameter and approximately 3 feet deep. A bentonite liner was installed in the pit in 1982 or 1983. This pit was used one to four times a year for fire fighting training during which time various flammable materials were floated on water, ignited, and extinguished. Prior to 1977, the fire training area surrounding the pit may also have been used for fire demonstrations. Groundwater has been impacted by VOCs and soils have been impacted by VOCs and SVOCs.

The selected remedy for this site as detailed in the ROD includes the following components:

- Excavate surface soils with total carcinogenic PAH concentrations above 10 ppm (approximately 1,050 cy).

- Backfill the excavation.
- Conduct semi-annual groundwater monitoring.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, if necessary.

SITE

Ash Landfill Operable Unit

SEAD-6

The Ash Landfill Operable Unit contains the following solid waste management units (SWMUs):

- SEAD 3: Incinerator Cooling Water Pond
- SEAD 6: Ash Landfill
- SEAD 8: Non-Combustible Fill Landfill (NCFL)
- SEAD 14: Refuse Burning Pits including the Debris Piles
- SEAD 15: Abandoned Solid Waste Incinerator Building

The Ash Landfill site was initially estimated to encompass an area of approximately 130 acres. This larger area was investigated to ensure that no previously unknown waste disposal areas were overlooked. Following the remedial investigation, the area of the Ash Landfill site was refocused to an area of approximately 23 acres. This area is comprised of the five SWMUs presented above.

The Incinerator Cooling Water Pond is a circular-bermed area approximately 50 feet in diameter. The Ash Landfill is a kidney-shaped landfill approximately 550 feet by 300 feet (4 acres) in area. The groundwater plume associated with the Ash Landfill is approximately 18 acres and contains elevated concentrations of chlorinated solvents extending the property line. The NCFL is an area approximately 400 feet by 400 feet (3 acres) in area. The Refuse Burning Pits were approximately 15 feet in diameter and 20 feet deep, where trash was open burned. The Debris Piles were discovered near this side of the Ash Landfill area and contamination was found in the Debris Piles. The Abandoned Incinerator Building is approximately 25 feet by 40 feet. The area that comprises the remainder of the 130 acres of the Ash Landfill site is a grassy shrub-covered area.

The selected remedy for the Ash Landfill Operable Unit is the following:

- Excavation and offsite disposal of Debris Piles, and establishment and maintenance of a vegetative soil cover for the Ash Landfill and the Non-Combustible Fill Landfill (NCFL) for source control.
- Installation of three in-situ permeable reactive barrier walls filled with 100% zero valence iron, and maintenance of the proposed walls and the migration wall for migration control of the groundwater plume.
- Backfilling and re-grading the Incinerator Cooling Water Pond during excavation of the Debris Piles.

- A Contingency Plan will be developed to include one of the following options; provision of an alternative water supply for potential down gradient receptors (farmhouse) or air sparging of the plume in the event that groundwater conditions down gradient of the recommended walls described above exceed the trigger values.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.

The objectives and standards for this SOW are outlined in Table 1.

Objective	Standards
<p>SEAD 25 – Fire Training and Demonstration Pad</p> <ul style="list-style-type: none"> • Achieve Remedy in Place (RIP) at SEAD-25. <p>SEAD 26 – Fire Training Pit and Area</p> <ul style="list-style-type: none"> • Achieve RIP at SEAD-26. <p>SEADs 3, 6, 8, 14 and 15 – Ash Landfill Operable Unit</p> <ul style="list-style-type: none"> • Achieve Response Complete (RC) for SEAD 3. • Achieve RIP for SEADs 6, 8, 14 and 15. 	<ul style="list-style-type: none"> • Compliance with existing RODs, the FFA, and associated schedules. • Army approval (<i>e.g., receipt of documentation confirming RIP or RC</i>) and Regulator approval or concurrence (<i>e.g., receipt of documentation confirming remedies are "operational and functional," "operating properly and successfully," or meeting other appropriate criteria</i>).
<p>Perform long-term monitoring (LTM) at all sites identified in this SOW, as required after achievement of RIP, for a period of one year.</p>	<p>Army approval and Regulator approval or concurrence (<i>e.g., final acceptance of monitoring reports with no violations</i>).</p>
<p>Develop and implement and exit or ramp-down strategy for LTM/LTO efforts at all sites identified in this SOW.</p>	<p>Army approval and Regulator approval or concurrence (<i>e.g., documentation formally adopting the decision rules for ramp down and/or exit strategies</i>).</p>
<p>Complete the first year of the CERCLA 121(c) five-year review required for the sites identified in this SOW, and correction of any deficiencies noted.</p>	<p>Army approval and Regulator approval or concurrence (<i>e.g., formal documentation accepting the reviews</i>).</p>

RIP or RC will be attained upon the finalization of appropriate written documentation certifying that site remediation has met all of the identified response objectives and no further action is necessary, subject to any requirement for long-term monitoring and/or operations. The Contractor should note that if monitoring and/or operations are necessary as a result of the Contractor's proposed and approved or constructed remedy at a site, the Contractor will be responsible for the following:

- Performing the required monitoring and/or operations at that site for (1) year following achievement of RIP.
- Performing the first year of the CERCLA 121(c) five-year review required at that site.

Tom

Here are the assumptions for the LTM at the Ash landfill and 25/26 from the proposal by Parsons.

Steve

SM Absolom

SEDA Installation Manager

Ph. (607) 869-1309

Fax (607) 869-1362

Cell (315) 406-4737

----- Original Message -----

From: Heino, Todd

To: Stephen Absolom

Sent: Tuesday, March 14, 2006 1:07 PM

Subject: Annual Monitoring Assumptions

Steve,

Here are the assumptions:

2.3 WBS 60000 – FIRST YEAR GROUNDWATER MONITORING

Parsons will implement the Post-Closure Monitoring Plan for the Ash Landfill and the Post-Closure Monitoring Plan for SEADs 25 and 26 for the first year after remedial action implementation. Four rounds of monitoring will be conducted at the Ash Landfill and two rounds of monitoring will be conducted at SEADs 25 and 26 as required in the respective RODs.

Approximately 27 wells will be sampled each quarter at the Ash Landfill to monitor the performance of the reactive walls and show that performance criteria are not being exceeded at MW-56. The samples will be submitted for the analysis of VOCs, ethene, ethane, methane, nitrate, nitrite, chloride, sulfate, iron, manganese, volatile fatty acids, alkalinity, hydrogen, sulfide and total organic carbon (TOC). Following sampling and analysis of the wells, a quarterly sampling report will be prepared and submitted to the regulators for information. At the end of the first year, an annual report will be submitted to the regulators for approval.

Approximately 25 wells will be sampled twice during the first year at SEADs 25 and 26 to show that natural attenuation of BTEX is continuing at the two sites. The samples will be submitted for the analysis of VOCs, SVOCs, methane, ethane, ethene, nitrate, nitrite, chloride, sulfate, DOC, dissolved hydrogen and total inorganic carbon. Following sampling and analysis of the wells, a semi-annual sampling report will be prepared and submitted to the regulators for information. At the end of the first year, an annual report will be submitted to the regulators for approval.

SEAD
6
Ash
Landfill

wells

frequency

analytes

In addition, at the end of the first year of monitoring Parsons will perform vegetable oil injection into the six reactive trenches to enhance the biodegradation. A total of 520 gallons will be injected into the six trenches.

The cost for future years of monitoring at the Ash Landfill will be best determined after the post-closure monitoring plan has been approved. Until then, it's just a guess.

Please let me know if this is sufficient.

Thanks,

Todd

Todd Heino
Program Manager
PARSONS
150 Federal Street
Boston, Massachusetts 02110-1713
617-449-1405 (tel.)
339-206-7413 (cell)
617-946-9777 (fax.)
todd.heino@parsons.com

{ PARSONS
Safety-Make it Personal

Using this version of the budget form, you enter hours, direct labor cost, and billable labor amount.

ENTER NUMBERS IN PINK-SHADED FIELDS.

**PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP, INC.
WORK BREAKDOWN STRUCTURE**

Screen 937, option 21

WBS 60000

Job number _____
Date entered _____
(Accounting Department)

*Cost - Ash land fill
GW monitoring
for one year*

WBS No.	Description	WBS No.	Date	Labor			ODCs		Subs		Total Value Total Cost	Labor GP ODC/Subs GP	Rev No	
				Avg Rate Hours	Direct Burden	Lbr Mult	Billable Lbr Lbr Cost	ODC Mult	Billable ODC ODC Cost	Subs Mult				Billable subs Sub cost
60100	Ash Landfill Monitoring and Report	91466	1/1/2007	\$30.00	\$55,556	2.16	\$120,000	1.00	\$15,000	1.00	\$48,000	\$183,000	\$38,510	
			1/1/2008	1,852.0	\$25,834		\$81,390		\$15,000		\$48,000	\$144,390	\$0	
60200	SEAD 25/26 Monitoring and Report	91466	1/1/2007	\$29.99	\$34,906	2.16	\$75,398	1.00	\$7,519	1.00	\$22,554	\$105,471	\$24,261	
			1/1/2008	1,164.0	\$16,231		\$51,137		\$7,519		\$22,554	\$81,210	\$0	
60300	First Year Review	91466	1/1/2008	\$30.01	\$18,519	2.16	\$40,000	1.00	\$2,000	1.00	\$2,000	\$44,000	\$12,870	
			3/31/2008	617.0	\$8,611		\$27,130		\$2,000		\$2,000	\$31,130	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
Job Total				\$30.00	\$108,981	2.16	\$235,398	1.00	\$24,519	1.00	\$72,554	\$332,471	\$75,741	
Total				3,633.0	\$50,676		\$159,657		\$24,519		\$72,554	\$256,730		

FY06 cost \$183,000 per year
 escalation 1.0496
 FY08 cost 192,077 x 14 years = 2,689,078

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-6
Project Name: SEAD-6
Project Category: Development Reserve

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

The Ash Landfill site. This includes SEADs 3,6,8,14, and 15.

The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Closeout costs and for LUCs. Groundwater monitoring costs were obtained from the current PBC contract.

Site: SEAD-6/3/8/14/15, Ash Landfill Site

Source:

1. Final Record of Decision, Ash Landfill, January 2005
2. Professional judgment based on site knowledge
3. Performance Based Contract SOW Contract #: FA8903-04-D-8675, January 2005

Estimate Documentation Report

RACER Assumptions:

Site Closeout Documentation (RA-O):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Land Use Controls (LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-6
Site Name: Ash Landfill
Site Type: None

Media/Waste Type

Primary: Groundwater
Secondary: N/A

Contaminant

Primary: Volatile Organic Compounds (VOCs)
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: Ash Landfill: RA(O) consists of the 5-Year reviews and Site Closeout and the LTM phase is for the LUC .

Support Team: Stephen M. Absolom - BEC, Seneca Army Depot
Randy Battaglia - US Army Corps of Engineers, Project Engineer

References: Source:
1. Final Record of Decision, Ash Landfill, January 2005
2. Professional judgment based on site knowledge
3. Performance Based Contract SOW Contract #: FA8903-04-D-8675, January 2005

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/13/2008

Estimate Documentation Report

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
RA(O)	\$141,973	\$295,391
LTM (LUCs)	\$90,177	\$244,361
Total Cost:	\$232,150	\$539,752

Estimate Documentation Report

Phase Documentation:

Phase Type: Operations & Maintenance
Phase Name: RA(O)
Description: Remedial Action Operations consist of the Site Closeout Phase.

Start Date: September, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Five-Year Review	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$295,391

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		4	EA
Duration of Storage		30	Yrs

Comments:

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Moderate	n/a
Document Review		Yes	n/a
Interviews		Yes	n/a
Site Inspection		Yes	n/a
Report		Yes	n/a
Travel		No	n/a
Rebound Study		No	n/a
Start Date		September-2007	n/a
No. Reviews		3	EA
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		Yes	n/a
Record of Decision		Yes	n/a
Remedial Action Design & Construction		Yes	n/a
Close-Out Report		Yes	n/a
Operations & Maintenance Manuals & Reports		Yes	n/a
Consent Decree or Settlement Records		Yes	n/a
Groundwater Monitoring & Reports		Yes	n/a
Remedial Action Required		Yes	n/a
Previous 5-Year Review Reports		Yes	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		Yes	n/a
Community Groups		Yes	n/a
State Contacts		Yes	n/a
Local Government Contacts		Yes	n/a
Operations & Maintenance Contractors		Yes	n/a
PRPs		Yes	n/a
Remedial Design Consultant		Yes	n/a
Site Inspection			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		Yes	n/a
Containment System Inspection		Yes	n/a
Monitoring Systems Inspection		Yes	n/a
Treatment Systems Inspection		Yes	n/a
Regulatory Compliance		Yes	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		Yes	n/a
Report			
<u>Required Parameters</u>			
Introduction		Yes	n/a
Remedial Objectives		Yes	n/a
ARARs Review		Yes	n/a
Summary of Site Visit		Yes	n/a
Areas of Non Compliance		Yes	n/a
Technology Recommendations		Yes	n/a
Statement of Protectiveness		Yes	n/a
Next Review		Yes	n/a
Implementation Requirements		Yes	n/a

Comments:

Estimate Documentation Report

Technology Name: Well Abandonment (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group 1	n/a
Number of Wells		61	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a
Technology/Group Name		Well Group- Biowall	n/a
Number of Wells		11	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a
Technology/Group Name		Well Group- Trench	n/a
Number of Wells		11	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring

Phase Name: LTM (LUCs)

Description: Administrative Land Use Controls to Implement the IC's .

Start Date: February, 2022

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Phase Markups: System Defaults

Technology Markups

ADMINISTRATIVE LAND USE CONTROLS

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$244,361

Technologies:

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)

User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2022	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2022	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2022	n/a
Type of Site	Transferring Government Installation		n/a

Implementation

Required Parameters

Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitability to Transfer (FOST)		No	n/a

Monitoring & Enforcement

Required Parameters

Duration of Monitoring/Enforcement		30	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)

User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of Site Closeout, Well Abandonment, Five Year Reviews, and Land Use Controls.

Site: SEAD-5, Sewage Sludge Waste Piles

Source:

1. Final Completion Report- Industrial Waste Site (Sludge Piles) SEAD-5 Time Critical Removal Action, February 2006
2. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1, 2, 5, 24, and 48, November 2007
3. Professional judgment based on site knowledge

Assumptions: Regulatory acceptance of the SEAD-5 Completion Report discussed the removal of all contaminated soil. A No Further Action designation will close out the site. This site is located within the Planned Industrial Area and will require Land Use Controls in perpetuity for 30 yrs.

RACER Assumptions:

Site Closeout Documentation (LTM)

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM)

1. Number of wells: 3
2. Well depth: 15 feet
3. Well diameter: 2"
4. Unconsolidated
5. Overdrill/removal

Five-Year Review (LTM):

1. 6 review cycles over 30 yrs
2. Reviews cycle begins 2017 with first review in July 2022
3. Moderate complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Summary SEAD-5

Site Closeout (RACER)	29,597
Well Abandonment (RACER)	9,152
Five Year Review (RACER)	41,566
Land Use Controls (RACER)	244,138
Total Site Cost	\$324,453

Cost Increase > 10% from 2007 Report? No.

Prepared by: Janet R. Fallo

Signature Janet R Fallo Date 2/22/08

Reviewed by: Stephen M. Absolom

Signature Stephen M Absolom Date 2/22/08

#####

Proposed Plan – Revised Draft Final



FIVE FORMER SOLID WASTE MANAGEMENT UNITS (SWMUs) – SEADs 1, 2, 5, 24, and 48 SENECA ARMY DEPOT ACTIVITY (SEDA) ROMULUS, NEW YORK



November 2007

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PURPOSE OF THE PLAN

This Proposed Plan describes the remedial alternatives selected for five areas of concern (AOCs), SEAD 1 (the former Hazardous Waste Container Storage Facility, Building 307), SEAD 2 (the former PCB Transformer Storage Facility, Building 301), SEAD 5 (the former Sewage Sludge Piles), SEAD 24 (the Abandoned Power Burn Pit), and SEAD 48 (Row 0E800 Pitchblende Storage Igloos) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, located in Seneca County, New York. This Proposed Plan was developed by the U.S. Army (Army) and the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). The Army and the EPA are issuing this Proposed Plan as part of their public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) of 1980, as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the contamination remaining at the five AOCs is described in greater detail in the following documents:

- "RCRA Closure Report: Building 307, Hazardous Waste Container Storage Facility; Building 301, Transformer Storage Building";
• Letter to Mr. James Dolen, Jr. from Todd Heino dated September 9, 2005 regarding "Response to Comments on the Draft Closure Plan dated September 4, 2003, Building 307, Hazardous Waste Storage Facility and Building 301, PCB Transformer Storage Building, Seneca Army Depot Activity, Romulus, New York, NYSDEC Site No.: 8-50-006";
• Letter to Mr. Stephen Absolom from James Dolen, Jr. dated September 29, 2005 regarding "SEDA – Facility EPA I.D. No. NY0213820830, Building 307, Hazardous Waste Storage Facility & Building 301, PCB Transformer Storage Building, Closure Certification Approval";
• "Industrial Waste Site (Sludge Piles) – SEAD 5 Time-Critical Removal Action Final Completion Removal Report";
• "Time Critical Removal Action, Metal Sites – SEAD 24 Final Completion Removal Report"; and,
• "Final Status Survey Report, E0800 Row Pitchblende Ore Storage Igloos (SEAD-48)" (Parsons, 2006).

The Army, EPA, and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the AOCs, the site and the Superfund activities that have been completed.

This Proposed Plan is being provided as a supplement to the aforementioned documents to inform the public of the Army's, EPA's and NYSDEC's preferred remedies for the AOCs and to solicit public comments pertinent to the selected remedies. The preferred remedy for three of the AOCs (i.e., SEADs 1, 2, and 5) is to formally impose and implement Land Use Controls (LUCs) that prohibit the use of the designated land and buildings for residential activities, and to prohibit access to and use of groundwater. The preferred remedy for SEAD 24 and SEAD 48 is No Further Action.

The identified LUCs selected for SEADs 1, 2, and 5 were previously established for three other AOCs (i.e., SEADs 27, 64A, and 66) that are located in proximity to the three subject AOCs. At the time of the Army's, EPA's and NYSDEC's final determination for SEADs 27, 64A, and 66, all parties agreed that the identified LUCs should be imposed on all land within the Planned Industrial / Office Development and Warehousing (PID) Area at the former Depot due to the anticipated future use of the land and the similarity of its known past uses by the Army and predecessors.

The remedies described in this Proposed Plan are the preferred remedies for each of the identified AOCs. Changes to the preferred remedy, or a change from the preferred remedy to another remedy, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedies will be made after the Army and the EPA have taken all public comments into consideration. The Army and the EPA are soliciting comments because the Army, EPA and NYSDEC may select a remedy other than the preferred remedy for either or both of the AOCs.

Site SEAD 5

MARK YOUR CALENDAR

[Date] – [Date]:

Public comment period related to this Proposed Plan.

[Date] at 7:00 P.M.: Public meeting at the Seneca County Office Building, Village of Waterloo New York.

COMMUNITY ROLE IN SELECTION PROCESS

The Army, EPA, and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the RI Report and this proposed plan have been made available to the public for a public comment period which begins on Date and concludes on Date 2.

A public meeting will be held during the public comment period at the Seneca County Office Building on Date 3 at 7:00 p.m. to present the conclusions of the RI, to elaborate further on the reasons for selecting the preferred remedy, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document that formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Mr. Stephen M. Absolom
BRAC Environmental Coordinator
Seneca Army Depot Activity
Building 123, P.O. Box 9
5786 State Route 96
Romulus, NY 14541-0009

SCOPE AND ROLE OF ACTION

The primary goal of the proposed actions is to enable the Army to transfer or lease the land occupied by the identified AOCs to other private or public parties for beneficial reuse. Prior to transfer or lease of any property at the SEDA, the Army is required to ensure that the property is suitable for release and reuse.

Historically SEADs 1, 2, and 5 were used as temporary storage facilities for solid waste, hazardous waste or toxic (i.e., polychlorinated biphenyl) materials prior to off-site disposal or recycle. The area including SEAD-5 was also historically used as the Army's version of a Department of Public Works (DPWs) supply and staging area and equipment storage yard. The planned future use for land encompassing and surrounding SEADs 1, 2, and 5 is Planned Industrial / Office Development or Warehousing.

SEAD 24 was previously used for destruction of black powder, solid propellants and explosive contaminated trash. The planned future use for land surrounding and encompassing SEAD 24 is Development Reserve/Ethanol Plant construction.

The historic use of the igloos at SEAD 48 involved storage of pitchblende ore as part of the Manhattan Project, and later the igloos were used for ammunition storage; the planned future use of this area is Training.

Information exists for SEADs 1, 2, 5 that indicates that chemical contaminants are still present in the soil at these three AOCs at levels that pose potential risks to selected populations. Risk assessments based on exposure scenarios that are consistent with the planned future use of the land in these AOCs indicate that such uses are possible and appropriate given the residual levels of hazardous substances that remain at the AOCs. Therefore, the Army has determined that LUCs prohibiting residential activities, and access to and use of groundwater are needed to minimize any potential future health and environmental impacts at these three AOCs.

LUC
SEAD 5

Information also exists for SEAD 24 that indicates that residual concentrations of chemicals are generally consistent with background and no further action is required.

Finally, information developed for radiological constituents at SEAD 48 indicate that residual radiation levels present are consistent with background concentrations and no further action is required.

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities.
- Prohibit access to or use of the groundwater until Class GA Groundwater Standards are met.

Although these restrictions were recommended specifically for conditions identified at SEAD-27, SEAD-64A, and SEAD-66, the Army and the USEPA agreed that these LUCs would be imposed on all land within the PID at the time of transfer. The Army now intends to formally impose the LUCs identified for the greater PID Area on the following SWMUs upon transfer of the property:

- SEAD-1: Building 307, the former Hazardous Waste Container Storage Building
- SEAD-2: Building 301, the former PCB Transformer Storage Facility
- SEAD-5: the former Sewage Sludge Waste Piles

The LUCs will continue until the concentration of hazardous substances in the soil and the groundwater beneath the three SWMUs have been reduced to levels that allow for unlimited exposure and unrestricted use.

The Army's recommended remedial actions for three AOCs discussed in this Proposed Plan include LUCs. To implement the Army's recommended remedy at the three AOCs (SEADs 1, 2, and 5), a LUC Remedial Design (RD) plan will be prepared to satisfy the applicable requirements of Paragraphs (a) and (c) of ECL Article 27, Section 1318: Institutional and Engineering Controls. The LUC RD Plan will include: a Site Description; the IC Land Use Restrictions, the IC Mechanism to ensure that the land use restrictions are not violated in the future, Reporting/Notification requirements. In addition, the Army will prepare an environmental easement for each of the three former AOCs, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of

transfer of the sites from federal ownership. A schedule for completion of the draft LUC RD covering the individual sites will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the FFA. In accordance with the FFA and CERCLA §121(c), the remedial action (including ICs) will be reviewed no less often than every 5 years. After such reviews, modifications may be implemented to the remedial program, if appropriate

5 yr reviews



U.S. Army Corps of Engineers

**Omaha District
Offutt AFB, Nebraska**

**SENECA ARMY DEPOT ACTIVITY
INDUSTRIAL WASTE SITE (SLUDGE PILES) – SEAD 5
TIME-CRITICAL REMOVAL ACTION**

**SENECA COUNTY
ROMULUS, NEW YORK**

Contract No. DACA45-98-D-0004

Task Order No. 0069

**FINAL
COMPLETION REMOVAL REPORT**

February 2006



3.9 CONCLUSION AND RECOMMENDATIONS

The objective of this TCRA was to remove the impacted soil at SEAD 5 to reduce the risk of potential threats, current or future, that may exist as a result of impacted soils detected on site. To achieve this directive, Weston excavated approximately 1740 yd³ (2,313 tons) of impacted soils from SEAD 5 during three phases of excavation. Post-excavation and delineation samples were collected, and the results were compared to the NY TAGM recommended cleanup goals and U.S. EPA Region 9 PRGs to verify satisfactory removal of the COCs.

Based on these post-excavation and delineation sampling results, major conclusions include the following:

- All excavated soils were disposed off-site as non-hazardous material. No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) regulated material was identified based on sampling results.

- Based on the analytical results of post-excavation samples, the conclusions include:
 - The average concentration of PAHs in the remaining post-excavation samples indicates that the concentration of these contaminants has been reduced. The average benzo(a)pyrene TEQ concentration is lower than the NY TAGM recommended cleanup goal. There are three PAH parameters with average concentrations above the U.S. EPA Region 9 PRGs, and this is partly because the PRGs for these PAH parameters are lower than the laboratory detection limits. Removal of PAH-impacted soil has been successfully completed. There is no concern of potential threats from the remaining levels of PAHs based on the post-excavation sampling results.
 - Average concentration of the target metal mercury is lower than the NY TAGM recommended soil cleanup goal and the EPA Region 9 PRG. The cleanup objective for the target metal (mercury) was met.

- The site-wide average concentrations of non-target metals are below either the recommended soil cleanup goals or the EPA Region 9 PRGs except for arsenic. Average concentration for arsenic is slightly above the NY TAGM recommended cleanup goals, but this is because the cleanup goal and the PRG for arsenic are generally lower than the laboratory detection limits. Other metals analyzed were either not detected or the average concentration of the metal was below the PRG.

- Based on analytical results of the delineation samples collected from downgradient of the excavation, the conclusions include:
 - The average concentrations of PAHs detected in delineation samples are similar to the levels that were detected in the non-impacted soils in other SEADs. The average benzo(a)pyrene TEQ concentration is lower than the recommended cleanup goal. When compared to the PRGs, the average concentrations of PAHs are below the PRGs except for benzo(a)anthracene, benzo(a)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene. However, PRGs of benzo(a)pyrene and dibenzo(a,h) anthracene are lower than the laboratory detection limits.
 - Average concentration of the target metal mercury is lower than the recommended soil cleanup goal and the EPA Region 9 PRGs. The cleanup objective for the target metal (mercury) was met.
 - The site-wide average concentrations of non-target metals are below either the recommended soil cleanup goals or the EPA Region 9 PRGs except for arsenic. The average concentration for arsenic is slightly above the NY TAGM recommended cleanup goals. However, the cleanup goal and the PRG for arsenic are generally lower than the laboratory detection limits. Other metals analyzed were either not detected or the average concentration was below the PRG.

Following excavation of SVOC- and metal-impacted soils from SEAD 5, the previously identified potential threat to the public and the environment has been substantially reduced based on reduction of PAHs and the target metal (mercury). The site-wide averages for benzo(a)pyrene TEQ and mercury are also below the recommended soil cleanup goals. The delineation sampling

results also indicate that PAHs and metals in the area downgradient of the excavation do not pose any potential threat to the environment. In addition to the reduction in contaminant levels, no CERCLA releases have been identified. The post-excavation and delineation sampling results indicate that no further removal action is needed. As such, it is recommended that USACE, SEDA, NYSDEC, and EPA evaluate the site for closure and transfer status.

Removal Action Complete, Close site

SEAD 005

Phase	2009	2010	2011	2012	2013	2014	2015	Outyears
CO								
LUC	9	9	9	9	9	9	9	220
Sys					7			35

$$\begin{array}{r}
 9.4 \\
 \hline
 30 \overline{) 283} \\
 \underline{270} \\
 130
 \end{array}$$

$$\begin{array}{r}
 6,927.7 \\
 \hline
 6 \overline{) 41,566} \\
 \underline{36} \\
 55 \\
 \underline{54} \\
 16 \\
 \underline{12} \\
 46 \\
 \underline{42} \\
 40
 \end{array}$$

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-5
Project Name: SEAD-5
Project Category: Planned Industrial Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-5 Sewage Sludge Waste Piles: Location where SEDA stored the sludge removed from the sewage treatment plants.

Source:

1. Final Completion Report- Industrial Waste Site (Sludge Piles) SEAD-5 Time Critical Removal Action, February 2006
2. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1, 2, 5, 24 and 48, November 2007
3. Professional judgment based on site knowledge

Assumptions: Regulatory acceptance of the SEAD-5 Completion Report that discussed the removal of all contaminated soil from the site. The next phase will be to seek a No Further Action designation and close out the site. This site is located within the Planned Industrial Area and will need Institutional Controls (IC). Site will require close out costs and cost for the

Estimate Documentation Report

IC (Land Use Controls).

RACER Assumptions:

Site Closeout Documentation (LTM)

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Increase > 10% from 2005 Report? Yes

Reason: Addition of Land Use Controls to the 2006 estimate.

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-5
Site Name: Sewage Sludge Waste Piles
Site Type: None

Media/Waste Type

Primary: N/A
Secondary: N/A

Contaminant

Primary: None
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-5
Site Closeout following the soil removal contaminated with metals. No Further Action will be proposed after removal of all contaminants. Site will require Institutional Controls..

Support Team: Stephen M. Absolom - BEC, Seneca Army Depot
Janet R. Fallo- US Army Corps of Engineer, Project Engineer

References: 1. Final Completion Report- Industrial Waste Site (Sludge Piles) SEAD-5 Time Critical Removal Action, February 2006
2. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1, 2, 5, 24, and 48, November 2007
3. Professional judgment based on site knowledge

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/13/2008

Estimate Documentation Report

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #2 (LUCs)	\$90,095	\$244,138
LTM #1	\$31,953	\$80,315
Total Cost:	\$122,049	\$324,454

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring

Phase Name: LTM #2 (LUCs)

Description: Land Use Controls (Institutional Controls)

NOTE: If Oct 2006 date was chosen for the Phase Element Start date, the begin date should be in FY07 for the correct fiscal year in the Cost Over Time Reports. It does not. Therefore, the start dates in the Systems Definitions Tab in the Land Use Controls Required Parameters was changed from 2006 to 2007 so the cost over time reports will reflect the proper fiscal year.

Start Date: October, 2006

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Phase Markups: System Defaults

Technology Markups

ADMINISTRATIVE LAND USE CONTROLS

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$244,138

Technologies:

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)
User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2007	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2007	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2007	n/a
Type of Site	Transferring Government Installation		n/a

Implementation

Required Parameters

Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitablility to Transfer (FOST)		No	n/a

Monitoring & Enforcement

Required Parameters

Duration of Monitoring/Enforcement		30	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: **Administrative Land Use Controls (# 1)**
User Name: **ADMINISTRATIVE LAND USE CONTROLS**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1
Description: Site Closeout Costs

Start Date: September, 2008
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0
Five-Year Review	Yes	100	0

Total Marked-up Cost: \$80,315

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	11	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		3	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Moderate	n/a
Document Review		Yes	n/a
Interviews		Yes	n/a
Site Inspection		Yes	n/a
Report		Yes	n/a
Travel		No	n/a
Rebound Study		No	n/a
Start Date		September-2008	n/a
No. Reviews		1	EA
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		Yes	n/a
Record of Decision		Yes	n/a
Remedial Action Design & Construction		Yes	n/a
Close-Out Report		Yes	n/a
Operations & Maintenance Manuals & Reports		Yes	n/a
Consent Decree or Settlement Records		Yes	n/a
Groundwater Monitoring & Reports		Yes	n/a
Remedial Action Required		Yes	n/a
Previous 5-Year Review Reports		Yes	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		Yes	n/a
Community Groups		Yes	n/a
State Contacts		Yes	n/a
Local Government Contacts		Yes	n/a
Operations & Maintenance Contractors		Yes	n/a
PRPs		Yes	n/a
Remedial Design Consultant		Yes	n/a
Site Inspection			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		Yes	n/a
Containment System Inspection		Yes	n/a
Monitoring Systems Inspection		Yes	n/a
Treatment Systems Inspection		Yes	n/a
Regulatory Compliance		Yes	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		Yes	n/a
Report			
<u>Required Parameters</u>			
Introduction		Yes	n/a
Remedial Objectives		Yes	n/a
ARARs Review		Yes	n/a
Summary of Site Visit		Yes	n/a
Areas of Non Compliance		Yes	n/a
Technology Recommendations		Yes	n/a
Statement of Protectiveness		Yes	n/a
Next Review		Yes	n/a
Implementation Requirements		Yes	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 19 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. Since this site is a Military Munitions Rule site, the total costs reported have been captured in an Ordnance and Explosives Engineering Evaluation/Cost Analysis, (OE EE/CA).

Site: SEAD-007-R-01, Rifle Grenade Range

Source:

1. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
2. Completion Report, Munitions Response and CERCLA Closure, SEAD 002-R-01, SEAD 57, SEAD 46, and SEAD 007-R-01, April 2007

Phase: LTM will be an Institutional Control in perpetuity. Initial duration is 30 years for a recurring review every 2 years.

Cost Summary SEAD-007-R-01

LTM

OE Review site visits from EECA	
\$1,690/visit for 15 visits	\$25,350

Total Site Cost	\$25,350
------------------------	-----------------

Cost Increase > 10% from 2007 Report? No

Prepared by: Janet R. Fallo

Signature

Janet R. Fallo

Date

2/21/08

Reviewed by: Stephen M. Absolom

Signature

Stephen M. Absolom

Date

2/21/08

FINAL

**ORDNANCE AND EXPLOSIVES
ENGINEERING EVALUATION/
COST ANALYSIS REPORT**

**SENECA ARMY DEPOT
ROMULUS, SENECA COUNTY, NEW YORK**

Prepared For:

**SENECA ARMY DEPOT ACTIVITY
and
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
and
HUNTSVILLE CENTER**

**Contract No. DACA87-95-D-0018
Delivery Order No. 0052**

Prepared By:

**PARSONS ENGINEERING SCIENCE, INC.
100 SUMMER ST
BOSTON, MA 02110**

JANUARY 2004

EXECUTIVE SUMMARY

ES1 The 10,587-acre Seneca Army Depot Activity (SEDA) facility was constructed in 1941 and has been owned by the United States Government and operated by the Department of the Army since that date. From its inception in 1941 until 1995, SEDA's primary mission was the receipt, storage, maintenance, and supply of military items, including munitions and equipment. The Depot's mission changed in early 1995 when the Department of Defense (DOD) recommended closure of the Seneca Army Depot under its Base Realignment and Closure (BRAC) process. This recommendation to close Seneca Army Depot Activity was approved by Congress on September 28, 1995 and the Depot was officially closed in July 2000.

ES2 In accordance with the requirements of the BRAC process, the Seneca County Board of Supervisors established the Seneca Army Depot Local Redevelopment Authority (LRA) in October 1995. The primary responsibility assigned to the LRA was to plan and oversee the redevelopment of the Depot. The Reuse Plan and Implementation Strategy for Seneca Army Depot was adopted by the LRA and approved by the Seneca County Board of Supervisors on October 22, 1996. Under this plan and subsequent amendment, areas within the Depot were classified as to their most likely future use. These areas included: housing, institutional, industrial, an area for the existing navigational LORAN transmitter, recreational/conservation, and an area designated for a future prison.

ES3 In July of 1998, the U.S. Army Corps of Engineers (USACE) conducted a site visit and historical data collection effort. The findings are documented in the Archives Search Report (ASR). The ASR initially subdivided the depot into 27 Areas of Interest (AOIs) for ordnance contamination based on physical attributes, homogeneity, and current and historical land use. The ASR evaluated each AOI to determine whether the area should or should not be investigated for ordnance and explosives/ unexploded ordnance (OE/UXO). Each AOI was classified as requiring further investigation or not requiring further investigation based on a review of historical documents, aerial photography, and employee interviews. Most of the AOIs were also visited by USACE to determine whether any traces of OE were readily apparent.

ES4 The ASR classified 15 of the areas as uncontaminated. Subsequently, one of the areas recommended for further investigation, SEAD-43, was classified as a no further action site after a geophysical and intrusive investigation in 1999. The remaining 11 AOIs discussed in the ASR were classified as sites where OE might present a safety risk. This Engineering Evaluation and Cost Assessment project was undertaken in order to determine the nature and extent of possible OE contamination at these sites.

ES5 The EE/CA fieldwork used geophysical survey techniques and intrusive investigations to estimate the density of the ordnance in different areas, which was then compared with the current and future activities and anticipated users. Data collected from this characterization project were also used to develop alternatives designed to reduce the risk of possible exposure to UXO within AOIs. These alternatives were then evaluated to determine their effectiveness, implementability, and cost.

ES6 Results of this comparison indicate that there are portions of SEDA where alternatives requiring removal of UXO will be necessary to ensure public safety. The results also indicate that implementation of site-wide institutional controls will be necessary to manage residual risk. Several AOIs within SEDA will not require any OE removal operations to make the property safe for the proposed future uses.

ES7 OE response action alternatives were evaluated for each of the 11 AOIs at SEDA 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 was used to identify candidate OE response alternatives for further qualitative evaluation. Each of the alternatives remaining after this screening were then compared to each other as far as effectiveness, implementability, and cost. Once the remaining alternatives at each AOI had been compared, one alternative was chosen as the most appropriate response to the existing OE hazard.

ES8 The following response actions have been chosen for the AOIs investigated during the Seneca OE EE/CA:

- NFA – SEAD-53 (Igloo Area) ditches, Demo Range, Indian Creek Burial Area. These sites are no longer under consideration as ordnance sites
- Institutional Controls – Base wide, no individual areas
- Clearance to Depth of 6” – SEADs-16 and –17 (Deactivation Furnaces), EOD Area #2
- Clearance to Depth of Instrument Detection – EOD Area #3, SEAD-44A (QA Function Test Area), SEAD-46 (3.5” Rocket Range), Grenade Range *- site*
- Clearance to Depth by Means of Excavation and Mechanical Sorting – SEAD-45 (Open Detonation Area), SEAD-57 (Former EOD Range)

Complete descriptions of each of these alternatives are contained in Section 7.

Table G-23
SEAD-4 (3.5" Rocket Range)
Cost Estimate for Alternative 3:
Clearance to 6"

This estimate assumes:
Clearance to 6" of 370 acres in SEAD-4S
A 700' x 700' fence surrounding the demo barn in SEAD-57

Item	Unit	Unit Cost	Amount	Initial Cost	Life Cycle Cost (30 yrs)	Total Cost
UXO Clearance to 6" ¹	acre	\$3,400	370	\$1,258,000	\$0	\$1,258,000
UXO Sweep Contractor ²	linear feet	\$2	5,700	\$11,400	\$0	\$11,400
Fencing Installed ³	linear feet	\$10	5,700	\$57,000	\$171,000	\$228,000
Signs Installed	1 sign (per 500' of fence)	\$93	11	\$1,060	\$6,840	\$7,900
A-E Field Oversight		15% of UXO Clearance/IC		\$199,119	\$0	\$199,119
A-E Project Management		8% of UXO Clearance/IC		\$106,197	\$0	\$106,197
Moderate Brush Cutting ⁴	acre	\$426	185	\$78,810	\$0	\$78,810
Heavy Brush Cutting ⁴	acre	\$603	185	\$111,555	\$0	\$111,555
			<i>Subtotal:</i>	\$1,711,586	\$177,840	\$1,889,426
CEHNC Oversight		15% of subtotal		\$256,738	\$0	\$256,738

Total Cost Estimate: \$2,146,164
Contingency (25%): \$536,541
\$2,682,705

Cost per. Acre = \$6,464

Assumptions

- ¹Cost for UXO clearance includes all ODC and mobilization costs, and equipment
- ²Estimate includes surface sweep of area to be performed prior to having fence installed
- ³Cost to install fencing is \$10 per linear foot of 8 foot chain link with three strands of barbed wire
- ⁴Brush cutting costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History

Table G-24
Seneca Army Depot Activity
Costs for Recurring Reviews
30 Year Period

Reviews
30 yr duration
Every 2 yrs for all sites

This estimate assumes:
Recurring review Depot wide every 2 years
2 man crew on site for 4 days
Report to be files upon completion of review

Item	Unit	Unit Cost	Amount	Per Review Cost	Total Cost	(30 yrs) ¹
Mob/Demob		\$1,500	2	\$3,000	\$18,427	\$18,427
Per Diem	day	\$124	8	\$992	\$6,093	\$6,093
Reviewers (2)	hour	\$65	100	\$6,500	\$39,924	\$39,924
A-E Field Oversight		15% of UXO Clearance/IC		\$1,574	\$9,667	\$9,667
A-E Project Management		8% of UXO Clearance/IC		\$839	\$5,155	\$5,155
			<i>Subtotal:</i>	\$12,905	\$79,266	\$79,266
CEHNC Oversight		15% of subtotal		\$1,936	\$11,890	\$11,890

\$ 113,944 FY04 cost
1.0769 escalation factor
\$ 122,706 FY07 cost

Total Cost Estimate: \$91,156
Contingency (25%): \$22,789
\$113,944

\$ 122,706 / 5 sites = \$ 24,541 per site

Assumptions

¹30 Year costs assume present value costs with a discount factor of 7%

30 yr site cost
\$ 24,541

\$ 24,541 per site = \$ 1,636 per site visit every 2 yrs for 30 yrs

Cost/site visit = \$ 1,636

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-NAD

23 February 2006

DIRECTIVE NO. BR-SEN-06-10

ISSUED THRU: CENAD-MT-HS (HUNTLEY)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC 97 ER at Seneca AD, NY.

1. Reference DA FAD, 22 February 2006, advice number 06-0002-00431.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: (1, 91, 93, or 95) <u>95</u>		increase /decrease__reprog_X	
APPRN: 97 X/2011 0510.40L1 2006		DIV/DIST: <u>NAN</u>	ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u>	+/-	<u>ALLOCATION</u>
Seneca AD – Rifle Grenade Range	61364R02	+	\$603,000.00
Seneca AD - SITES	61366R32	+	\$247,000.00
Seneca AD - EBS Sites Industrial Area	61367R01	+	\$300,000.00
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is James Huang, 202-761-8632.			

SEAD
007-R-01

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

COMPLETION REPORT

MUNITIONS RESPONSE

SEAD 002-R-01, SEAD 57, SEAD 46 AND SEAD 007-R-01

**SENECA ARMY DEPOT ACTIVITY,
ROMULUS, NEW YORK**

April 2007

Prepared by:

**PARSONS
150 Federal Street
Boston, MA 02110**

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3.0 ORDNANCE AND EXPLOSIVES DEMILITARIZATION AND DISPOSAL

All MD and scrap metal items collected by UXO technicians on a daily basis were transferred to a staging area, inspected by both the SUXOS and UXO QC Supervisor, and placed into a locked storage area for temporary storage. Additional inspections were performed by the Senior UXO Supervisor (SUXOS), and again by the Senior QC (UXOQCS) Supervisor prior to being transferred to drums where a 1348-1A form was issued, Section 3.2 describes the final disposal procedures for all explosives and MD scrap metal

3.1 INTENTIONAL DETONATIONS

Demolition operations for MPPEH were conducted at the Open Detonation Hill (OD) to the north of the former Open Burning Grounds (OBG). In accordance with "Procedures for Demolition of Multiple Rounds (Consolidate Shots) on UXO Sites", dated August 1998 and approved by DDESB on 27 October 1998. Explosives Consumption Records are included in Appendix D. A table showing the suspected MPPEH items and the date they were vented is included as Table 2-2. Venting with a shape charge was used to distinguish MEC from MD.

All demolition explosives were transferred from the Army to Parsons/USA Environmental and kept in a secure storage bunker provided by the Army. All explosives were inspected weekly while in storage and transported in accordance with the State of New York's Department of Labor, Industrial Rule 39 and the Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF) regulations.

3.2 OTHER DEMILITARIZATION PROCEDURES

All projectiles and intact MD were demilitarized by either explosive venting or by the removal/deformation of the rotating bands and fuse wells following inspections.

Following venting of all MPPEH items, thermal treatment of small arms, and/or physical demilitarization procedures, all items were disposed of off-site. A total of 4,180 pounds of cultural debris scrap metal, 618 pounds of aluminum MD and 2,689 pounds of ferrous MD scrap metal was disposed off-site. A 1348-1A form, chain of custody form, and certificate of destruction for this material is included in Appendix D.

Demobilization

Demobilization occurred in November 2006 following completion of the 10% QC inspection for all six sites.

3.3 CONCLUSIONS

Between May 2006 and November 2006, Parsons performed munitions removal operations in accordance with the ESS requirements. In general, the results of the munitions removal project performed at Seneca Army Depot for SEAD 46, SEAD 57, SEAD 007-R-01 and SEAD 002-R-01 indicate that all MPPEH has been cleared from these sites. A total of two of the 11,739 identified anomalies which were investigated were found to be MEC. This indicates that these sites were free of MEC with the exception of an area north of SEAD 57 buffer area and not part of this project. The

Army believes that no additional munitions response activities are required at these sites. The conclusions from each individual site are provided below.

SEAD 57 (Former EOD Range) and the SEAD-57 Buffer Area

The only MEC items encountered during this project were found north of SEAD 57 including one fused unfired 37mm projectile in Grid 57 K-16 and one MKII grenade located in 57K-18 as shown on Figure 1-4c. Most ferrous MD items at SEAD 57 were found north of Building T011 and were not found within the high density 1,000 foot kick out radius from the SEAD 57 berm. Figure 1-4c identifies all ferrous and aluminum MD items that were recovered as part of the SEAD 57 investigation. The ferrous MD items are shown in this figure. The pattern of the aluminum MD clearly radiates out from the center of the SEAD 57 berm in a circular pattern. The 43 other MPPEH items (listed on Table 2-2) found at SEAD 57 were all determined to be MD upon venting of the items during the disposal process. SEAD 57 is considered cleared of MPPEH.

SEAD 46 (Former 3.5-inch Rocket Range)

During the investigation of SEAD 46, 22 MPPEH items were found from the 1,611 geophysical anomalies investigated. All 22 items were found to be MD after they were vented. No MEC items were found at SEAD 46. The locations of the MD suggest that the SEAD 46 berm was not used as a target for anything other than small arms practice. The MD items are actually found in areas located away from the berm. Based on the discovery of inert landmines and a sign that identifies the area as a practice minefield for EOD and military training exercises, this was most likely the use of the site. There is no evidence that it was used as a rocket range as previously identified. Based on the results of the past three investigations SEAD 46 is considered cleared of MPPEH.

SEAD 002-R-01 (EOD Areas 2 and 3)

Two MPPEH items (an electric Squibb) were found at EOD Area 2 and it was later determined to be expended. The second item, a M16 APERS, was found by the survey team conducting a boundary survey of the pond low water mark. This item was found without a fuse but due to the mud and debris that filled the case, the item was vented to dispose of any explosive residue that may have remained. It was determined to be inert. At EOD Area 3, no MPPEH items were found during the geophysical anomaly investigation or the expanded handheld investigation of the unmapped area. SEAD 002-R-01 is considered cleared of MPPEH.

SEAD 007-R-01 (Grenade Range)

During the anomaly investigation of the Grenade Range, a total of 221 MPPEH items were found. All MPPEH were related to the M73 Practice LAW Rocket. The 40mm practice grenade found at this site has an inertia driven expelling system with no explosive material. The M73 Practice LAW Rocket has a 1.5 gram spotting charge. The 1.5 gram spotting charge is designed to produce only a flash, smoke, and noise at the time of impact initiated by an inertia driven firing pin. Of the 221 M73 Sub-caliber rounds found, none were found to have the rocket motor intact, all had been functioned previously. Based on these reasons, all of the MPPEH items were reclassified as MD. All 221 of

these rounds were brought to the demolition area and disposed of by detonation. SEAD 007-R-01 is considered cleared of MPPEH.

Local Training Areas

Six individual MD items were found in the Local Training Areas B through L. The items were 37mm and 57mm TPT (target practice) rounds that contained no explosives. The remaining MD items were all small arms ammunition (50 cal.) both ball and incendiary ammunition that were thermally treated before disposal. The Local Training Areas B-7 through L-7 are considered free of MPPEH.

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 26 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the 5-Year Review period and Site Closeout costs.

Site: SEAD- 9 Old Scrap Wood Pile

Source:

1. Record of Decision for Twenty No Action SWMUs (SEADs 7,9,10,18,19,20,21,22,23,33,35,36,37,42,47,49,51,53,55,65, and 68) and Eight No Further Action SWMUs (SEADs 28,29,30,31,32,34,60, and 61) September 2003
2. Final ROD For Seventeen SWMUs Requiring Institutional Controls, SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007
3. Draft Final PRAP Five Former SWMUs- 1, 2, 5, 24 and 48, June 2007
4. Professional judgment based on site knowledge
5. Final ROD for sites requiring Institutional Controls in Planned Industrial/Office Development or Warehousing Area, July 2004

NOTE:

1. SEAD-1 and SEAD-2 and SEAD-67 are included to this site for LTM.

RACER Assumptions:

Site Closeout Documentation (LTM)

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM)

1. Number of wells: 12
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)
5. Land Use Control, in the form of an Institutional Control, will be applied to all sites in SEAD-9

Cost Summary SEAD-9

LTM

Site Closeout (RACER)	\$42,325
Well Abandonment (RACER)	22,672
Land Use Controls (RACER) Monitor environmental easement for 30 yrs	244,361
Total Site Cost	\$309,358

Cost Increase > 10% from 2006 Report? Yes.

Reason: RACER cost update.

Prepared by: Janet R. Fallo

Signature Janet R. Fallo Date 2/26/08

Reviewed by: Stephen M. Absolom

Signature Stephen M. Absolom Date 2/26/08

**FINAL
RECORD OF DECISION
FOR
SITES REQUIRING INSTITUTIONAL CONTROLS IN THE PLANNED
INDUSTRIAL/OFFICE DEVELOPMENT OR WAREHOUSING AREAS
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

and

**UNITED STATES ARMY ENGINEERING & SUPPORT CENTER
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA**

Prepared By:

**PARSONS
100 Summer St, Suite 800
Boston, Massachusetts**

**EPA Site ID No.: NY0213820830
NY Site ID No.: 8-50-006
DACA87-95-D-0031, Delivery Order 21
736026**

July 2004

1.0 DECLARATION OF THE RECORD OF DECISION

Site Name and Location

Building 360 – Steam Cleaning Waste Tank (SEAD-27), the Garbage Disposal Area (SEAD-64A), and the Pesticide Storage Area Near Building 5 and 6 (SEAD-66).

Seneca Army Depot Activity (SEDA)

CERCLIS ID# NY0213820830

NY State ID# 8-50-006

Romulus, Seneca County, New York

Statement of Basis and Purpose

This decision document presents the U.S. Army's and EPA's selected remedy for Building 360 – Steam Cleaning Waste Tank (SEAD-27), the Garbage Disposal Area (SEAD-64A), and the Pesticide Storage Area Near Building 5 and 6 (SEAD-66), located at the Seneca Army Depot Activity (SEDA) near Romulus, New York. The decision was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 United States Code (USC) §9601 et seq. and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator; the Director, National Capital Region Field Office; and the U.S. Environmental Protection Agency (USEPA) Region II have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, Building 123, Romulus, NY. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The State of New York, through NYSDEC and the New York State Department of Health (NYSDOH), has concurred with the Selected Remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected in this ROD is necessary to protect the public health and the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from this site that may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The Army recommends establishing institutional controls (ICs) in the form of land use controls (LUCs) at SEADs 27, 64A, and 66. The LUCs will be applied area wide. A map showing the location of SEADs 27, 64A, and 66 and the LUC boundary is provided at **Figure 1-1**. Five year reviews of this remedy will be conducted in accordance with Section 120(c) of CERCLA.

Land Use Control Performance Objectives

The LUC performance objectives at these sites are as follows and will also be incorporated into deeds and/or leases for this property:

- Prevent residential housing, elementary and secondary schools, childcare facilities and playgrounds activities at the SEAD 27, 64a, and 66 sites.
- Prevent access to or use of the groundwater at the SEAD 27, 64a, and 66 sites until Class GA Groundwater Standards are met.
- Prevent unauthorized excavation at the SEAD 64a site.

The LUCs will continue until the concentration of hazardous substances in the soil and the groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use.

Land Use Control Remedial Design

In order to implement the Army's remedy, which includes the imposition of land use controls, a LUC Remedial Design for the Sites Requiring Institutional Controls in the Planned Industrial/Office or Warehousing Area ("PID Area"), will be prepared which satisfies the applicable requirements of Paragraphs (a) and (c), Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for the PID Area, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of the property's transfer from federal ownership.

A schedule for completion of the draft Institutional Control Remedial Design Plan will be completed within 21 days of the ROD signature consistent with Section 14.4 of the Federal Facilities Agreement (FFA).

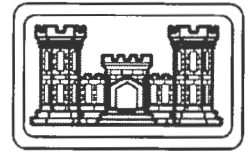
The Army shall be responsible for implementing, inspecting, reporting on and enforcing the LUCs described in this ROD in accordance with the approved LUC remedial design. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or

#####

Proposed Plan – Draft Final



**FIVE FORMER SOLID WASTE MANAGEMENT UNITS (SWMUs) –
SEADs 1, 2, 5, 24, and 48
SENECA ARMY DEPOT ACTIVITY (SEDA)
ROMULUS, NEW YORK**



June 2007

#####

Site

PURPOSE OF THE PLAN

This Proposed Plan describes the remedial alternatives selected for five areas of concern (AOCs) SEAD 1 (the former Hazardous Waste Container Storage Facility, Building 307), SEAD 2 (the former PCB Transformer Storage Facility, Building 301), SEAD 5 (the former Sewage Sludge Piles), SEAD 24 (the Abandoned Power Burn Pit), and SEAD 48 (Row 0E800 Pitchblende Storage Igloos) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, located in Seneca County, New York. This Proposed Plan was developed by the U.S. Army (Army) and the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). The Army and the EPA are issuing this Proposed Plan as part of their public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) of 1980, as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the contamination remaining at the five AOCs is described in greater detail in the following documents:

- "RCRA Closure Report: Building 307, Hazardous Waste Container Storage Facility; Building 301, Transformer Storage Building," Draft;
- Letter to Mr. James Dolen, Jr. from Todd Heino dated September 9, 2005 regarding "Response to Comments on the Draft Closure Plan dated September 4, 2003, Building 307, Hazardous Waste Storage Facility and Building 301, PCB Transformer Storage Building, Seneca Army Depot Activity, Romulus, New York, NYSDEC Site No.: 8-50-006";
- Letter to Mr. Stephen Absolom from James Dolen, Jr. dated September 29, 2005 regarding "SEDA – Facility EPA I.D. No. NY0213820830, Building 307, Hazardous Waste Storage Facility & Building 301, PCB Transformer Storage Building, Closure Certification Approval";
- "Industrial Waste Site (Sludge Piles) – SEAD 5 Time-Critical Removal Action Final Completion Removal Report";
- "Time Critical Removal Action, Metal Sites – SEAD 24 Final Completion Removal Report"; and,
- "Final Status Survey Report, E0800 Row Pitchblende Ore Storage Igloos (SEAD-48)" (Parsons, 2006).

The Army, EPA, and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the AOCs, the site and the Superfund activities that have been completed.

This Proposed Plan is being provided as a supplement to the aforementioned documents to inform the public of the Army's, EPA's and NYSDEC's preferred remedies for the AOCs and to solicit public comments pertinent to the selected remedies. The preferred remedy for three of the AOCs (i.e., SEADs 1, 2, and 5) is to formally impose and implement Land Use Controls (LUCs) that prohibit the use of the designated land and buildings for residential activities, and to prohibit access to and use of groundwater. The preferred remedy for SEAD 24 and SEAD 48 is No Further Action.

The identified LUCs selected for SEADs 1, 2, and 5 were previously established for three other AOCs (i.e., SEADs 27, 64A, and 66) that are located in proximity to the three AOCs. At the time of the Army's, EPA's and NYSDEC's final determination for SEADs 27, 64A, and 66, all parties agreed that the identified LUCs should be imposed on all land within the Planned Industrial / Office Development and Warehousing (PID) Area at the former Depot due to the anticipated future use of the land and the similarity of its known past uses by the Army and predecessors.

The remedies described in this Proposed Plan are the preferred remedies for each of the identified AOCs. Changes to the preferred remedy, or a change from the preferred remedy to another remedy, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedies will be made after the Army and the EPA have taken all public comments into consideration. The Army and the EPA are soliciting comments because the Army, EPA and NYSDEC may select a remedy other than the preferred remedy for either or both of the AOCs.

MARK YOUR CALENDAR

[Date] – [Date]:

Public comment period related to this Proposed Plan.

[Date] at 7:00 P.M.: Public meeting at the Seneca County Office Building, Village of Waterloo New York.

COMMUNITY ROLE IN SELECTION PROCESS

The Army, EPA, and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the RI Report and this proposed plan have been made available to the public for a public comment period which begins on Date and concludes on Date 2.

A public meeting will be held during the public comment period at the Seneca County Office Building on Date 3 at 7:00 p.m. to present the conclusions of the RI, to elaborate further on the reasons for selecting the preferred remedy, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document that formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Mr. Stephen M. Absolom
BRAC Environmental Coordinator
Seneca Army Depot Activity
Building 123, P.O. Box 9
5786 State Route 96
Romulus, NY 14541-0009

is not used for potable purposes within the AOC, the Army further recommends that land use controls that prohibit use of the land for residential activities and prohibits access to and use of the groundwater be formally imposed at the AOC.

SEAD-24: Abandoned Powder Burn Pit

At SEAD-24, the HHRA suggest that there are elevated non-cancer risks for the construction worker and the child resident receptors. The construction workers risk results from identified concentrations of aluminum and manganese in the soil, which are both consistent with SEDA-wide background concentrations and below state and federal guidance levels. Similarly, the majority of the non-cancer risk found for the child resident results from metal concentrations reported for soils at the site, which are again generally consistent with SEDA-wide background concentrations and below state and federal guidance levels.

The Army believes that the land at SEAD-24 is suitable for unrestricted use with no further action.

SEAD-48: E0800 Row Pitchblende Ore Storage Igloos

The Final Status Survey completed for the former Pitchblende Ore Storage Igloos indicates that the E0800 Row igloos are suitable for unrestricted use.

Proposed Actions

The Army's preferred remedy for two of the identified AOCs (i.e., SEADs 24 and 48) described in this Proposed Plan is no further action (NFA).

The Army's preferred remedy for three of the identified AOCs (i.e., SEADs 1, 2, and 5) described in this Proposed Plan is no further intrusive actions and to establish LUCs. Specifically, the Army remedy for SEADs 1, 2, and 5 will include LUCs that prohibit residential activities and prohibit access to and use of groundwater within the bounds of the AOCs. The recommended LUCs identified for SEADs 1, 2, and 5 already were imposed on all of the land that is located

within the PID Area of the former Depot. It is the Army's intention to officially impose and implement these same LUCs on the land occupied by SEADs 1, 2, and 5 by this ongoing remedial action.

No Further Action

Based on the findings of the investigations and risk assessment completed, the Army has selected NFA as the remedy for SEAD-24. This selection is based on the Army's and EPA's determination that the site does not pose a significant threat to human health or the environment.

Furthermore the Army has selected NFA as the remedy for SEAD-48. This selection is based on the Army's determination that the site does not pose a significant threat to human health or the environment. The Final Status Survey performed in conformance with USEPA, NYSDEC and Nuclear Regulatory Commission requirements indicate that the igloos are suitable for unrestricted use.

Residential and Groundwater Restrictions

A ROD signed by the Army and USEPA in 2004 for three AOCs (SEADs 27, 64A, and 66) that are within the Planned Industrial/Office Development (PID) Area of the former Depot imposes LUCs that:

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities.
- Prohibit access to or use of the groundwater until Class GA Groundwater Standards are met.

Although these restrictions were recommended specifically for conditions identified at SEAD-27, SEAD-64A, and SEAD-66, the Army and the USEPA agreed that these LUCs would be imposed on all land within the PID at the time of transfer. The Army now intends to formally impose the LUCs identified for the greater PID Area on the following SWMUs upon transfer of the property:

**FINAL
RECORD OF DECISION
FOR
Seventeen No Action/No Further Action SWMUs Requiring Land Use Controls
(SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E)**

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
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Contract Number: DACA87-02-D-0005

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USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

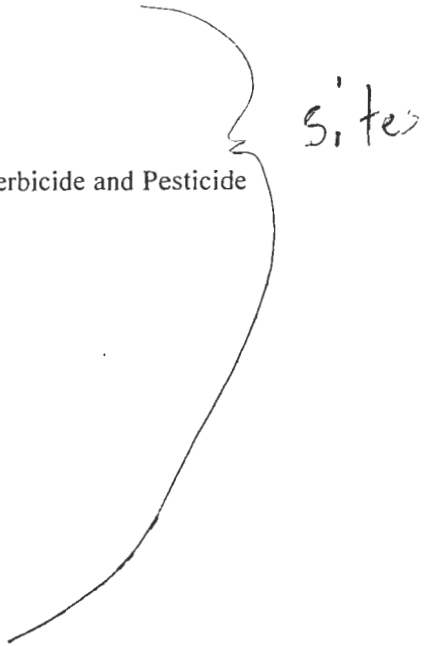
March 2007

1.0 DECLARATION OF THE RECORD OF DECISION

Site Names and Location

Seneca Army Depot Activity
CERCLIS ID# NY0213820830
New York Site ID# 8-50-0006
Romulus, Seneca County, New York

This Record of Decision (ROD) formalizes and documents the U.S Army's (Army's) and U.S Environmental Protection Agency's (USEPA's) selected remedy for 17 historic solid waste management units (SWMUs) at the former Seneca Army Depot Activity (SEDA). Each of the Army's selected remedies for the 17 former SWMUs requires the definition and use of Land Use Controls (LUCs). The 17 former SWMUs discussed in this ROD include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
 - SEAD-39, Building 121 Boiler Blowdown Leach Pit;
 - SEAD-40, Building 319 Boiler Blowdown Leach Pit;
 - SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
 - SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
 - SEAD-44A, Quality Assurance Test Laboratory;
 - SEAD-44B, Quality Assurance Test Laboratory;
 - SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
 - SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
 - SEAD-64B, Garbage Disposal Area;
 - SEAD-64C, Garbage Disposal Area;
 - SEAD-64D, Garbage Disposal Area;
 - SEAD-67, Dump Site East of Sewage Treatment Plant No. 4;
 - SEAD-122B, Small Arms Range, Airfield Parcel; and
 - SEAD-122E, Plane Deicing Area.
- 

These SWMUs are also referred to below as “Areas of Concern” or “AOCs” or individually as an “Area of Concern” or “AOC.”

Statement of Basis and Purpose

This decision document presents the Army's and the USEPA's selected remedy for SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E (or the AOCs), located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Romulus and Varick, Seneca County, New York. The decisions were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP),

40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the USEPA Region 2 have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed by the Army in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The New York State Department of Environmental Conservation (NYSDEC) has concurred with the selected remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected for each SWMU identified in this ROD is necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from these SWMUs, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The selected remedy for each of the 17 AOCs discussed in this ROD is either No Action (NA) or No Further Action (NFA) combined with the establishment, maintenance, and monitoring of Land Use Controls (LUCs). AOCs where the selected remedy is NA with LUCs include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64C, Garbage Disposal Area; and
- SEAD-122E, Plane Deicing Area.

AOCs where the Army's selected remedy is NFA with LUCs include:

- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4; and,
- SEAD-122B, Small Arms Range, Airfield Parcel.

At 12 of the AOCs (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67), LUCs previously documented by the Army will be imposed, monitored, and maintained until the concentrations of hazardous substances remaining at the site allow for the unlimited exposure and unrestricted use. It is also recommended that other LUCs previously not documented be imposed at five AOCs (i.e., SEADs 13, 64B, 64C, 122B and 122E) that are subject of this ROD.

The Army has previously documented and imposed LUCs within three portions of the former Depot: in the southeastern corner of the Depot where the Five Points Correctional Facility (“Prison Area”) currently is located; in the east central portion of the Depot where the Planned Industrial/Office Development (PID Area) and Warehousing Area is located; and in the north-central portion (i.e., “North End Barracks” Area) of the Depot where the Hillside Children’s Center is currently located. One or more of the 12 AOCs defined above (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67) are located within land covered by existing LUCs within these three parcels of the former Depot. Within this ROD, the Army formalizes and documents its intention to impose the existing LUCs on the AOCs located within each of these parcels under CERCLA. Land within the “Prison Area” and the area currently occupied by the Hillside Children’s Center have been transferred to the community [i.e., to the people of the State of New York and Seneca County Industrial Development Agency (SCIDA), respectively] under deeds that have been recorded by the Seneca County Clerk. Land within the PID and Warehousing Area of the Depot has not yet been transferred to the community, but LUCs including a residential activity use restriction and a groundwater use/access restriction have been identified and documented within the “Final Record of Decision for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity” (September 2004).

New LUCs are proposed for the remaining five AOCs (SEADs 13, 64B, 64D, 122B, and 122E) discussed within this ROD. The groundwater use/access restriction proposed for SEAD-13 and SEAD-64D, and the residential use/activity restriction proposed for SEAD-122E result from the Army’s determination that potential risks to human health or the environment exist due to the presence of hazardous substances at the historic SWMUs. The Army further recommends that the residential use/activity restriction proposed for SEAD-122E be imposed throughout the area occupied by the former Sampson / Seneca Army Depot Airfield to facilitate its transfer to the SCIDA; this LUC would encompass the entire parcel known as the Airfield. The LUC proposed for implementation at SEAD-64B (no unauthorized excavation and maintenance of cover) results from historic requirements of New York State Solid Waste Management Regulations; this LUC will also be applied along with the groundwater access/use restriction at SEAD-64D.

The specific LUCs selected for each AOC are summarized in **Table 1-1** and described more completely as follows:

“Prison Area” Land Use Controls (SEADs 43/56/69, 44A, 44B, 52, 62, and 64C):Existing Deed with Reversionary Clause

The “Prison Area” property was transferred under a public benefit conveyance. The United States used a deed with a reversionary clause, as is required under Federal implementing regulations¹, to convey land in the southeastern part of the former Depot (i.e., Prison Area, see **Figure 1-1**) to the people of the State of New York for the construction of the Five Points Correctional Facility. It includes language that requires that the “property shall be used and maintained for a correction facility in perpetuity”² and that “the property shall not be sold, leased, mortgaged, assigned or otherwise disposed of”³ without the prior consent of the Federal Government. In the event that any condition of the deed is breached “as to all or any portion or portions of the described property by New York or its successors or assigns,”⁴ the “title and interest to such portion or portions of the property, in its existing condition, including all improvements thereon, shall revert to, and become property of, the Government at the option of and upon demand made in writing by the General Services Administration, or its successor in function.”⁵

} LUC

Provisions of the deed apply to the following SWMUs, which were transferred prior to a ROD being prepared and which are currently located within the bounds of New York’s Five Points Correctional Facility Parcel:

- SEAD-43: Building 606 – Old Missile Propellant Test Laboratory;
- SEAD-44A: Quality Assurance Test Laboratory;
- SEAD-44B: Quality Assurance Test Laboratory;
- SEAD-52: Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-56: Building 606 – Herbicide and Pesticide Storage;
- SEAD-62: Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64C: Garbage Disposal Area; and,
- SEAD-69: Building 606 – Disposal Area.

Hazardous substances may be present at one or more of the listed historic SWMUs at concentrations that do not allow for unlimited exposure and unrestricted use. However, based on the results of previous investigations, risk assessments, and/or removal actions, these sites do not pose or represent a risk or threat to human health and the environment, given consideration of the area’s continuing restricted use as a state maximum security correctional facility. The deed with the reversionary clause was recorded by the Seneca County Clerk on 26 September 2000 (see Seneca County Liber 612 Page 014 through page 031). Pursuant to the terms of the deed, the prison use restriction remains in effect for these AOCs in perpetuity, or the property ownership reverts to the United States.

¹ Title 41 Code of Federal Regulations, Part 101-47 Federal Property Management Regulations, Utilization and Disposal of Real Property, Section Sec. 101-47.308-9 Property for correctional facility use.

² Seneca County Clerk, Waterloo, New York, Deed, United States of America to People of the State of New York, September 26, 2000, Liber 612, Page 019.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

“PID Area” Land Use Controls (SEADs 39, 40 and 67):Residential Use and Groundwater Access/Use Restrictions

A ROD was signed by the Army and USEPA in 2004 for land within the Planned Industrial/Office Development (PID) and Warehousing Area (see **Figure 1-1**) of the former Depot. The PID Area encompasses numerous historic Seneca Army Depot SWMUs. The PID Area-wide land use restriction imposes LUCs that:

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities; and,
- Prohibit access to or use of the groundwater until Class GA Groundwater Standards are met.

} LUC

These LUCs are documented in the “Final, Record of Decision for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity” (September 2004).

These use restrictions result from determinations made specifically for SWMUs designated as SEAD-27 (Building 360 Steam Cleaning Waste Tank), SEAD-64A (Garbage Disposal Area), and SEAD-66 (Pesticide Storage near Buildings 5 and 6) in the PID Area. These land use restrictions will now be applied to three AOCs discussed in this Record of Decision and designated as:

- SEAD-39 (Building 121 Boiler Blow Down Pit);
- SEAD-40 (Building 319 Boiler Blow Down Pit); and
- SEAD-67 (Dump Site East of Sewage Treatment Plant No. 4).

Future land owners or users of sites located in the PID Area may request a variance to the LUCs identified above on a location-by-location basis. However, the future owner/user seeking the variance will need to provide relevant data to substantiate the validity of its request. Once a request is received, the Army, USEPA, and NYSDEC will evaluate and assess waiver requests for land in the PID Area on a case-by-case basis. Otherwise, the LUCs will remain in effect until the concentrations of hazardous substances in the soil and the groundwater beneath the sites have been reduced to levels that allow for unlimited exposure and unrestricted use of the land.

“North End Barracks” Area Land Use Controls (SEAD-41):Existing Deed with Groundwater Notification

A deed was used to document the transfer of the land currently used for the Hillside Children’s Center (i.e., former “North End Barracks” Area, see **Figure 1-1**) at the north end of the former Depot to the SCIDA. In the deed, the Army notified SCIDA that groundwater contamination had been identified in the vicinity of the former Building 718. This determination was made based on the results of historic groundwater sampling data that was collected during the investigation of SEAD-41, which indicated that total petroleum hydrocarbons (TPH, 690 parts per billion [ppb]) were present in the upper aquifer of the

groundwater. The Army applied the deed notification, based on the water quality from sampling, to all property located within the "North End Barracks" parcel. A public water supply services the entire area. This includes the area of the former SWMU SEAD-41, Building 718 Boiler Blowdown Pit.

The reported level of TPH at SEAD-41 exceeds the New York State Public Water System standards for unspecified organic contamination of 100 ppb. The deed further states "The Grantee, its successors and assigns, agree that in the event they use the groundwater as a public water supply source at the Property, they will comply with all applicable laws and regulations." Under New York regulations, future owners or occupants of the area would need to confirm the quality and acceptability of the groundwater as a source of potable water before it could be used for such a purpose. It is recommended that the LUC documented in the existing deed for the "North End Barracks" parcel be continued until the concentrations of hazardous substances in groundwater have been reduced to levels that allow for unrestricted use.

Land Use Controls (SEADs 13, 64B, 64D, 122B and 122E):

Groundwater Use/Access Restriction (SEAD-13)

A groundwater use/access restriction is also proposed at the following site:

- SEAD-13: Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site.

The proposed groundwater use/access restriction is intended to eliminate human contact with groundwater, thereby reducing risk to acceptable levels for potential human receptors. There is risk associated with the use of the groundwater at SEAD-13, driven by the concentrations of nitrate, aluminum, and manganese identified. The risk from the presence of metals is associated with the suspended solids contained in the collected groundwater samples and not from the groundwater itself. The presence of nitrate is likely related to past activities conducted in the area. The extent of the nitrate plume is defined and restricted to the area located between the historic disposal pits observed in SEAD-13-East and the Duck Pond to the west. Groundwater data from monitoring wells in the SEAD-13-West side of this AOC does not show evidence of a nitrate plume in this area of the AOC, which is downgradient of SEAD-13-East and the Duck Pond. Chemical analysis of surface water in the Duck Pond indicated that the nitrate/nitrite-nitrogen concentrations are below the levels established for drinking water sources nationally and within the State of New York.

Therefore, a LUC will be implemented over the geographic area of SEAD-13 to prohibit access to or use of the groundwater. This restriction will remain in effect until the concentrations of hazardous substances in groundwater beneath the AOC have been reduced to levels that allow for unlimited exposure and unrestricted use. Once groundwater cleanup standards are achieved, the groundwater use/access restriction may be eliminated, with USEPA approval.

Residential Activities Restriction (SEAD-122B and SEAD-122E)

The development and use of property for residential housing, elementary or secondary schools, child care facilities, and playgrounds will be prohibited in the following two AOCs:

- SEAD-122B: Small Arms Range, Airfield Parcel
- SEAD-122E: Plane Deicing Area

The proposed residential activities LUC will be implemented over the entire Airfield Parcel, which extends beyond the bounds of SEAD-122B and SEAD-122E. This LUC will be applied to all areas within the former Airfield, and will continue until such time as the concentrations of hazardous substances are reduced to levels that allow for unlimited exposure and unrestricted use. Future owners or users of land within the Airfield may request a waiver from the LUC on a location-by-location basis. At the time of the waiver request, the applicant must develop and submit sufficient data and information, subject to review and approval by the Army and the USEPA, to substantiate its request that the identified location is suitable for unlimited exposure and unrestricted use.

The boundary of the Airfield Area is defined as the boundary of the Airfield Special Events, Institutional, and Training area highlighted on **Figure 1-1**.

Unauthorized Digging Restriction (SEAD-64B)

A LUC that prohibits unauthorized digging and excavations within the bounds of the SWMU will be imposed for:

- SEAD-64B: Garbage Disposal Area.

SEAD-64B is a former solid waste disposal area that was closed by the Army prior to 1979. As a historic solid waste landfill, this SWMU is subject to requirements of the New York State's Solid Waste Regulations (6 NYCRR Part 360) in effect at the date of closure. Under New York's Solid Waste Regulations effective in 1979, a soil and vegetative cover was required to be placed on and maintained above the closed landfill. The proposed LUC would prohibit digging within the bounds of the former solid waste site. The LUC will continue at the AOC until solid wastes are removed, and concentrations of hazardous substances allow for unlimited exposure and unrestricted use.

Unauthorized Digging and Groundwater Access/Use Restriction (SEAD-64D)

LUCs that restrict unauthorized excavation and access to and use of groundwater will be imposed for the:

- SEAD-64D: Garbage Disposal Area.

Results of the mini risk assessment for this AOC indicate that ingestion of groundwater could pose a risk to future receptors. Furthermore, as a historic solid waste landfill, this SWMU is subject to requirements of the New York State's Solid Waste Regulations (6 NYCRR Part 360), as were in effect in 1979 when it was closed. Under New York's 1979 Solid Waste Regulations, a soil and vegetative cover must be placed on and maintained above the closed landfill.

The proposed groundwater use/access restriction will be implemented over the geographic area of SEAD-64D to prohibit access to or use of the groundwater until the levels of hazardous substances are reduced to levels that allow for unlimited exposure and unrestricted use. The restriction to prohibit unauthorized excavation at the SWMU will remain in effect as long as solid waste remains at the SWMU. The reduction of groundwater contamination to levels that allow for unlimited exposure and unrestricted use,

and the removal of solid waste must be completed before unlimited exposure and unrestricted use can be allowed at this SWMU.

Land Use Control Performance Objectives

The land use control (LUC) performance objectives at these 17 SWMUs, which will be (or have been) incorporated into leases and/or deeds for the parcels of real property that comprise these AOCs, as appropriate, are as follows:

- Comply with the use limitations documented and imposed in the Deed used to transfer property containing SEADs 43/56/69, 44A, 44B, 52, 62 and 64C from the U.S. Government to the people of the State of New York for the construction of a correctional facility (See Seneca County Liber 612 Page 014 through 031);
- Prohibit access to or use of groundwater at SEADs 39, 40, 41, 64D, and 67 until concentrations of hazardous substances contained are reduced to levels that allow unrestricted use;
- Prohibit residential housing, elementary and secondary schools, childcare facilities, and playgrounds activities at SEADs 39, 40, 67, 122B, and 122E until levels of hazardous substances found at the former SWMUs allow for unlimited exposure and unrestricted use; and
- Prohibit unauthorized excavation at SEADs 64B and 64D.

LUC

The Army and USEPA's selected remedy for each AOC discussed in this ROD includes LUCs. To implement the Army's selected remedy at these AOCs (i.e., SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E), a LUC Remedial Design (RD) for each LUC combination identified (e.g., reversionary deed; groundwater use/access restriction only; groundwater use/access restriction and residential activities restriction; residential activities restriction only; digging restriction only; and digging and groundwater use/access restriction) will be prepared. The LUC RD Plan will include: a site description; land use restrictions; mechanism to ensure that the land use restrictions are not violated in the future; implementation and maintenance actions, including periodic inspections; and reporting/notification requirements. In addition, the Army will prepare an environmental easement for each AOC as needed, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of transfer of the AOCs from federal ownership. A schedule for completion of the draft LUC RD covering the individual AOCs will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA). In accordance with the FFA and CERCLA §121(c), the remedial action (including ICs) will be reviewed no less often than every five years. After such reviews, modifications may be implemented to the remedial program, if appropriate.

The Army shall implement, inspect, maintain, report, and enforce the ICs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or other means, the Army shall retain ultimate responsibility for remedy integrity.

**FINAL
RECORD OF DECISION
FOR
TWENTY NO ACTION SWMUs (SEADs 7, 9, 10, 18, 19, 20, 21, 22, 33, 35, 36, 37, 42, 47,
49, 51, 53, 55, 65, and 68) and EIGHT NO FURTHER ACTION SWMUs (SEADs 28, 29,
30, 31, 32, 34, 60, and 61)
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

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TABLE 1
NO ACTION (NA) AND NO FURTHER ACTION (NFA) SWMUs
CONSIDERED IN THIS ROD

SITE

Action on sites addressed in report

UNIT NUMBER	UNIT NAME	Recommendation	Basis of NA/NFA Determination ¹	Reference ²
SEAD-7	Shale Pit	No Action	A	Parsons, 2002c
SEAD-9	Old Scrap Wood Site	No Action	D	Parsons, 2002b
SEAD-10	Present Scrap Wood Site	No Action	C	Parsons, 2002c
SEAD-18	Building 709 – Classified Document Incinerator	No Action	C	Parsons, 2002c
SEAD-19	Building 801 – Classified Document Incinerator	No Action	C	Parsons, 2002c
SEAD-20	Sewage Treatment Plant No. 4	No Action	A	Parsons, 2002c
SEAD-21	Sewage Treatment Plant No. 715	No Action	A	Parsons, 2002c
SEAD-22	Sewage Treatment Plant No. 314	No Action	A	Parsons, 2002c
SEAD-28	Building 360 – Underground Waste Oil Tanks (2)	No Further Action	C, E	Parsons, 2002b
SEAD-29	Building 732 - Underground Waste Oil Tanks (2 units)	No Further Action	E	Parsons, 2002c
SEAD-30	Building 118 – Underground Waste Oil Tank	No Further Action	E	Parsons, 2002c
SEAD-31	Building 117 – Underground Waste Oil Tank	No Further Action	E	Parsons, 2002c
SEAD-32	Building 718 – Underground Waste Oil Tanks	No Further Action	C, E	Parsons, 2002b
SEAD-33	Building 121 – Underground Waste Oil Tank	No Action	C	Parsons, 2002b
SEAD-34	Building 319 – Underground Waste Oil Tanks (2)	No Further Action	C, E	Parsons, 2002b
SEAD-35	Building 718 - Waste Oil-Burning Boilers (3 units)	No Action	A	Parsons, 2002c
SEAD-36	Building 121 - Waste Oil-Burning Boilers (2 units)	No Action	A	Parsons, 2002c
SEAD-37	Building 319 - Waste Oil-Burning Boilers (2 units)	No Action	A	Parsons, 2002c
SEAD-42	Building 106 - Preventive Medicine Laboratory	No Action	B	Parsons, 2002c
SEAD-47	Buildings 321 And 806 – Radiation Calibration Source Storage	No Action	C	Parsons, 2003
SEAD-49	Building 356 – Columbite Ore Storage	No Action	C	Parsons, 2002c
SEAD-51	Herbicide Usage Area – Perimeter of High Security Area	No Action	C	Parsons, 1994 and EPA 2003

TABLE 1 (continued)
NO ACTION (NA) AND NO FURTHER ACTION (NFA) SWMUs
CONSIDERED IN THIS ROD

UNIT NUMBER	UNIT NAME	Recommendation	Basis of NA/NFA Determination ¹	Reference ²
SEAD-53	Munitions Storage Igloos	No Action	A	NRC, 2003
SEAD-55	Building 357 - Tannin Storage	No Action	A	Parsons, 2002c
SEAD-60	Oil Discharge Adjacent to Building 609	No Further Action	E	Parsons, 2002b
SEAD-61	Building 718 - Underground Waste Oil Tank	No Further Action	A, E	Parsons, 2002c
SEAD-65	Acid Storage Areas	No Action	A	Parsons, 2002c
SEAD-68	Building S-335 Old Pest Control Shop	No Action	D	Parsons, 2002b

Notes:

- The SWMU was determined No Action (NA) or No Further Action (NFA) based on compliance with at least one of the following five criteria:

A - Some sites initially listed were based on a 1980 Army report listing suspect or potential sites (USATHAMA 1-50). Subsequent evaluation of historic records and information indicate that there is no evidence or indication of petroleum product, hazardous materials or solid wastes present or related to the environment. These SWMUs would be classified as No Action (NA).

B - Interviews or records suggested the presence of a potential site or SWMU, however no identifiable location was found. This SWMU is recommended for No Action.

C - Based on the analysis of collected sampling data, the Army has determined that there are no instances where hazardous materials have been detected; or if hazardous chemicals have been detected in specific media, the concentrations at which they have been found do not exceed promulgated regulatory criteria defined (e.g., New York Class C surface water criteria, New York GA Groundwater Standards, Federal Maximum Contaminant Levels (MCLs), etc.) by the State of New York or the federal government. This SWMU is recommended for No Action.

D - If data indicates that hazardous chemicals are present above criteria limits, the results of a human health risk assessment indicate that the land encompassed by the identified SWMU is suitable for unrestricted use (residential use). This SWMU is recommended for No Action.

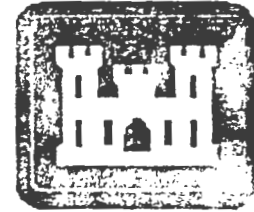
E - Action on a site was taken, and the site was closed out under another regulatory program (e.g., tank removal). This SWMU is recommended for No Further Action.

- See Appendix A, Administrative Record.

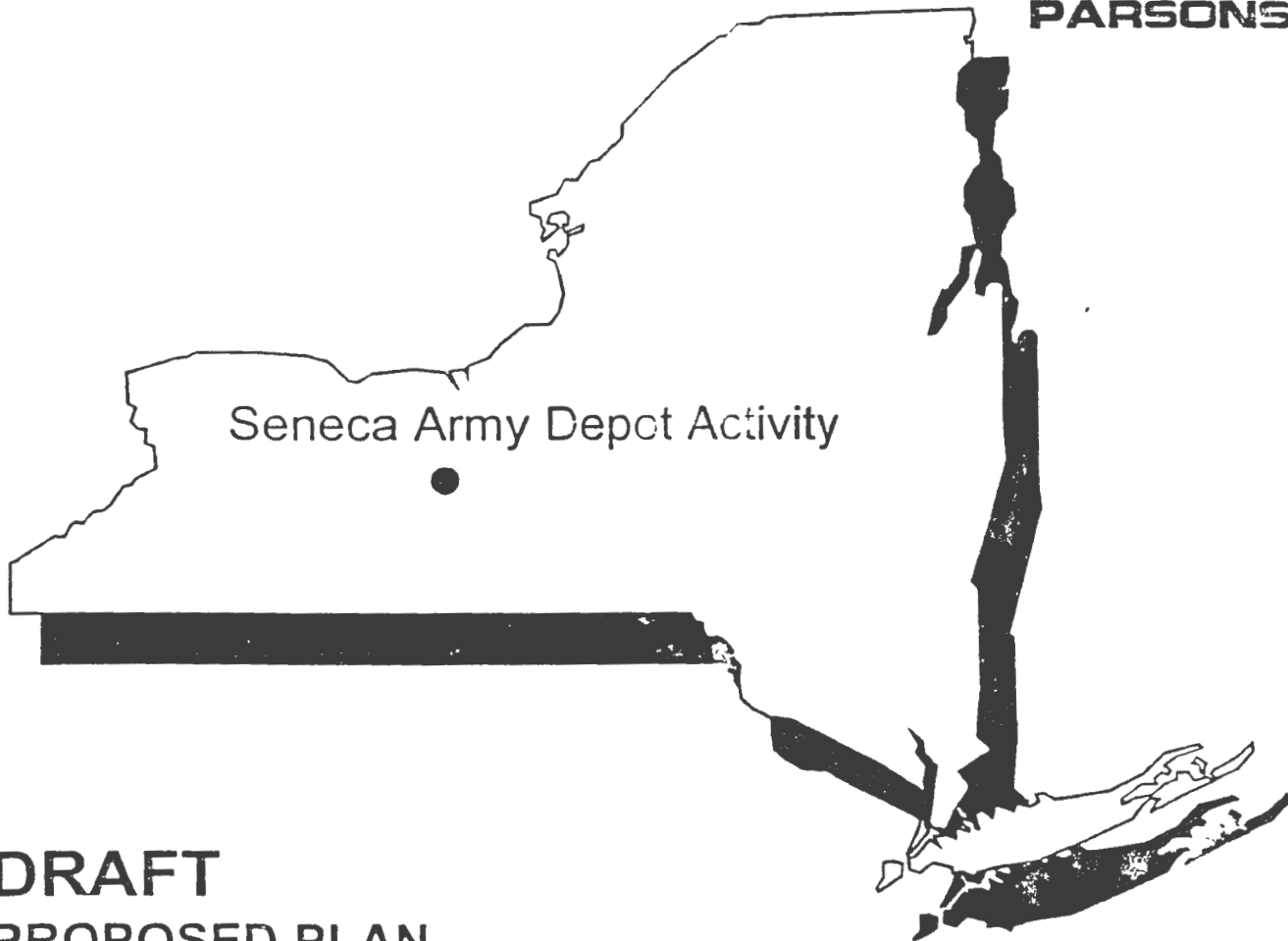


US Army, Engineering & Support Center
Huntsville, AL

Seneca Army Depot Activity
Romulus, NY



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DRAFT

PROPOSED PLAN

**No Action/No Further Action for SWMUs SEAD-13, 39,
40, 43, 44A, 44B, 56, 67, and 122B at the
SENECA ARMY DEPOT ACTIVITY (SEDA)
Romulus, New York**

EPA Site ID# NY0213820830

NY Site ID# 8-50-006

CONTRACT NO. DACA87-02-D-0005

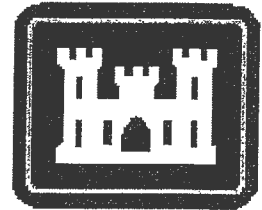
DELIVERY ORDER NOS. 0026 & 0028

March 2005



US Army, Engineering & Support Center
Huntsville, AL

Seneca Army Depot Activity
Romulus, NY



PARSONS



**DRAFT
PROPOSED PLAN
FOR SEVENTEEN SWMUs REQUIRING INSTITUTIONAL
CONTROLS (SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52,
62, 64B, 64C, 64D, 67, 122B, and 122E)
SENECA ARMY DEPOT ACTIVITY (SEDA)**

EPA Site ID# NY0213820830

NY Site ID# 8-50-006

CONTRACT NO. DACA87-02-D-0005

DELIVERY ORDER NO. 0026 & 0028

October 2005

dermal contact to soil and ingestion of soil. The contributing COCs are carcinogenic PAHs in soils. A summary of the risk assessment results is presented in **Table 52**.

For comparison purposes, risk to residential receptors was evaluated. The non-cancer His were less than 1. Cancer risk values were above USEPA acceptable limits due to the presence of cPAHs in the soil.

7 SUMMARY OF THE REMEDIAL GOALS AND PROPOSED ACTION

The selected remedy for any site should, at a minimum, eliminate or mitigate all significant threats to the public health or the environment presented by the hazardous waste present at the site. Based on the data presented and summarized earlier within this Proposed Plan, the Army has individually selected preferred remedies for SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E that satisfy this objective.

The Army's preferred remedy for each of the individual sites described in this Proposed Plan is to establish institutional controls (ICs). The specific ICs required for each site are summarized in the table below and are described as follows:

SEAD	Reversionary Deed	Groundwater Use Restriction	Residential Use Restriction	Digging Restriction
13		✓		
39		✓	✓	
40		✓	✓	
41		✓		
43	✓			
44A	✓			
44B	✓			
52	✓			
56	✓			
62				
64B				✓
64C	✓			✓
64D		✓		✓
67		✓	✓	
69	✓			
122B			✓	
122E			✓	

For the purposes of discussion in this Proposed Plan, the types of ICs required as part of the recommended remedies are divided into Group I and Group II. All ICs that include a Reversionary Deed are included in Group I. Group II consists of ICs that restrict groundwater use, restrict residential use, and/or restrict unauthorized excavation.

Group I Institutional Controls:

Reversionary Deed

A Reversionary Deed was used to convey land in the southern part of the former Depot to the State of New York for the construction of the Five Points Correctional Facility. The deed limits the use of the site in perpetuity to a correctional facility, and indicates that "...the property shall not be sold, leased, mortgaged, assigned or otherwise disposed of" without the consent of the Government. Provisions of the Reversionary Deed apply to the following SWMUs:

- SEAD-43: Building 606 – Old Missile Propellant Test Laboratory
- SEAD-44A: Quality Assurance Test Laboratory

- SEAD-44B: Quality Assurance Test Laboratory
- SEAD-52: Buildings 608 and 612 – Ammunition Breakdown Area
- SEAD-56: Building 606 – Herbicide and Pesticide Storage
- SEAD-62: Nicotine Sulfate Disposal Area near Buildings 606 or 612
- SEAD-69: Building 606 – Disposal Area

Based on the results of previous investigations, mini risk assessments, and/or removal actions, these sites do not pose a risk or threat to human health and the environment. These SWMUs are located within the bounds of the Five Points Correctional Facility, which has been transferred to the State of New York under a Quitclaim Deed. The Quitclaim Deed, which was recorded by the Seneca County Clerk on 26 September 2000 (see Liber 612 Page 014 through page 031). If the conditions of the Reversionary Deed are breached, the property reverts back to the US Government. SEADs 43, 44A, 44B, 52, 56, 62, and 69 are subject to the terms stated in the deed.

Reversionary Deed and Unauthorized Digging

The Reversionary Deed, described immediately above, and an IC that prohibits unauthorized excavations is the preferred remedy for another SWMU located within the current Five Points Correctional Facility. These combined ICs apply to:

- SEAD-64C: Garbage Disposal Area

Based on the results of previous investigations and the mini risk assessment, SEAD-64C does not pose a risk or threat to human health and the environment. SEAD-64C is located in the Prison area, which has been transferred to the State of New York under a Quitclaim Deed. The Quitclaim Deed was recorded by the Seneca County Clerk on 26 September 2000 (see Liber 612 Page 014 through page 031).

In addition, SEAD-64C is a former garbage disposal area that was closed prior to 1979. At the time of closure, the former dump site was covered with fill and the area has since re-vegetated. The proposed IC would prohibit digging within the bounds of the site will be established.

Group II Institutional Controls:

Groundwater Restriction

A Deed was used to document the transfer of the land currently used for the Hillside Children’s Center in the north end of the former Depot to the SCIDA. As part of the Deed, the Army notified SCIDA that groundwater contamination had been identified in the vicinity of Building 718. The Deed further stated “The Grantee, its successors and assigns, and agree that in the event they use the groundwater as a public water supply source at the Property, they will comply with all applicable laws and regulations.” Therefore, the Army has proposed and implemented an IC that prohibits access to and use of groundwater. The groundwater IC will be applied to the entire area, and be specifically applicable to:

- SEAD-41: Building 718 Boiler Blowdown Leaching Pit

SEAD-41 is located within the parcel of land in the North Depot that is designated for Institutional land use and currently used for the youth facility. SEAD-41 is subject to the terms stated in the deed for the North Depot. In addition, groundwater sampling data indicated that TPH concentrations (690 ppm) in the upper aquifer in the vicinity of Building 718 (SEAD-41) exceeded the New York State Public Water System standards for unspecified organic contamination in groundwater of 100 ppb.

The deed states that “the Property is currently served by a public water supply system that uses Seneca Lake as the source of drinking water.” The groundwater use restriction will eliminate contact with groundwater. The IC will continue until the concentration of hazardous substances in

groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use.

Groundwater Restriction

A groundwater use restriction is proposed at the following site:

- SEAD-13: Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site.

The groundwater use restriction will eliminate contact with groundwater as an exposure pathway for human health risk, thereby reducing risk to within acceptable levels for potential human receptors. As discussed above, there is risk associated with the use of the groundwater, driven by the concentrations of nitrate, aluminum, and manganese identified. The Army believes that the risk due to the presence of metals is associated with the suspended solids that were present in the collected groundwater samples, and is aware that the nitrate is related to past activities conducted in the area. The nitrate concentrations are naturally attenuating, and will continue to diminish with time.

Therefore, the Army is proposing that an IC will be implemented over the geographic area of SEAD-13 to prevent access to or use of the groundwater until the Class GA Groundwater Standards are met. The IC will continue until the concentration of hazardous substances in groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use. With USEPA approval, once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated.

Residential and Groundwater Restrictions

A ROD signed by the Army and USEPA in 2004 for land within the Planned Industrial/Office Development (PID) Area of the former Depot imposes ICs that:

- Prevent residential housing, elementary and secondary schools, childcare facilities and playgrounds activities.
- Prevent access to or use of the groundwater until Class GA Groundwater Standards are met.

Although these restrictions were recommended specifically because of conditions identified at SEAD-27, SEAD-64A, and SEAD-66, the Army and the USEPA agreed that these ICs will be imposed on all land within the PID. The Army recommends that the existing ICs identified for the PID Area be applied to the following SWMUs:

- SEAD-39: Building 121 Boiler Blowdown Leach Pit
- SEAD-40: Building 319 Boiler Blowdown Leach Pit
- SEAD-67: Dump Site East of Sewage Treatment Plant No. 4

The ICs will continue until the concentration of hazardous substances in the soil and the groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use.

Residential Use Restriction

A residential use restriction is recommended for:

- SEAD-122B: Small Arms Range, Airfield Parcel
- SEAD-122E: Plane Deicing Area

An IC will be implemented over the entire Airfield Parcel, including SEAD-122B and SEAD-122E, to prohibit the development and use of property for residential housing, elementary and secondary schools, child care facilities, and playgrounds. This IC will be applied to all areas within the property until such time as data are developed and approved by the Army and the USEPA to confirm that portions of the overall property are suitable for unrestricted use. The boundary of the Airfield Parcel is defined

as the boundary of the Airfield Special Events, Institutional, and Training area highlighted on **Figure 1**.

Unauthorized Digging Restriction

The Army recommends that a no digging restriction, which would be established to prevent unauthorized excavation at the SWMU, be imposed for the following SWMU:

- SEAD-64B: Garbage Disposal Area.

SEAD-64B is a former garbage disposal area that was closed prior to 1979. At the time of closure, the former dump site was covered with fill and the area has since re-vegetated. The proposed IC would prohibit digging within the bounds of the former waste site.

Unauthorized Digging and Groundwater Restriction

The Army recommends that ICs be imposed at SEAD-64D, Garbage Disposal Area to restrict:

- Unauthorized excavation, and
- Access to and use of groundwater.

The results of the mini risk assessment indicate that ingestion of groundwater could pose a risk to future receptors. An IC will be implemented over the geographic area of SEAD-64D to prevent access to or use of the groundwater until the Class GA Groundwater Standards are met. The IC will continue until the concentration of hazardous substances in groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use. With USEPA approval, once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated.

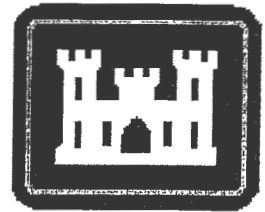
SEAD-64D is a former garbage disposal area that was closed prior to 1979. At the time of closure, the former dump site was covered with fill and the area has since re-vegetated. The proposed IC would prohibit digging within the bounds of the former waste site.

The Army's recommended remedial actions for all sites discussed in this Proposed Plan includes ICs. To implement the Army's recommended remedy at the eight sites discussed in Group II, as defined above, a land use control (LUC) RD for each of the five IC combinations in Group II (e.g., groundwater restriction only; groundwater and residential restriction; residential restriction only; digging restriction only; and digging and groundwater restriction) will be prepared to satisfy the applicable requirements of Paragraphs (a) and (c) of ECL Article 27, Section 1318: Institutional and Engineering Controls. The LUC RD Plan will include: a Site Description; the IC Land Use Restrictions, the IC Mechanism to ensure that the land use restrictions are not violated in the future, Reporting/Notification requirements. In addition, the Army will prepare an environmental easement for each of the sites, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of transfer of the sites from federal ownership. A schedule for completion of the draft LUC RD covering the individual sites will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the FFA. In accordance with the FFA and CERCLA §121(c), the remedial action (including ICs) will be reviewed no less often than every 5 years. After such reviews, modifications may be implemented to the remedial program, if appropriate.

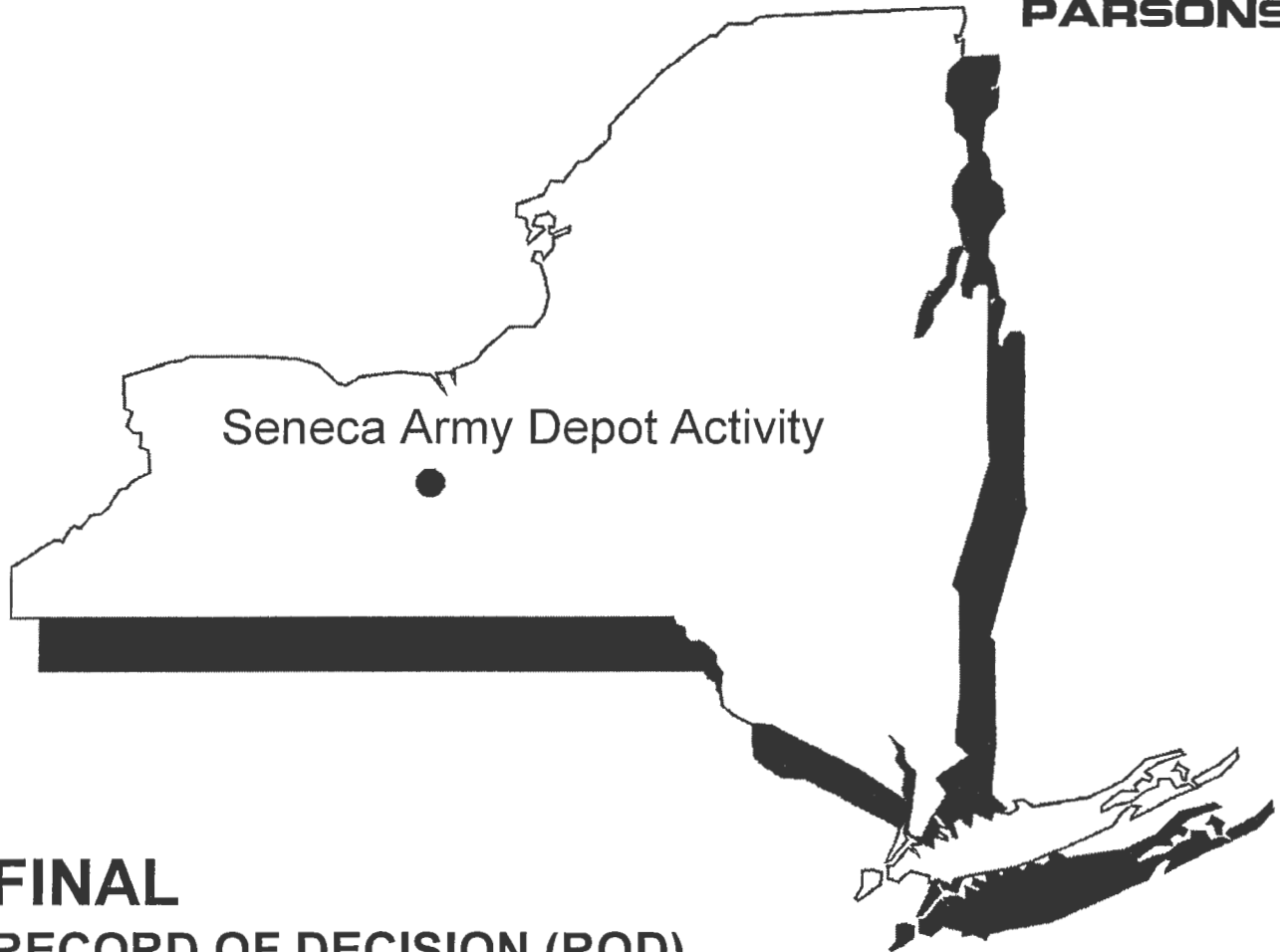


US Army, Engineering & Support Center
Huntsville, AL

Seneca Army Depot Activity
Romulus, NY



PARSONS



FINAL
RECORD OF DECISION (ROD)
SITES REQUIRING INSTITUTIONAL CONTROLS
IN THE PLANNED INDUSTRIAL/OFFICE
DEVELOPMENT OR WAREHOUSING AREAS
SENECA ARMY DEPOT ACTIVITY

EPA Site ID# NY0213820830
NY Site ID# 8-50-006
CONTRACT NO. DACA87-95-D-0031
DELIVERY ORDER NO. 0021

September 2004

9.0 SELECTED REMEDY

REMEDY

Based on the results of the investigations and mini risk assessments completed for the three sites, area wide institutional controls (ICs) are proposed for SEAD-27, SEAD-64A, and SEAD-66. The objectives of ICs proposed for SEAD 27, 64A, and 66 ICs include the establishment of the following land use restrictions for the sites:

SITES

- Prohibit the development and use of property for residential housing, elementary and secondary schools, child care facilities and playgrounds.
- Prevent access to or use of the groundwater until the Class GA Groundwater Standards are met.
- In addition, at SEAD-64A only, a land use control prohibiting digging within the bounds of the site will be established.

The LUCs will continue until the concentration of hazardous substances in the soil and the groundwater beneath have been reduced to levels that allow for unlimited exposure and unrestricted use.

Land Use Control Remedial Design

LAND USE CONTROLS

by 5 year reviews

In order to implement the Army's remedy, which includes the imposition of land use controls, a LUC Remedial Design for the Sites Requiring Institutional Controls in the Planned Industrial/Office or Warehousing Area ("PID Area"), will be prepared which satisfies the applicable requirements of Paragraphs (a) and (c), Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for the PID Area, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of the property's transfer from federal ownership.

A schedule for completion of the draft Institutional Control Remedial Design Plan will be completed within 21 days of the ROD signature consistent with Section 14.4 of the Federal Facilities Agreement (FFA).

The Army shall be responsible for implementing, inspecting, reporting on and enforcing the LUCs described in this ROD in accordance with the approved LUC remedial design. Although the Army may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity. Should the Army transfer these procedural responsibilities, the Army shall provide timely written notice to the regulators of the transferee, which shall include the entity's name, address, and general remedial responsibility.

These land use restrictions are based on the results of the SEAD-27, SEAD-64A, and SEAD-66 mini risk assessments that are documented in the Completion Report “Decision Document, Mini Risk Assessment SEAD 9, 27, 28, 32, 33, 34, 43, 44A, 44B, 52, 56, 58, 62, 64A, 64B, 64C, 64D, 66, 68, 69, 70, and 120B, Seneca Army Depot Activity, *Final*” (Parsons, 2002), and which are summarized above. The risk assessments suggest that restricting residential activities and access/use of groundwater at SEAD 27, 64A, and 66 will ensure protection of human health and the environment by reducing the hazard indices and cancer risk to within an acceptable range.

PID Area-wide Land Use Control Implementation

The Army recommends that the land use restrictions proposed for SEAD 27, 64A, and 66, exclusive of the proposed no digging restriction proposed for SEAD-64A alone, also be imposed and maintained on all the property within the PID Area, as defined in the “Reuse Plan and Implementation Strategy for the Seneca Army Depot Activity” (RKG Associates, Inc., 1996). The proposed boundary for the land use restrictions is shown on **Figure 1-2**.

The Army’s proposed establishment of an area-wide set of land use restrictions is consistent with the planned reuse of the property by the Seneca County Industrial Development Authority (SCIDA) and will simplify IC implementation by having a single set of land use restrictions for the entire PID Area. Further, the extent of the proposed land use restrictions is consistent with the area that is within the bounds of a Township of Romulus, NY ordinance that requires future developers/owners to provide details of all construction/building/renovation projects that may be performed within this area to the Army and to the town managers for review and approval. Additionally, the Army contends that the proposed boundaries for the area of the proposed ICs are consistent with existing geographic, cultural, demographic, or other historic features and are supported, to the fullest extent possible, by the available analytical data collected at identified sites that are in proximity to the proposed boundary. Generally, the area where the Army proposes to implement the institutional controls is defined by historic and existing security fence lines and roadways that exist at the site. This provides a high degree of visibility, and thus certainty, as to the extent of the proposed boundary without necessitating the installation of new identification markers. Finally, with respect to recommended groundwater use/access restriction, the proposed bounds envelop an area of the former Depot where an ample public water supply is available so that a site-wide groundwater use restriction will have a minimal adverse impact on the future land use.

Site Delineation

The Army acknowledges that portions, but not all, of the PID Area for which it is recommending that ICs be implemented as a remedial measure contains sites where hazardous wastes and materials have been used, stored, and treated or disposed. In response to this acknowledgement, the Army, under conditions of regulatory oversight, review, and approval/acceptance, has implemented numerous investigations and studies to identify areas where potential risks from exposure to environmental contaminants continue to exist. Further, as potential sites have been investigated and assessed the

SEAD 9

Phase	2009	2010		2012	2013	2014	2015	Outyears
LTM	8	8	8	8	8	8	8	188
SC+WA	65							

244
56
188

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-9
Project Name: SEAD-9
Project Category: Multiple Locations

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

Multiple Sites - these sites were grouped into sites that will proceed to a No Action ROD or No Further Action ROD after acceptance of PRAP.

Site: SEAD- 9 Old Scrap Wood Pile

1. Record of Decision for Twenty No Action SWMUs (SEADs 7,9,10,18,19,20,21,22,23,33,35,36,37,42,47,49,51,53,55,65, and 68) and Eight No Further Action SWMUs (SEADs 28,29,30,31,32,34,60, and 61) September 2003
2. Final ROD For Seventeen SWMUs Requiring Institutional Controls, SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007
3. Final PRAP Five Former SWMUs- 1,2,5,24 and 48, October 2007
4. Professional judgment based on site knowledge
5. Final ROD for sites requiring Institutional Controls in Planned

Estimate Documentation Report

Industrial/Office Development or Warehousing Area, July 2004

NOTE:

1. SEAD-1 and SEAD-2 and SEAD-67 are included to this site for LTM.

RACER Assumptions:

Site Closeout Documentation (LTM)

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM)

1. Number of wells: 12
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)
5. Land Use Control, in the form of an Institutional Control, will be applied to all sites in SEAD-9

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-9
Site Name: Old Scrap Wood Pile (Multiple sites)
Site Type: None

Media/Waste Type

Primary: N/A
Secondary: N/A

Contaminant

Primary: None
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD- 9 Old Scrap Wood Pile .
Support Team: Stephen M. Absolom- SEDA BEC
Rany Battaglia- US Army Corps of Engineers, Project Engineer
References: 1. Record of Decision for Twenty No Action SWMUs (SEADs 7,9,10,18,19,20,21,22,23,33,35,36,37,42,47,49,51,53,55,65, and 68) and Eight No Further Action SWMUs (SEADs 28,29,30,31,32,34,60, and 61) September 2003
2. Draft Proposed Plan No Action/No Further Action for SWMU's SEAD-13, 39, 40, 43, 44A, 44B, 56, 67, and 122B at the Seneca Army Depot Activity, March 2005
3. Draft PRAP For Seventeen SWMUs Requiring Institutional Controls, SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; October 2005
4. Draft PRAP No Action/Further Action for SWMUs SEAD-58 and SEAD-63; October 2005
5. Professional judgment based on site knowledge

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
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Bldg 125
PO Box 9
Romulus, NY 14541-0009

Estimate Documentation Report

Telephone Number: 607-869-1248

Email Address: janet.r.fallo@usace.army.mil

Estimate Prepared Date: 02/13/2008

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Steve Absolom

Reviewer Title: Installation Manager

Agency/Org./Office: Seneca Army Depot Activity

Business Address: .

Telephone Number: (607) 869-1309

Email Address: stephen.m.absolom@us.army.mil

Date Reviewed: 02/09/2007

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1	\$31,265	\$64,996
LTM #2 (LUCs)	\$90,177	\$244,361
Total Cost:	\$121,443	\$309,357

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1
Description: Long Term Maintenance-Site Cose Out

Start Date: December, 2006
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$64,996

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	2	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	2	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	2	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		6	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		12	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #2 (LUCs)
Description: Administrative Land Use Controls.

Start Date: September, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

ADMINISTRATIVE LAND USE CONTROLS

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$244,361

Technologies:

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)

User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2007	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2007	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2036	n/a
Type of Site	Transferring Government Installation		n/a
Implementation			
<u>Required Parameters</u>			
Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitability to Transfer (FOST)		No	n/a
Monitoring & Enforcement			
<u>Required Parameters</u>			
Duration of Monitoring/Enforcement		30	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)

User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 1 March 07⁰⁸

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2007 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out and the Land Use Controls.

Site: SEAD- 39, and 40, Boiler Blowdown Pits at Buildings 121 and 319 (respectively). (NOTE: SEAD-38 was the parent project for this site and is physically located within SEAD-4. SEAD-38 will be addressed under the Performance Based Contract for the remediation at SEAD-4.

Source:

1. SEADs 39 and 40 Time-Critical Removal Action Final Completion Removal Report, February 2006
2. ~~Draft~~ Final ROD For Seventeen SWMUs Requiring Institutional Controls, SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E;
~~December 2006~~ July 2007

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Summary SEAD-39, 40

LTM

Site Closeout from RACER

~~\$45,508~~

Land Use Controls from RACER in perpetuity
costed for 30 years

~~274,083~~

Total Site Cost

\$319,591

Cost Increase > 10% from 2006 Report? Yes

Reason: RACER cost update.

Comp w/9

Prepared by: Cynthia A. Bentley

Cynthia Bentley
Signature

3/1/07
Date

Reviewed by: Stephen M. Absolom

Stephen M. Absolom
Signature

3/5/07
Date

**DRAFT FINAL
RECORD OF DECISION
FOR**

**Seventeen No Action/No Further Action SWMUs Requiring Land Use Controls
(SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E)**

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
ROMULUS, NEW YORK 14541**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA 35816**

Prepared By:

**PARSONS
150 Federal St., 4th Floor
Boston, Massachusetts 02110**

Contract Number: DACA87-02-D-0005

Delivery Orders: 0026

USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

December 2006

1.0 DECLARATION OF THE RECORD OF DECISION

Site Names and Location

Seneca Army Depot Activity
CERCLIS ID# NY0213820830
New York Site ID# 8-50-0006
Romulus, Seneca County, New York

This Record of Decision (ROD) formalizes and documents the Army's selected remedy for 17 historic solid waste management units (SWMUs) at the former Seneca Army Depot Activity (SEDA). Each of the Army's selected remedies for the 17 former SWMUs requires the definition and use of Land Use Controls (LUCs). The 17 former SWMUs discussed in this ROD include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 or 612;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64C, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4;
- SEAD-122B, Small Arms Range, Airfield Parcel; and
- SEAD-122E, Plane Deicing Area.

These SWMUs are also referred to below as "Areas of Concern" or "AOCs" or individually as an "Area of Concern" or "AOC."

Statement of Basis and Purpose

This decision document presents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (USEPA's) selected remedy for SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E (or the AOCs), located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Romulus and Varick, Seneca County, New York. The decisions were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and

Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the USEPA Region 2 have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed by the Army in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The New York State Department of Environmental Conservation (NYSDEC) has concurred with the selected remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected for each SWMU identified in this ROD is necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from these Sites, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The Army's selected remedy for each of the 17 AOCs discussed in this ROD is either No Action (NA) or No Further Action (NFA) combined with the establishment, maintenance and monitoring of Land Use Controls (LUCs). AOCs where the Army's selected remedy is NA with LUCs include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 or 612;
- SEAD-64C, Garbage Disposal Area; and
- SEAD-122E, Plane Deicing Area.

AOCs where the Army's selected remedy is NFA with LUCs include:

- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4; and,
- SEAD-122B, Small Arms Range, Airfield Parcel.

At 12 of the AOCs (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67), LUCs previously documented by the Army will be imposed, monitored and maintained until the concentrations of hazardous substances remaining at the site allow for the unlimited exposure and unrestricted use. The Army is also recommending that other LUCs previously not documented, be imposed at five AOCs (i.e., SEADs 13, 64B, 64C, 122B and 122E) that are subject of this ROD.

The Army has previously documented and imposed LUCs within three portions of the former Depot: in the southeastern corner of the Depot where the Five Points Correctional Facility (“Prison Area”) currently is located; in the east central portion of the Depot where the Planned Industrial/Office Development (PID Area) and Warehousing Area is located; and, in the north-central portion (i.e., “North End Barracks” Area) of the Depot where the Hillside Children’s Center is currently located. One or more of the 12 AOCs defined above (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67) are located within land covered by an existing LUCs imposed on land within these three parcels of the former Depot. Within this ROD, the Army formalizes and documents its intention to impose the existing LUCs on the AOCs located within each of these parcels under CERCLA. Land within the “Prison Area” and the area currently occupied by the Hillside Children’s Center have been transferred to the community [people of the State of New York and Seneca County Industrial Development Agency (SCIDA), respectively] under deeds that have been recorded by the Seneca County Clerk. Land within the PID and Warehousing Area of the Depot has not yet been transferred to the community, but LUCs including a residential activity use restriction and a groundwater use/access restriction have been identified and documented within the “Final, Record of Decision for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity” (September 2004).

New LUCs are proposed for the remaining five AOCs (SEADs 13, 64B, 64D, 122B, and 122E) discussed within this ROD. The groundwater use/access restriction proposed for SEAD-13 and SEAD-64D, and the residential use/activity restriction proposed for SEAD-122E result from the Army’s determination that potential risks to human health or the environment exist due to the presence of hazardous substances at the historic SWMUs. The Army further recommends that the residential use/activity restriction proposed for SEAD-122E is imposed throughout the area occupied by the former Sampson / Seneca Army Depot Airfield to facilitate its transfer to the SCIDA; this LUC would encompass the entire parcel known as the Airfield. The LUC proposed for implementation at SEAD-64B (no unauthorized excavation and maintenance of cover) results from historic requirements of New York State Solid Waste Management Regulations; this LUC will also be applied along with the groundwater access/use restriction at SEAD-64D.

The specific ICs selected by the Army for each AOC are summarized in **Table 1-1** and described more completely as follows:

“Prison Area” Land Use Controls (SEADs 43/56/69, 44A, 44B, 52, 62, and 64C):

Existing Deed with Reversionary Clause

The “Prison Area” property was transferred under a public benefit conveyance. The United States (henceforth, the “Government”) used a deed with a reversionary clause, which was required under the Public Benefit conveyance law, to convey land in the southeastern part of the former Depot (i.e., Prison

Area, see **Figure 1-1**) to the people of the State of New York for the construction of the Five Points Correctional Facility. It includes language that requires that the “property shall be used and maintained for a correction facility in perpetuity”¹ and that “the property shall not be sold, leased, mortgaged, assigned or otherwise disposed of”² without the prior consent of the Government. In the event that any condition of the deed is breached “as to all or any portion or portions of the described property by New York or its successors or assigns,”³ the “title and interest to such portion or portions of the property, in its existing condition, including all improvements thereon, shall revert to, and become property of, the Government at the option of and upon demand made in writing by the General Services Administration, or its successor in function.”⁴

Provisions of the deed apply to the following SWMUs, which were transferred prior to a ROD being prepared and which are currently located within the bounds of the State of New York’s Five Points Correctional Facility Parcel:

- SEAD-43: Building 606 – Old Missile Propellant Test Laboratory
- SEAD-44A: Quality Assurance Test Laboratory
- SEAD-44B: Quality Assurance Test Laboratory
- SEAD-52: Buildings 608 and 612 – Ammunition Breakdown Area
- SEAD-56: Building 606 – Herbicide and Pesticide Storage
- SEAD-62: Nicotine Sulfate Disposal Area near Buildings 606 or 612
- SEAD-64C: Garbage Disposal Area
- SEAD-69: Building 606 – Disposal Area

Hazardous substances may be present at one or more of the listed historic SWMUs at concentrations that do not allow for unlimited exposure and unrestricted use. However, based on the results of previous investigations, risk assessments, and/or removal actions, these sites do not pose or represent a risk or threat to human health and the environment, given consideration of the area’s continuing restricted use as a state maximum security correctional facility. The deed with the reversionary clause was recorded by the Seneca County Clerk on 26 September 2000 (see Seneca County Liber 612 Page 014 through page 031). Pursuant to the terms of the deed, the prison use restriction remains in effect for these AOCs in perpetuity, or the property legally reverts to the Government.

“PID Area” Land Use Controls (SEADs 39, 40 and 67):

Residential Use and Groundwater Access/Use Restrictions

A ROD was previously signed by the Army and USEPA in 2004 for land within the Planned Industrial/Office Development (PID) and Warehousing Area (see **Figure 1-1**) of the former Depot. The

¹ Seneca County Clerk, Waterloo, New York, Deed, United States of America to People of the State of New York, September 26, 2000, Liber 612, Page 019.

² Ibid.

³ Ibid.

⁴ Ibid.

PID Area encompasses numerous historic Seneca Army Depot SWMUs. The PID Area-wide land use restriction imposes LUCs that:

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities; and,
- Prohibit access to or use of the groundwater until Class GA Groundwater Standards are met.

These LUCs are documented in the “Final, Record of Decision for Site Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity” (September 2004).

These use restrictions result from determinations made specifically for SWMUs designated as SEAD-27 (Building 360 Steam Cleaning Waste Tank), SEAD-64A (Garbage Disposal Area), and SEAD-66 (Pesticide Storage near Buildings 5 and 6) in the PID Area. The Army has now determined that these land use restrictions will be applied to three AOCs discussed in this Record of Decision and designated as:

- SEAD-39 (Building 121 Boiler Blow Down Pit);
- SEAD-40 (Building 319 Boiler Blow Down Pit); and,
- SEAD-67 (Dump Site East of Sewage Treatment Plant No. 4).

Future land owners or users of sites located in the PID Area may request a variance to the LUCs identified above on a location-by-location basis. However, the future owner/user seeking the variance will need to provide relevant data to substantiate the validity of its request. Once a request is received, the Army, USEPA, and NYSDEC will evaluate and assess waiver requests for land in the PID Area on a case-by-case basis. Otherwise, the LUCs will remain in effect until the concentrations of hazardous substances in the soil and the groundwater beneath the sites have been reduced to levels that allow for unlimited exposure and unrestricted use of the land.

“North End Barracks” Area Land Use Controls (SEAD-41):

Existing Deed with Groundwater Notification

A deed was used to document the transfer of the land currently used for the Hillside Children’s Center (i.e., former “North End Barracks” Area, see **Figure 1-1**) at the north end of the former Depot to the SCIDA. In the deed, the Army notified SCIDA that groundwater contamination had been identified in the vicinity of the former Building 718. This determination was made based on the results of historic groundwater sampling data that was collected during the investigation of SEAD-41, which indicated that total petroleum hydrocarbons (TPH, 690 ppb) were present in the upper aquifer of the groundwater. The Army applied the deed notification, based on the water quality from sampling, to all property located within the “North End Barracks” parcel. A public water supply services the entire area. This includes the area of the former SWMU SEAD-41, Building 718 Boiler Blowdown Pit.

The reported level of TPH exceeds the New York State Public Water System standards for unspecified organic contamination of 100 ppb. The deed further states "The Grantee, its successors and assigns, agree that in the event they use the groundwater as a public water supply source at the Property, they will comply with all applicable laws and regulations." Under New York regulations, future owners or occupants of the area would need to confirm the quality and acceptability of the groundwater as a source of potable water before it could be used for such a purpose. The Army recommends that the LUC documented in the existing deed for the "North End Barracks" parcel be continued until the concentration of hazardous substances in groundwater beneath have been reduced to levels that allow for unrestricted use.

Land Use Controls (SEADs 13, 64B, 64D, 122B and 122E):

Groundwater Use/Access Restriction (SEAD-13)

A groundwater use/access restriction is also proposed at the following site:

- SEAD-13: Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site.

The proposed groundwater use/access restriction is intended to eliminate human contact with groundwater, thereby reducing risk to within acceptable levels for potential human receptors. There is risk associated with the use of the groundwater at SEAD-13, driven by the concentrations of nitrate, aluminum, and manganese identified. The risk from the presence of metals is associated with the suspended solids contained in the collected groundwater samples and not from the groundwater itself. The presence of nitrate is likely related to past activities conducted in the area. The extent of the nitrate plume is defined and restricted to the area located between the historic disposal pits observed in SEAD-13-East and the Duck Pond to the west. Groundwater data from monitoring wells in the SEAD-13-West side of this AOC does not show evidence of a nitrate plume in this area of the AOC which is hydraulically downgradient of SEAD-13-East and the Duck Pond. Chemical analysis of surface water in the Duck Pond indicated that the nitrate/nitrite-nitrogen concentrations are below the levels established for drinking water sources nationally and within the State of New York.

Therefore, a LUC will be implemented over the geographic area of SEAD-13 to prohibit access to or use of the groundwater. This restriction will remain in effect until the concentrations of hazardous substances in groundwater beneath the AOC have been reduced to levels that allow for unlimited exposure and unrestricted use. Once groundwater cleanup standards are achieved, the groundwater use/access restriction may be eliminated, with USEPA approval.

Residential Activities Restriction (SEAD-122B and SEAD-122E)

The development and use of property for residential housing, elementary or secondary schools, child care facilities, and playgrounds be prohibited in the following two AOCs:

- SEAD-122B: Small Arms Range, Airfield Parcel
- SEAD-122E: Plane Deicing Area

The proposed residential activities LUC will be implemented over the entire Airfield Parcel, which extends beyond the bounds of SEAD-122B and SEAD-122E. This LUC will be applied to all areas within the former Airfield, and will continue until such time as the concentrations of hazardous substances are reduced to levels that allow for unlimited exposure and unrestricted use. Future owners or users of land within the Airfield may request a waiver from the LUC on a location-by-location basis. At the time of the waiver request, the applicant must develop and submit sufficient data and information, subject to review and approval by the Army and the USEPA, to substantiate its request that the identified location is suitable for unlimited exposure and unrestricted use.

The boundary of the Airfield Area is defined as the boundary of the Airfield Special Events, Institutional, and Training area highlighted on **Figure 1-1**.

Unauthorized Digging Restriction (SEAD-64B)

A LUC that prohibits unauthorized digging and excavations within the bounds of the SWMU be imposed for:

- SEAD-64B: Garbage Disposal Area.

SEAD-64B is a former solid waste disposal area that was closed by the Army prior to 1979. As a historic solid waste landfill, this SWMU is subject to requirements of the New York State's Solid Waste Regulations (6 NYCRR Part 360), in effect at the date of closure. Under New York's Solid Waste Regulations effective in 1979, a soil and vegetative cover was required to be placed on and maintained above the closed landfill. The proposed LUC would prohibit digging within the bounds of the former solid waste site. The LUC will continue at the AOC until solid wastes are removed from the site, and concentrations of hazardous substances allow for unlimited exposure and unrestricted use.

Unauthorized Digging and Groundwater Access/Use Restriction (SEAD-64D)

LUCs that restrict unauthorized excavation and access to and use of groundwater be imposed for the:

- SEAD-64D: Garbage Disposal Area.

Results of the mini risk assessment for this AOC indicate that ingestion of groundwater could pose a risk to future receptors. Furthermore, as a historic solid waste landfill, this SWMU is subject to requirements of the New York State's Solid Waste Regulations (6 NYCRR Part 360), as were in effect in 1979 when it was closed. Under New York's 1979 Solid Waste Regulations, a soil and vegetative cover must be placed on and maintained above the closed landfill.

The proposed groundwater use/access restriction will be implemented over the geographic area of SEAD-64D to prohibit access to or use of the groundwater until the levels of hazardous substances are reduced to levels that allow for unlimited exposure and unrestricted use. The restriction to prohibit unauthorized excavation at the SWMU will remain in effect as long as solid waste remains at the SWMU. The reduction of groundwater contamination to levels that allow for unlimited exposure and unrestricted use, and the removal of solid waste must be completed before unlimited exposure and unrestricted use can be allowed at this SWMU.

Land Use Control Performance Objectives

The land use control (LUC) performance objectives at these 17 SWMUs, which will be (or have been) incorporated into leases and/or deeds for the parcels of real property that comprise these AOCs, as appropriate, are as follows:

- Comply with the use limitations documented and imposed in the Deed used to transfer property containing SEADs 43/56/69, 44A, 44B, 52, 62 and 64C from the U.S. Government to the people of the State of New York for the construction of a correctional facility (See Seneca County Liber 612 Page 014 through 031);
- Prohibit access to or use of groundwater at SEADs 39, 40, 41, 64D, and 67 until concentrations of hazardous substances contained are reduced to levels that allow unrestricted use;
- Prohibit residential housing, elementary and secondary schools, childcare facilities, and playgrounds activities at SEADs 39, 40, 67, 122B, and 122E until levels of hazardous substances found at the former SWMUs allow for unlimited exposure and unrestricted use; or
- Prohibit unauthorized excavation at SEADs 64B and 64D.

The Army's selected remedy for each AOC discussed in this ROD includes LUCs. To implement the Army's selected remedy at these AOCs (i.e., SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E), a LUC Remedial Design (RD) for each LUC combination identified (e.g., reversionary deed; groundwater use/access restriction only; groundwater use/access restriction and residential activities restriction; residential activities restriction only; digging restriction only; and digging and groundwater use/access restriction) will be prepared. The LUC RD Plan will include: a Site Description; the Land Use Restrictions; the Mechanism to ensure that the land use restrictions are not violated in the future; implementation and maintenance actions, including periodic inspections; and Reporting/Notification requirements. In addition, the Army will prepare an environmental easement for each site needed, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of transfer of the AOCs from federal ownership. A schedule for completion of the draft LUC RD covering the individual AOCs will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA). In accordance with the FFA and CERCLA §121(c), the remedial action (including ICs) will be reviewed no less often than every 5 years. After such reviews, modifications may be implemented to the remedial program, if appropriate.

The Army shall implement, inspect, maintain, report, and enforce the ICs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

State Concurrence

NYSDEC forwarded a letter of concurrence to the USEPA regarding the selection of a remedial action in the future. This letter of concurrence has been placed in **Appendix B**.

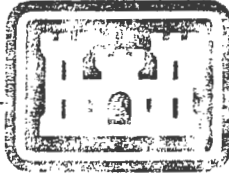
Declaration

CERCLA and the NCP require each selected remedy to be protective of human health, public welfare, and the environment; be cost-effective; comply with other statutory laws; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent practicable. CERCLA and the NCP also state a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The selected remedies described above are consistent with CERCLA and the NCP and are protective of human health and the environment, comply with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, and are cost-effective. These remedies have been evaluated against toxicity, mobility, or volume of hazardous substances and pollutants or contaminants.

The remedies identified may result in hazardous substances and pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure for an indeterminate period, a review will be conducted within five years after initiation of the remedial action at each AOC to ensure that the remedy is, or will be, protective of human health and the environment, with consideration given to each site's continuing and planned future use.

The estimated cost for implementing the groundwater monitoring of the natural attenuation of the nitrate plume at SEAD-13, the Inhibited Red Fuming Nitric Acid Disposal Site, is \$2,012,000 over a 20 year period. The estimated cost associated with implementing, monitoring, assessing and reporting on the continued suitability of the recommended actions at SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 122B, and 122E is \$311,000 in aggregate. The total combined estimated cost of the recommended remedial actions for all sites included in this ROD is \$2,323,000.



U.S. Army Corps of Engineers

**Omaha District
Offutt AFB, Nebraska**

**SENECA ARMY DEPOT
SEADs 39 and 40
TIME-CRITICAL REMOVAL ACTION
SENECA COUNTY
ROMULUS, NEW YORK**

Contract No. DACA45-98-D-0004

Task Order No. 0034

FINAL COMPLETION REMOVAL REPORT

FEBRUARY 2006



5. CONCLUSIONS AND RECOMMENDATIONS

The objective of this TCRA was to remove TPH-impacted soil from SEADs 39 and 40 to reduce the risk of potential threats, current or future, that may exist as a result of contaminated soils detected at these sites. To achieve this directive, WESTON excavated approximately 18.5 yd³ of contaminated soil from SEAD 39 and approximately 17 yd³ from SEAD 40. Post-excavation and delineation samples were then collected from each area and the results were compared to the NY TAGM goals to verify satisfactory removal of TPH and other potential COCs caused by historical discharge of boiler blowdown liquids.

Based on these post-excavation sampling results, major conclusions for each SWMU include the following:

SEAD 39

- During the TCRA activities conducted at SEAD 39, WESTON removed approximately 18.5 yd³ of impacted soil from the former boiler blowdown leach pit area. The previously identified area of impacted soil measured 20 ft by 50 ft, and was excavated by WESTON to a depth of 1 ft.
- None of the target VOC parameters were detected above the recommended NY TAGM goals in any of the post-excavation samples collected from SEAD 39.
- All soils excavated from SEAD 39 were disposed of off-site as non-hazardous waste based on the waste characterization sampling results. No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) regulated material was identified based upon sampling results.
- The average concentration of PAHs in post-excavation and delineation samples indicates that the concentration of these contaminants has been reduced.
- The sitewide averages for arsenic and silver were slightly above the cleanup criteria, while the mercury value was met.
- Although individual samples for metals and PAHs may exceed one or more NY TAGM goals, the cleanup objectives for VOCs have been met.

- It is the Army's opinion that sample results indicate the original concentration of contaminants is most likely related to industrial activity rather than a release from the boiler blowdown sump.

SEAD 40

- During the TCRA activities conducted at SEAD 40, WESTON removed approximately 17 yd³ of soil from the former boiler blowdown leach pit area. The previously identified area of impacted soil measured 120 ft by 6 ft. The northern portion of the impacted area (110 ft by 6 ft) was excavated to a depth of 1 ft. The remaining southern portion of the impacted area (10 ft by 6 ft) was excavated to a depth of 6 ft.
- One target VOC parameter (methylene chloride) was detected at a concentration of 130 micrograms per kilogram ($\mu\text{g}/\text{Kg}$), which is above the NY TAGM goal of 100 $\mu\text{g}/\text{Kg}$. This exceedance occurred at a depth of 0-6 inches bgs at sample location FX-SS-004. Additional sampling at this location indicated levels of methylene chloride were not detected at depths exceeding 6 inches bgs. The average concentration of methylene chloride is below the cleanup goal for the site.
- No other VOC parameters were found to exceed the NY TAGM goal at any other post-excavation sampling locations associated with SEAD 40.
- All soils excavated from SEAD 40 were disposed of off-site as non-hazardous material based on the waste characterization sampling results. No CERCLA or RCRA regulated material was identified.
- The average concentration of PAHs in post-excavation and delineation samples indicate the concentration of these contaminants has been reduced and the sitewide average benzo(a)pyrene TEQ is below the recommended cleanup goal. It is noted that many perimeter confirmation samples are located adjacent to a paved parking lot or railroad track. The residual contamination results indicate they are associated with general industrial activity at the site rather than a defined release.
- Three non-target metals were detected above the cleanup goals in some post-excavation samples. The sitewide average concentration is below the cleanup goal for barium and chromium, but slightly above for arsenic. Since none of these metals were contaminants of concern, and the target metal mercury was not detected, the cleanup objective has been met.
- Although individual samples for metals and PAHs may exceed one or more NY TAGM goals, the cleanup objectives for VOCs have been met.

- It is the Army's opinion that sample results indicate the original concentration of contaminants is most likely related to industrial activity rather than a release from the boiler blowdown sump.

Following excavation of TPH-impacted soils from SEADs 39 and 40, the previously identified potential threat to the public and the environment identified in the *Action Memorandum and Decision Document* (Parsons 2002) has been substantially reduced based on elimination of VOCs and reduction of PAHs and metals. In addition to a reduction of contaminant levels, no CERCLA releases have been identified, and it is the opinion of the Army that original contaminant concentrations detected at these sites are most likely related to industrial activity rather than a release from historic boiler blowdown liquids. As such, it is recommended that USACE, SEDA, NYSDEC, and USEPA evaluate these sites for closure and transfer status.

sites recommended for closure/transfer

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: ~~1 March 07~~ ⁰⁸

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2007 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Five-Year Review and the Administrative Land Use Controls on these sites.

Site: SEAD-27 (Building 360 Steam Cleaning Waste Tank), SEAD- 64A (Garbage Disposal Area A), and SEAD-66 (Pesticide Storage Area)

Source:

1. Final Record of Decision, Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, September 2004
2. Professional judgment based on site knowledge

RACER Assumptions:

For the CERCLA Five-Year Review (LTM):

1. 6 review cycles
2. Review cycle begins in 2007 with first review in October 2012
3. Low complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

put in 9

Cost Summary SEAD-27

LTM

5-Year Review from RACER
\$26,691/review for 6 reviews

Land Use Controls from RACER in perpetuity
costed for 30 years

Total Site Cost

~~\$160,148~~
~~274,083~~
\$434,231

9

Cost Difference > 10% from 2006 Report? No

Prepared by: Cynthia A. Bentley

Cynthia A. Bentley 3/26/07
Signature Date

Reviewed by: Stephen M. Absolom

Stephen M. Absolom 3/29/07
Signature Date

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the Site Closeout costs.

Site: SEAD-24, SEAD-50/54, and SEAD-67, Metals Removal Sites

Source:

1. Final Completion Report, Time Critical Removal Action, Metals Site, SEAD-24, March 2006
2. Final ROD for Seventeen SWMUs Requiring Institutional Controls, SEADs-13,39,40,41,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007
3. Final Completion Report, Time Critical Action, Metals Site, SEAD-67 (February 2005)
4. Final Record of Decision for No Further Action for SWMUs SEAD 50/54, December 2004
5. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs- 1, 2, 5, 24, and 48 November 2007
6. Professional judgment based on site knowledge

Assumptions: No Further Action will be necessary at these sites. After the remedial action of soil removal and the confirmation sampling, the source of the contamination was removed at all of these sites. SEAD-67 is addressed in the Draft ROD in referenced number two (2) above will require Land Use Controls in the form of an Institutional Control and cost for this action is included with SEAD-9. SEADs 50/54 has been transferred to Seneca County and is classified as a No Further Action site as per ROD. SEAD-24 has also been remediated for metals in soils and regulatory approval of the Completion Report is expected. Site Closeout cost will be for SEAD-24 and SEAD-67.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 9
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-24, 50/54, 67

Site Closeout (RACER)	\$28,903
Well Abandonment (RACER)	17,966
Total Site Cost	\$46,869

Cost Increase > 10% from 2007 Report? No

Prepared by: Janet R. Fallo

Signature

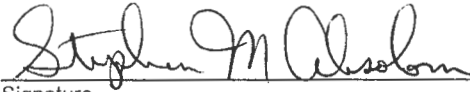


2/22/08

Date

Reviewed by: Stephen M. Absalom

Signature



2/21/08

Date

**FINAL
RECORD OF DECISION
FOR
Seventeen No Action/No Further Action SWMUs Requiring Land Use Controls
(SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E)**

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
ROMULUS, NEW YORK 14541**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA 35816**

Prepared By:

**PARSONS
150 Federal St., 4th Floor
Boston, Massachusetts 02110**

Contract Number: DACA87-02-D-0005

Delivery Orders: 0026

USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

March 2007

1.0 DECLARATION OF THE RECORD OF DECISION

Site Names and Location

Seneca Army Depot Activity
CERCLIS ID# NY0213820830
New York Site ID# 8-50-0006
Romulus, Seneca County, New York

This Record of Decision (ROD) formalizes and documents the U.S Army's (Army's) and U.S Environmental Protection Agency's (USEPA's) selected remedy for 17 historic solid waste management units (SWMUs) at the former Seneca Army Depot Activity (SEDA). Each of the Army's selected remedies for the 17 former SWMUs requires the definition and use of Land Use Controls (LUCs). The 17 former SWMUs discussed in this ROD include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64C, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4;
- SEAD-122B, Small Arms Range, Airfield Parcel; and
- SEAD-122E, Plane Deicing Area.

Site
SEAD 67

These SWMUs are also referred to below as “Areas of Concern” or “AOCs” or individually as an “Area of Concern” or “AOC.”

Statement of Basis and Purpose

This decision document presents the Army's and the USEPA's selected remedy for SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E (or the AOCs), located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Romulus and Varick, Seneca County, New York. The decisions were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP),

40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the USEPA Region 2 have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed by the Army in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The New York State Department of Environmental Conservation (NYSDEC) has concurred with the selected remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected for each SWMU identified in this ROD is necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from these SWMUs, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The selected remedy for each of the 17 AOCs discussed in this ROD is either No Action (NA) or No Further Action (NFA) combined with the establishment, maintenance, and monitoring of Land Use Controls (LUCs). AOCs where the selected remedy is NA with LUCs include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64C, Garbage Disposal Area; and
- SEAD-122E, Plane Deicing Area.

AOCs where the Army's selected remedy is NFA with LUCs include:

- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4; and,
- SEAD-122B, Small Arms Range, Airfield Parcel.

“PID Area” Land Use Controls (SEADs 39, 40 and 67):

Site

Residential Use and Groundwater Access/Use Restrictions

A ROD was signed by the Army and USEPA in 2004 for land within the Planned Industrial/Office Development (PID) and Warehousing Area (see **Figure 1-1**) of the former Depot. The PID Area encompasses numerous historic Seneca Army Depot SWMUs. The PID Area-wide land use restriction imposes LUCs that:

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities; and,
- Prohibit access to or use of the groundwater until Class GA Groundwater Standards are met.

LUC

These LUCs are documented in the “Final, Record of Decision for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity” (September 2004).

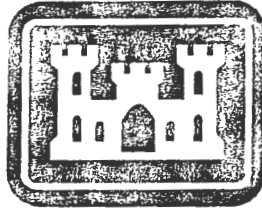
These use restrictions result from determinations made specifically for SWMUs designated as SEAD-27 (Building 360 Steam Cleaning Waste Tank), SEAD-64A (Garbage Disposal Area), and SEAD-66 (Pesticide Storage near Buildings 5 and 6) in the PID Area. These land use restrictions will now be applied to three AOCs discussed in this Record of Decision and designated as:

- SEAD-39 (Building 121 Boiler Blow Down Pit);
- SEAD-40 (Building 319 Boiler Blow Down Pit); and
- SEAD-67 (Dump Site East of Sewage Treatment Plant No. 4).

Future land owners or users of sites located in the PID Area may request a variance to the LUCs identified above on a location-by-location basis. However, the future owner/user seeking the variance will need to provide relevant data to substantiate the validity of its request. Once a request is received, the Army, USEPA, and NYSDEC will evaluate and assess waiver requests for land in the PID Area on a case-by-case basis. Otherwise, the LUCs will remain in effect until the concentrations of hazardous substances in the soil and the groundwater beneath the sites have been reduced to levels that allow for unlimited exposure and unrestricted use of the land.

“North End Barracks” Area Land Use Controls (SEAD-41):Existing Deed with Groundwater Notification

A deed was used to document the transfer of the land currently used for the Hillside Children’s Center (i.e., former “North End Barracks” Area, see **Figure 1-1**) at the north end of the former Depot to the SCIDA. In the deed, the Army notified SCIDA that groundwater contamination had been identified in the vicinity of the former Building 718. This determination was made based on the results of historic groundwater sampling data that was collected during the investigation of SEAD-41, which indicated that total petroleum hydrocarbons (TPH, 690 parts per billion [ppb]) were present in the upper aquifer of the



**U.S. Army Corps
of Engineers**

Omaha District
Offutt AFB, Nebraska

**SENECA ARMY DEPOT ACTIVITY
TIME CRITICAL REMOVAL ACTION
METAL SITES – SEAD 24
SENECA COUNTY
ROMULUS, NEW YORK**

**Contract No. DACA45-98-D-0004
Task Order No. 0035**

**FINAL
COMPLETION REMOVAL REPORT**

March 2006



5. CONCLUSION

This Final Completion Report documents completion of the TCRA conducted at the SEAD 24 SWMU in accordance with the *Final Action Memorandum and Decision Document* (Parsons, 2002). During this TCRA, WESTON excavated soil from Areas 1, 2 and 3 to a minimum depth of 6 inches, and reduced residual contaminant concentrations of the target metals (arsenic, lead, and zinc) and PAHs in accordance with ESI and *Final Action Memorandum and Decision Document* (Parsons, 2002) objectives. The soil removed during excavation was transported off-site and disposed of as non-hazardous metals and PAH contaminated soil at the Seneca Meadows Landfill in Waterloo, New York.

The three AOCs (Excavation Areas 1, 2, and 3) identified in the ESI and *Final Action Memorandum and Decision Document* (Parsons, 2002) have been properly delineated through confirmatory sampling to the vertical and horizontal extents required, the surface soils have been removed to the 6 inch minimum depth required (a maximum depth of 2 ft achieved in some areas), the U-Shaped berm has been completely removed, and the elevated levels of target constituents have been reduced in the SEAD 24 soils as a result of this TCRA. Consequently, the potential threat to human health and the environment posed by the formerly impacted site surface soils has been reduced and/or eliminated through the source reduction and removal efforts completed as part of this TCRA. In addition, no apparent CERCLA releases were identified. Based on completion of the TCRA and the results contained herein, it is recommended that the site be evaluated for no further action. In addition, it is intended that this Completion Report, in conjunction with the *Proposed Remedial Action Plan* (to be submitted under separate cover by USACE) serve as the basis for the ROD, and the site be considered by USACE, SEDA, NYSDEC, and EPA for closure and/or transfer status.

FINAL

**COMPLETION REMOVAL REPORT
TIME-CRITICAL REMOVAL ACTION
METALS SITE – SEAD 67
SENECA COUNTY
ROMULUS, NEW YORK**

Contract No. DACA45-98-D-0004
Task Order No. 0035

Prepared for

**U.S. ARMY CORPS OF ENGINEERS,
OMAHA DISTRICT
Castle Hall Building No. 525
3rd Floor
Offutt AFB, Nebraska**

Prepared by

**WESTON SOLUTIONS, INC.
One Wall Street
Manchester, New Hampshire 03101-1501**

February 2005

W.O. No. 20074.515.035

equipment was demobilized from the site in a phased manner following completion of each activity. Final demobilization was performed on 1 August 2003, following completion of T&D activities.

3.8 CONCLUSION

This final report documents completion of the metals and PAH removal from the SEAD 67 SWMU in accordance with the WESTON *Final Task Work Plan* (WESTON, 2002), which was prepared in accordance with the *Final Action Memorandum and Design Document* (Parsons, 2002). During the TCRA conducted at SEAD 67, WESTON removed a total of seven former waste soil piles that were identified as the source for metals (mercury) and PAH impacted soil at the site. Following removal of the waste soil piles, additional soil was excavated to a 1 ft depth from the surrounding area. All excavated soils were disposed off-site as non-hazardous material.

Following a comparison of confirmatory sample results with the cleanup goals, it is concluded that the horizontal and vertical extents of elevated levels of mercury and PAHs in soil have been sufficiently delineated and removed from SEAD 67. As a result, the potential threat to human health and the environment posed by the formerly impacted site soils has been eliminated through the source reduction and removal efforts described in this report. The confirmatory soil sample results presented in this report indicate that the average mercury content in SEAD 67 soils is below the 0.1 mg/kg cleanup goal for mercury. Confirmatory soil sample results also indicate that neither the maximum result nor the site-wide average for total cPAHs in SEAD 67 soils exceeds the Benzo(a)pyrene TEQ of 10,000 $\mu\text{g}/\text{kg}$. Based on these results, it is recommended that USACE, SEDA, NYSDEC, and EPA evaluate this site for closure and/or transfer status.

Action

**FINAL
RECORD OF DECISION
FOR
NO FURTHER ACTION FOR SWMUs SEAD 50/54
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA**

Prepared By:

PARSONS
100 Summer Street, Suite 800
Boston, Massachusetts 02110

CERCLIS Site ID No.: NY0213820830
NY State Site ID No.: 8-50-006
Contract Number: DAC A87-02-D-0005
Delivery Order 0022

December 2004

9.0 **SELECTED REMEDY**

Based on the findings of the investigations completed for the sites, the Army and the EPA have selected No Further Action as the remedy for the SWMUs SEAD-50/54. This determination is based on the Army's determination that these sites do not pose a significant threat to human health or the environment.

No Further Action

#####

Proposed Plan – Revised Draft Final



FIVE FORMER SOLID WASTE MANAGEMENT UNITS (SWMUs) – SEADs 1, 2, 5, 24, and 48 SENECA ARMY DEPOT ACTIVITY (SEDA) ROMULUS, NEW YORK



November 2007

#####

Site SEAD 24

PURPOSE OF THE PLAN

This Proposed Plan describes the remedial alternatives selected for five areas of concern (AOCs), SEAD 1 (the former Hazardous Waste Container Storage Facility, Building 307), SEAD 2 (the former PCB Transformer Storage Facility, Building 301), SEAD 5 (the former Sewage Sludge Piles), SEAD 24 (the Abandoned Power Burn Pit), and SEAD 48 (Row 0E800 Pitchblende Storage Igloos) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, located in Seneca County, New York. This Proposed Plan was developed by the U.S. Army (Army) and the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). The Army and the EPA are issuing this Proposed Plan as part of their public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) of 1980, as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the contamination remaining at the five AOCs is described in greater detail in the following documents:

- "RCRA Closure Report: Building 307, Hazardous Waste Container Storage Facility; Building 301, Transformer Storage Building";
• Letter to Mr. James Dolen, Jr. from Todd Helno dated September 9, 2005 regarding "Response to Comments on the Draft Closure Plan dated September 4, 2003, Building 307, Hazardous Waste Storage Facility and Building 301, PCB Transformer Storage Building, Seneca Army Depot Activity, Romulus, New York, NYSDEC Site No.: 8-50-006";
• Letter to Mr. Stephen Absalom from James Dolen, Jr. dated September 29, 2005 regarding "SEDA – Facility EPA I.D. No. NY0213820830, Building 307, Hazardous Waste Storage Facility & Building 301, PCB Transformer Storage Building, Closure Certification Approval";
• "Industrial Waste Site (Sludge Piles) – SEAD 5 Time-Critical Removal Action Final Completion Removal Report";
• "Time Critical Removal Action, Metal Sites – SEAD 24 Final Completion Removal Report"; and
• "Final Status Survey Report, E0800 Row Pitchblende Ore Storage Igloos (SEAD-48)" (Parsons, 2006).

The Army, EPA, and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the AOCs, the site and the Superfund activities that have been completed.

This Proposed Plan is being provided as a supplement to the aforementioned documents to inform the public of the Army's, EPA's and NYSDEC's preferred remedies for the AOCs and to solicit public comments pertinent to the selected remedies. The preferred remedy for three of the AOCs (i.e., SEADs 1, 2, and 5) is to formally impose and implement Land Use Controls (LUCs) that prohibit the use of the designated land and buildings for residential activities, and to prohibit access to and use of groundwater. The preferred remedy for SEAD 24 and SEAD 48 is No Further Action.

The identified LUCs selected for SEADs 1, 2, and 5 were previously established for three other AOCs (i.e., SEADs 27, 64A, and 66) that are located in proximity to the three subject AOCs. At the time of the Army's, EPA's and NYSDEC's final determination for SEADs 27, 64A, and 66, all parties agreed that the identified LUCs should be imposed on all land within the Planned Industrial / Office Development and Warehousing (PID) Area at the former Depot due to the anticipated future use of the land and the similarity of its known past uses by the Army and predecessors.

The remedies described in this Proposed Plan are the preferred remedies for each of the identified AOCs. Changes to the preferred remedy, or a change from the preferred remedy to another remedy, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedies will be made after the Army and the EPA have taken all public comments into consideration. The Army and the EPA are soliciting comments because the Army, EPA and NYSDEC may select a remedy other than the preferred remedy for either or both of the AOCs.

MARK YOUR CALENDAR

[Date] – [Date]:

Public comment period related to this Proposed Plan.

[Date] at 7:00 P.M.: Public meeting at the Seneca County Office Building, Village of Waterloo New York.

COMMUNITY ROLE IN SELECTION PROCESS

The Army, EPA, and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the RI Report and this proposed plan have been made available to the public for a public comment period which begins on Date and concludes on Date 2.

A public meeting will be held during the public comment period at the Seneca County Office Building on Date 3 at 7:00 p.m. to present the conclusions of the RI, to elaborate further on the reasons for selecting the preferred remedy, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document that formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Mr. Stephen M. Absolom
BRAC Environmental Coordinator
Seneca Army Depot Activity
Building 123, P.O. Box 9
5786 State Route 96
Romulus, NY 14541-0009

SCOPE AND ROLE OF ACTION

The primary goal of the proposed actions is to enable the Army to transfer or lease the land occupied by the identified AOCs to other private or public parties for beneficial reuse. Prior to transfer or lease of any property at the SEDA, the Army is required to ensure that the property is suitable for release and reuse.

Historically SEADs 1, 2, and 5 were used as temporary storage facilities for solid waste, hazardous waste or toxic (i.e., polychlorinated biphenyl) materials prior to off-site disposal or recycle. The area including SEAD-5 was also historically used as the Army's version of a Department of Public Works (DPWs) supply and staging area and equipment storage yard. The planned future use for land encompassing and surrounding SEADs 1, 2, and 5 is Planned Industrial / Office Development or Warehousing.

SEAD 24 was previously used for destruction of black powder, solid propellants and explosive contaminated trash. The planned future use for land surrounding and encompassing SEAD 24 is Development Reserve/Ethanol Plant construction.

The historic use of the igloos at SEAD 48 involved storage of pitchblende ore as part of the Manhattan Project, and later the igloos were used for ammunition storage; the planned future use of this area is Training.

Information exists for SEADs 1, 2, 5, that indicates that chemical contaminants are still present in the soil at these three AOCs at levels that pose potential risks to selected populations. Risk assessments based on exposure scenarios that are consistent with the planned future use of the land in these AOCs indicate that such uses are possible and appropriate given the residual levels of hazardous substances that remain at the AOCs. Therefore, the Army has determined that LUCs prohibiting residential activities, and access to and use of groundwater are needed to minimize any potential future health and environmental impacts at these three AOCs.

Information also exists for SEAD 24 that indicates that residual concentrations of chemicals are generally consistent with background and no further action is required.

Finally, information developed for radiological constituents at SEAD 48 indicate that residual radiation levels present are consistent with background concentrations and no further action is required.

} No Further Action

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-24
Project Name: SEAD-24
Project Category: Multiple Locations

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-24, SEAD-50/54, and SEAD-67, Metals Removal Sites

Some of the source documents referenced for the final action at all of these sites have not yet received regulatory approval. However, as per previous discussions with the regulators, it is expected that all of these sites will be classified as No Further Action. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the Site Closeout costs.

Site: SEAD-24, SEAD-50/54, and SEAD-67, Metals Removal Sites

Source:

1. Final Completion Report, Time Critical Removal Action, Metals Site, SEAD- 24, March 2006
2. Draft PRAP For Seventeen SWMUs Requiring Institutional Controls,

Estimate Documentation Report

SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E;
October 2005

3. Final Completion Report, Time Critical Action, Metals Site, SEAD-67 (February 2005)
4. Final Record of Decision for No Further Action for SWMUs SEAD50/54, December 2004
5. Professional judgment based on site knowledge

Assumptions: No Further Action will be necessary at these sites. After the remedial action of soil removal and the confirmation sampling, the source of the contamination was removed at all of these sites. SEAD-67 is addressed in the Draft PRAP in referenced number two (2) above will require Land Use Controls in the form of an Institutional Control and cost for this action is included with SEAD-9. SEADs 50/54 has been transferred to Seneca County and is classified as a No Further Action site as per ROD. SEAD-24 has also been remediated for metals in soils and regulatory approval of the Completion Report is expected. site Close-Out Cost will be for SEAD-24 and SEAD-67.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Cost Increase > 10% from 2005 Report? Yes

Reason: Addition of Site Close-Out Documentation to the 2006 estimate.

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-24
Site Name: Metals Removal Site
Site Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-24, SEAD-50/54, and SEAD-67 Metals Removal Site. The Long Term Maintenance Costs will be required for Site Close-Out of SEAD-24 and SEAD-67. SEAD-50/54 has been transferred to Seneca County.

Support Team: Stephen M. Absolom - SEDA BEC
Randy Battaglia - US Army Corps of Engineers, Project Engineer

References:

1. Final Completion Report, Time Critical Removal Action, Metals Site, SEAD-24, March 2006
2. Final ROD for Seventeen SWMUs Requiring Institutional Controls, SEADs-13,39,40,41,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007
3. Final Completion Report, Time Critical Action, Metals Site, SEAD-67 (February 2005)
4. Final Record of Decision for No Further Action for SWMUs SEAD50/54, December 2004
5. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1,2,5,24 and 48 November 2007
6. Professional judgment based on site knowledge

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers

Estimate Documentation Report

Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009

Telephone Number: 607-869-1248

Email Address: janet.r.fallo@usace.army.mil

Estimate Prepared Date: 02/19/2008

Estimator Signature: _____ **Date:** _____

Reviewer Information

Reviewer Name: Steve Absolom

Reviewer Title: Installation Manager

Agency/Org./Office: Seneca Army Depot Activity

Business Address: .

Telephone Number: (607) 869-1309

Email Address: stephen.m.absolom@us.army.mil

Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1	\$22,417	\$46,869
Total Cost:	\$22,417	\$46,869

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1
Description: SEAD-24, 50/54, and 67 site closeout and well abandonment.

Start Date: January, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$46,869

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		9	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of 5-year reviews, site close out, and LUCs. Groundwater monitoring cost was obtained from the Performance Based Contract. Note: The Installation Action Plan LTM phase begins 200605 and this phase is included in the current PBC. Groundwater monitoring at SEAD 26 was concluded in March 2007.

Site: SEAD-25/26, Fire Training Areas

Source:

1. Final Record of Decision, Fire Training and Demonstration Pad (SEAD 25) and the Fire Training Pit and Area (September 2004)
2. Performance Based Contract SOW Contract #: FA8903-04-D-8675, January 2005
3. Professional judgment based on site knowledge
4. Final Remedial Design Work Plan and Design Report for SEAD-25 and SEAD-26, October 2005
5. Work Authorization Document FY08, LTM
6. Draft Annual Groundwater Monitoring Report SEAD-25, 26, February 2007

RACER Assumptions:

Five-Year Review (LTM):

1. 4 review cycles
2. Reviews cycle begins June 2006 with first review in 2011
3. Low complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 30
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Summary SEAD-25/26

LTM

GW Monitoring (Actual Contract Cost) \$342,884
From Contract:
\$105,471 per year divided by 25 wells
= \$ 4,219 per year per well

SEAD 25 \$4,219 x 9 wells x 10 years
= \$379,710

379,710 x 1.0821 escalation FY05 = \$410,884

410,884 – 68,000 received FY08 = 342,884

5-Year Reviews (RACER) 92,302
23,076 per review, 4 reviews

Site Closeout (RACER) 28,903

Well Abandonment (RACER) 49,710

Land Use Controls from RACER in perpetuity
costed for 30 years 244,361

Total Site Cost \$758,160

Cost Difference > 10% from 2007 Report? Yes

Reason: SEAD-26 GW monitoring has been eliminated.

Prepared by: Janet R. Fallo Janet R Fallo 2/25/08
Signature Date

Reviewed by: Stephen M. Absolom Stephen M Absolom 2/25/08
Signature Date

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-NAD

27 Nov 2007

DIRECTIVE NO. BR-SEN-08-01

ISSUED THRU: CENAD-PD-IIS-S (TUMMINELLO)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC ER at Seneca AD, NY.

1. Reference DA FAD, 19, Nov 2007, advice number # 08-0002-00841.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: 97	increase X /decrease__ reprog__
APPRN: 97 X/2013 0510.40N1 2008 BCA	DIV/DIST: <u>NAN</u> ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u> +/- <u>ALLOCATION</u>
FTAS SEAD 25 and 26	61366R29 + 68,000.00
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is Dave Koran, 202-761-0076.	

FUNDS
 rec'd

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

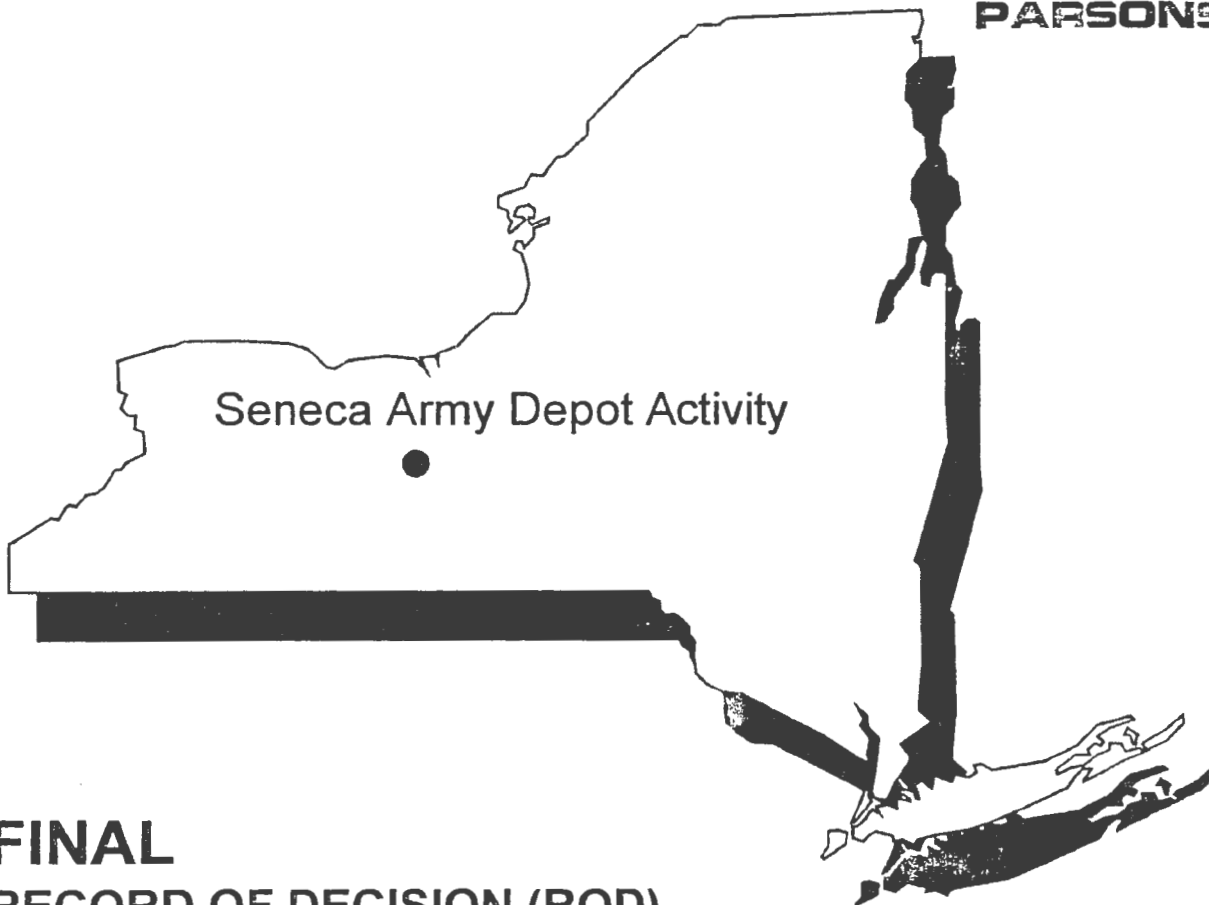


US Army, Engineering & Support Center
Huntsville, AL

Seneca Army Depot Activity
Romulus, NY



PARSONS



FINAL
RECORD OF DECISION (ROD)
THE FIRE TRAINING AND DEMONSTRATION
PAD (SEAD 25) AND THE FIRE TRAINING PIT
AND AREA (SEAD 26)
SENECA ARMY DEPOT ACTIVITY

EPA Site ID# NY0213820830
NY Site ID# 8-50-006
CONTRACT NO. DACA87-95-D-0031
DELIVERY ORDER NO. 0029

September 2004

1.0 DECLARATION OF THE RECORD OF DECISION

Site Name and Location

SITE

The Fire Training and Demonstration Pad (SEAD-25) and the Fire Training Pit and Area (SEAD-26)

Seneca Army Depot Activity

CERCLIS ID# NY0213820830

Romulus, Seneca County, New York

Statement of Basis and Purpose

This decision document presents the U.S. Army's and EPA's selected remedy for soil and groundwater at SEAD-25 and SEAD-26, located at the Seneca Army Depot Activity (SEDA) near Romulus, New York. The decision was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq. and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator; the Director of the National Capital Region Field Office, and the U.S. Environmental Protection Agency (USEPA) Region II have been delegated the authority to approve this Record of Decision (ROD); New York State Department of Environmental Conservation (NYSDEC) has concurred with the selected remedial action.

This ROD is based on the Administrative Record that has been developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, Building 123, Romulus, NY. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The State of New York, through the NYSDEC and the New York State Department of Health (NYSDOH), has concurred with the Selected Remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected in this ROD is necessary to protect the public welfare and the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from this site that may present an imminent and substantial endangerment to public health or welfare.

11.0 SELECTED REMEDY

SEAD-25

While the goal of the remedial action is to have no residual contamination in soils above TAGM levels, remedial action success will be achieved when soils have been remediated to the level that eliminates an unacceptable risk to human health. Based on the evaluation of the various options, the U.S. Army recommends Alternative RA25-4R (Source Removal, Off-site Disposal, Long-Term Monitoring of Plume, and Sediment Removal) (Figures 6-1 and 6-2). The elements that compose the remedy include:

- Excavate soil at the source in an area approximately 60 feet by 100 feet to a depth of 6 feet (approximately 1,350 CY), as depicted in Figure 6-2;
- Excavate a volume of sediment approximately 750 feet long, 3 feet wide and 2 feet deep (approximately 175 CY) from the northwest ditch, as depicted in Figure 6-2;
- Dispose of excavated soils in an appropriate off-site facility;
- Dewater the excavation pit;
- Treat groundwater that is recovered during excavation and during dewatering of excavation pit with an on-site air stripper;
- Replace excavated soil with clean backfill and establish a ground cover to avoid soil erosion;
- Conduct groundwater monitoring of the plume until NYSDEC Class GA groundwater standards are achieved (approximately 10 years);
- Establish and maintain land use controls to prevent access to or use of groundwater until cleanup standards are met;
- Complete a review of the selected remedy every five-years (at minimum), in accordance with Section 121(c) of the CERCLA;
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, as necessary; and
- Once groundwater cleanup standards are achieved, the groundwater use restriction may be eliminated.

CTM.
Action

The frequency of long-term monitoring will be detailed in the RD plan. The cleanup standards for groundwater at the site are NYSDEC Class GA groundwater standards, presented in Table 1-1B. Until the contaminant levels in the groundwater meet the cleanup standards, a land use control (or institutional control) in the form of a groundwater use restriction will be a part of the remedy, as specified in the discussion of the remedy for SEAD-25.

A summary of the SEAD-25 and SEAD-26 Land Use Controls is provided below.

The present worth cost of this alternative is \$922,200. The capital cost and the O&M cost of RA25-4R are \$701,000 and \$221,200, respectively.

This alternative was selected as the preferred alternative since it eliminates source soils from further impacting groundwater at the site, eliminates sediments that contribute to human health risk, and effectively treats the most highly impacted groundwater at the site. This alternative does not require any treatability or pilot studies as other alternatives do, and does not require any long-term operating system, while maintaining its effectiveness. In addition, the U.S. Army believes that in selecting this alternative, property transfer at this site may be expedited since the time to implement this remedy is relatively short. The removal of soils and sediments from the site so that the source of contamination no longer exists ranked as one of the highest remedies for effectiveness and implementability among the other alternatives considered in the FS. While it is not the most cost-effective solution, it will provide an effective and efficient solution requiring the least amount of operation and maintenance and restores the land for unrestricted use, thereby reducing the long-term costs associated with maintaining and enforcing land use controls.

SEAD-26

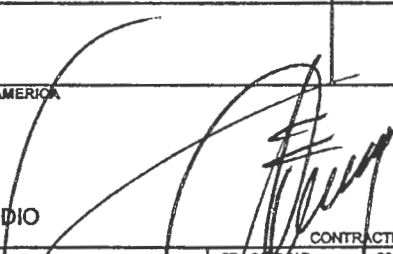
Based on the evaluation of the various options, the U.S. Army recommends Alternative RA26-2 (Soil Removal, Off-site Disposal, and Monitoring of Plume) (**Figure 11-1**). The preferred remedy consists of the following elements:

- Excavate surface soils with total carcinogenic PAH concentrations above 10 ppm, for an estimated total of 1050 CY;
- Dispose of excavated soils in an appropriate off-site facility;
- Conduct groundwater monitoring until the groundwater cleanup standards are met (approximately 20 years) in order to ensure that the VOCs present do not migrate off-site;
- Establish and maintain groundwater use controls to restrict groundwater access and use until cleanup standards are achieved;
- Complete a review of the selected remedy every five-years (at minimum), in accordance with Section 121(c) of the CERCLA;
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, as necessary, which would protect against VOC contamination migrating off-site; and
- Remove groundwater use restrictions once groundwater cleanup standards are achieved.

The cleanup goal for the PAHs is a value of 10 ppm for total carcinogenic PAHs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene] at each sample location. It should be noted that a review of the available site data suggests that the highest concentrations of the greatest contributors to carcinogenic risk (benzo(a)pyrene and dibenz(a,h)anthracene) that would remain on-site following a removal action with 10 ppm as a cleanup goal would be 1200 µg/Kg and 410 µg/Kg, respectively.

The frequency of long-term monitoring will be detailed in the RD plan. The cleanup standards for groundwater at the site are NYSDEC Class GA groundwater standards, presented in Table 1-1B.

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675		2. DELIVERY ORDER/ CALL NO. 0012		3. DATE OF ORDER/CALL (YYYYMMDD) 06 APR 2005		4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE		5. PRIORITY N					
6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil				CODE FA8903		7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES 18111 PLUMMER STREET BLDG. 10, 2ND FLOOR SEPULVEDA CA 91343 DCMALOSANGELES@DCMA.MIL SCD: C PAS: (NONE)		CODE S0512A		8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER <small>(See Schedule if other)</small>			
9. CONTRACTOR PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC. 100 WEST WALNUT STREET PASADENA CA 91124-0001 (626) 440-6165				CODE 1BVK6		FACILITY		10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE		11. X IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED			
ORIGINAL				12. DISCOUNT ITEMS N		13. MAIL INVOICES TO ADDRESS IN BLOCK See Field 15 (Payment Office) and Section G							
				14. SHIP TO SEE SCHEDULE		CODE		15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T		CODE HQ0339		MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.	
16. TYPE OF ORDER		DELIVERY/ CALL <input checked="" type="checkbox"/>		PURCHASE <input type="checkbox"/>		This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract. Reference your _____ furnish the following on items specified herein. ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.							
NAME OF CONTRACTOR		SIGNATURE		TYPED NAME AND TITLE		DATE SIGNED (YYYYMMDD)							
If this box is marked, supplier must sign Acceptance and return the following number of copies:													
17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE SEE SCHEDULE													
18. ITEM NO.		19. SCHEDULE OF SUPPLIES/SERVICES				20. QUANTITY ORDERED/ ACCEPTED ^a		21. UNIT	22. UNIT PRICE		23. AMOUNT		
*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.		24. UNITED STATES OF AMERICA						25. TOTAL				\$3,906,958.00	
		BY: EDWIN CUSTODIO 						26. DIFFERENCES					
26. QUANTITY IN COLUMN 20 HAS BEEN		27. S/R NO.		28. D.O. VOUCHER NO.		30. INITIALS							
<input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED													
DATE SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE		32. PAYMENT		32. PAID BY		33. AMOUNT VERIFIED CORRECT FOR							
36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT.		COMPLETE				34. CHECK NUMBER							
DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER		PARTIAL				35. BILL OF LADING							
		FINAL											
37. RECEIVED AT		38. RECEIVED BY (Print)		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS		41. S/R ACCOUNT NO.		42. S/R VOUCHER NO.			

ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 7

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675		2. DELIVERY ORDER/ CALL NO. 0012		3. DATE OF ORDER/CALL (YYYYMMDD) 06 APR 2005		4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE		5. PRIORITY N		
6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil				7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES 16111 PLUMMER STREET BLDG. 10, 2ND FLOOR SEPULVEDA CA 91343 DCMALOSANGELES@DCMA.MIL SCD: C PAS: (NONE)		8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)				
9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC. 100 WEST WALNUT STREET PASADENA CA 91124-0001 (626) 440-6165				10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE		11. X IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED		12. DISCOUNT ITEMS N		
				13. MAIL INVOICES TO ADDRESS IN BLOCK See Field 15 (Payment Office) and Section G						
14. SHIP TO SEE SCHEDULE				15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T		MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.				
16. TYPE OF ORDER		DELIVERY/ CALL <input checked="" type="checkbox"/>		This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.						
		PURCHASE <input type="checkbox"/>		Reference your _____ furnish the following on items specified herein.						
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.										
NAME OF CONTRACTOR			SIGNATURE			TYPED NAME AND TITLE			DATE SIGNED (YYYYMMDD)	
If this box is marked, supplier must sign Acceptance and return the following number of copies:										
17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE SEE SCHEDULE										
18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES				20. QUANTITY ORDERED/ACCEPTED*	21. UNIT	22. UNIT PRICE		23. AMOUNT	
24. UNITED STATES OF AMERICA //signed// EDWIN CUSTODIO BY:					25. TOTAL \$3,906,958.00		26. DIFFERENCES			
*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.					06 APR 2005 CONTRACTING/ORDERING OFFICER					
26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED					27. SHIP NO.	28. D.O. VOUCHER NO.		30. INITIALS		
DATE SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE					PARTIAL	32. PAID BY		33. AMOUNT VERIFIED CORRECT FOR		
					FINAL			34. CHECK NUMBER		
36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER					32. PAYMENT			35. BILL OF LADING		
					COMPLETE					
					PARTIAL					
					FINAL					
37. RECEIVED AT	38. RECEIVED BY (Print)		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.		42. S/R VOUCHER NO.		

SCHEDULE

1. In accordance with the provisions and the authority of FAR Clause 52.216-18 "Ordering (OCT 1995)" of the Basic Contract FA8903-04-D-8675 and this Task Order 0012, the Contractor shall accomplish the effort described in the Statement of Work(SOW) dated 20 January 2005, Attachment 1 hereto, at a total Firm Fixed Price (FFP) of \$3,906,958.00.

2. SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS:

B028 CONTRACT TYPE: FIRM FIXED PRICE (FEB 1997)

TOTAL PRICE: \$3,906,958.00

Applicable to the following Line Items: CLIN 0001 and 0002

ITEM	SUPPLIES OR SERVICES	Qty Purch Unit	Unit Price Total Item Amount
0001		1 Lot	\$3,906,958.00 \$3,906,958.00
	<i>Noun:</i>	ENVIRONMENTAL REMEDIATION AND CONSTRUCTION EFFORTS	
	<i>ACRN:</i>	9	
	<i>NSN:</i>	N - Not Applicable	
	<i>Contract type:</i>	J - FIRM FIXED PRICE	
	<i>Inspection:</i>	DESTINATION	
	<i>Acceptance:</i>	DESTINATION	
	<i>FOB:</i>	DESTINATION	
	<i>Descriptive Data:</i>		
		The Contractor shall provide the necessary effort for environmental remediation and construction efforts as set forth in the attached Statement of Work (SOW) dated 20 January 2005, Attachment 1, and attached to Section J.	
000101			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AA	\$1,008,632.49
	<i>PR/MIPR:</i>	FY7624-04-08470	\$1,008,632.49
	<i>Descriptive Data:</i>		
	Project # SEN 04-1		
000102			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AB	\$994,055.59
	<i>PR/MIPR:</i>	FY7624-04-08470	\$994,055.59
	<i>Descriptive Data:</i>		
	Project # SEN 04-1		

STATEMENT OF WORK

**REMEDICATION OF THE
SENECA ARMY DEPOT ACTIVITY**

CONTRACT: FA8903-04-D-8675
TASK ORDER: 0012
Project Number: SEN 04-1

20 January 2005

The following provides a description of the sites identified in this SOW. It is the responsibility of the Contractor to schedule a site visit, research, investigate, and reach their own conclusions regarding site conditions.

All work under this contract will be conducted under the FFA, as provided.

SEAD 25:

The Fire Training and Demonstration Pad (SEAD 25) was in use from the late 1960s to the late 1980s. The pad was used for fire control training. During the 1980s, the pad was used twice for fire fighting demonstrations, once in 1982 or 1983 and in 1987. The soil and groundwater is contaminated with volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The future intended use of the site is industrial.

The selected remedy for this site as detailed in the ROD includes the following components:

- Excavate soil at the source in an area approximately 60 feet by 100 feet by 6 feet deep (approximately 1,350 cy).
- Excavate sediment from an area 780 feet by 3 feet by 2 feet deep (175 cy) from the northwest ditch.
- Dewater the excavation pit.
- Treat groundwater recovered from the pit.
- Backfill the excavations.
- Conduct semi-annual groundwater monitoring.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, if necessary.

SEAD 26:

The Fire Training Pit and Area (SEAD 26) was in use from 1977 to 1994. The pit is approximately 75 feet in diameter and approximately 3 feet deep. A bentonite liner was installed in the pit in 1982 or 1983. This pit was used one to four times a year for fire fighting training during which time various flammable materials were floated on water, ignited, and extinguished. Prior to 1977, the fire training area surrounding the pit may also have been used for fire demonstrations. Groundwater has been impacted by VOCs and soils have been impacted by VOCs and SVOCs.

The selected remedy for this site as detailed in the ROD includes the following components:

- Excavate surface soils with total carcinogenic PAH concentrations above 10 ppm (approximately 1,050 cy).

- Backfill the excavation.
- Conduct semi-annual groundwater monitoring.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.
- Prepare a contingency plan that may include additional monitoring and air sparging of the plume, if necessary.

Ash Landfill Operable Unit

The Ash Landfill Operable Unit contains the following solid waste management units (SWMUs):

- SEAD 3: Incinerator Cooling Water Pond
- SEAD 6: Ash Landfill
- SEAD 8: Non-Combustible Fill Landfill (NCFL)
- SEAD 14: Refuse Burning Pits including the Debris Piles
- SEAD 15: Abandoned Solid Waste Incinerator Building

The Ash Landfill site was initially estimated to encompass an area of approximately 130 acres. This larger area was investigated to ensure that no previously unknown waste disposal areas were overlooked. Following the remedial investigation, the area of the Ash Landfill site was refocused to an area of approximately 23 acres. This area is comprised of the five SWMUs presented above.

The Incinerator Cooling Water Pond is a circular-bermed area approximately 50 feet in diameter. The Ash Landfill is a kidney-shaped landfill approximately 550 feet by 300 feet (4 acres) in area. The groundwater plume associated with the Ash Landfill is approximately 18 acres and contains elevated concentrations of chlorinated solvents extending the property line. The NCFL is an area approximately 400 feet by 400 feet (3 acres) in area. The Refuse Burning Pits were approximately 15 feet in diameter and 20 feet deep, where trash was open burned. The Debris Piles were discovered near this side of the Ash Landfill area and contamination was found in the Debris Piles. The Abandoned Incinerator Building is approximately 25 feet by 40 feet. The area that comprises the remainder of the 130 acres of the Ash Landfill site is a grassy shrub-covered area.

The selected remedy for the Ash Landfill Operable Unit is the following:

- Excavation and offsite disposal of Debris Piles, and establishment and maintenance of a vegetative soil cover for the Ash Landfill and the Non-Combustible Fill Landfill (NCFL) for source control.
- Installation of three in-situ permeable reactive barrier walls filled with 100% zero valence iron, and maintenance of the proposed walls and the migration wall for migration control of the groundwater plume.
- Backfilling and re-grading the Incinerator Cooling Water Pond during excavation of the Debris Piles.

- A Contingency Plan will be developed to include one of the following options; provision of an alternative water supply for potential down gradient receptors (farmhouse) or air sparging of the plume in the event that groundwater conditions down gradient of the recommended walls described above exceed the trigger values.
- Evaluate effectiveness of land use controls for one year.
- Complete a one-year review of the selected remedy.

The objectives and standards for this SOW are outlined in Table 1.

Objective	Standards
<p>SEAD 25 – Fire Training and Demonstration Pad</p> <ul style="list-style-type: none"> • Achieve Remedy in Place (RIP) at SEAD-25. <p>SEAD 26 – Fire Training Pit and Area</p> <ul style="list-style-type: none"> • Achieve RIP at SEAD-26. <p>SEADs 3, 6, 8, 14 and 15 – Ash Landfill Operable Unit</p> <ul style="list-style-type: none"> • Achieve Response Complete (RC) for SEAD 3. • Achieve RIP for SEADs 6, 8, 14 and 15. 	<ul style="list-style-type: none"> • Compliance with existing RODs, the FFA, and associated schedules. • Army approval (e.g., receipt of documentation confirming RIP or RC) and Regulator approval or concurrence (e.g., receipt of documentation confirming remedies are "operational and functional," "operating properly and successfully," or meeting other appropriate criteria).
<p>Perform long-term monitoring (LTM) at all sites identified in this SOW, as required after achievement of RIP, for a period of one year.</p>	<p>Army approval and Regulator approval or concurrence (e.g., final acceptance of monitoring reports with no violations).</p>
<p>Develop and implement and exit or ramp-down strategy for LTM/LTO efforts at all sites identified in this SOW.</p>	<p>Army approval and Regulator approval or concurrence (e.g., documentation formally adopting the decision rules for ramp down and/or exit strategies).</p>
<p>Complete the first year of the CERCLA 121(c) five-year review required for the sites identified in this SOW, and correction of any deficiencies noted.</p>	<p>Army approval and Regulator approval or concurrence (e.g., formal documentation accepting the reviews).</p>

RIP or RC will be attained upon the finalization of appropriate written documentation certifying that site remediation has met all of the identified response objectives and no further action is necessary, subject to any requirement for long-term monitoring and/or operations. The Contractor should note that if monitoring and/or operations are necessary as a result of the Contractor's proposed and approved or constructed remedy at a site, the Contractor will be responsible for the following:

- Performing the required monitoring and/or operations at that site for (1) year following achievement of RIP.
- Performing the first year of the CERCLA 121(c) five-year review required at that site.

Tom

Here are the assumptions for the LTM at the Ash landfill and 25/26 from the proposal by Parsons.

Steve

SM Absolom

SEDA Installation Manager

Ph. (607) 869-1309

Fax (607) 869-1362

Cell (315) 406-4737

----- Original Message -----

From: Heino, Todd

To: Stephen Absolom

Sent: Tuesday, March 14, 2006 1:07 PM

Subject: Annual Monitoring Assumptions

Steve,

Here are the assumptions:

2.3 WBS 60000 – FIRST YEAR GROUNDWATER MONITORING

Parsons will implement the Post-Closure Monitoring Plan for the Ash Landfill and the Post-Closure Monitoring Plan for SEADs 25 and 26 for the first year after remedial action implementation. Four rounds of monitoring will be conducted at the Ash Landfill and two rounds of monitoring will be conducted at SEADs 25 and 26 as required in the respective RODs.

Approximately 27 wells will be sampled each quarter at the Ash Landfill to monitor the performance of the reactive walls and show that performance criteria are not being exceeded at MW-56. The samples will be submitted for the analysis of VOCs, ethene, ethane, methane, nitrate, nitrite, chloride, sulfate, iron, manganese, volatile fatty acids, alkalinity, hydrogen, sulfide and total organic carbon (TOC). Following sampling and analysis of the wells, a quarterly sampling report will be prepared and submitted to the regulators for information. At the end of the first year, an annual report will be submitted to the regulators for approval.

Approximately 25 wells will be sampled twice during the first year at SEADs 25 and 26 to show that natural attenuation of BTEX is continuing at the two sites. The samples will be submitted for the analysis of VOCs, SVOCs, methane, ethane, ethene, nitrate, nitrite, chloride, sulfate, DOC, dissolved hydrogen and total inorganic carbon. Following sampling and analysis of the wells, a semi-annual sampling report will be prepared and submitted to the regulators for information. At the end of the first year, an annual report will be submitted to the regulators for approval.

number of wells

semi annually first year

locations

In addition, at the end of the first year of monitoring Parsons will perform vegetable oil injection into the six reactive trenches to enhance the biodegradation. A total of 520 gallons will be injected into the six trenches.

The cost for future years of monitoring at the Ash Landfill will be best determined after the post-closure monitoring plan has been approved. Until then, it's just a guess.

Please let me know if this is sufficient.

Thanks,

Todd

Todd Heino
Program Manager
PARSONS
150 Federal Street
Boston, Massachusetts 02110-1713
617-449-1405 (tel.)
339-206-7413 (cell)
617-946-9777 (fax.)
todd.heino@parsons.com

{ PARSONS
Safety-Make it Personal

Using this version of the budget form, you enter hours, direct labor cost, and billable labor amount.
ENTER NUMBERS IN PINK-SHADED FIELDS.

PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP, INC.
WORK BREAKDOWN STRUCTURE

Screen 937, option 21

WBS 60000

Job number _____
 Date entered _____
 (Accounting Department)

*SITE:
 SEAD-25
 and 26*

*cost for
 1 year*

WBS No.	Description	Milestone / Planning / Complete	Date	Labor			ODCs		Subs		Total Value / Total Cost	Labor GP / ODC/Subs GP	Rev / No	
				Avg Rate / Hours	Direct / Burden	Lbr / Mult	Billable Lbr / Lbr Cost	ODC / Mult	Billable ODC / ODC Cost	Subs / Mult				Billable subs / Sub cost
60100	Ash Landfill Monitoring and Report	91466	1/1/2007	\$30.00	\$55,556	2.16	\$120,000	1.00	\$15,000	1.00	\$48,000	\$183,000	\$38,610	
			1/1/2008	1,852.0	\$25,834		\$81,390		\$15,000		\$48,000	\$144,390	\$0	
60200	SEAD 25/26 Monitoring and Report	91466	1/1/2007	\$29.99	\$34,906	2.16	\$75,398	1.00	\$7,519	1.00	\$22,554	\$105,471	\$24,261	
			1/1/2008	1,164.0	\$16,231		\$51,137		\$7,519		\$22,554	\$81,210	\$0	
60300	First Year Review	91466	1/1/2008	\$30.01	\$18,519	2.16	\$40,000	1.00	\$2,000	1.00	\$2,000	\$44,000	\$12,870	
			3/31/2008	617.0	\$8,611		\$27,130		\$2,000		\$2,000	\$31,130	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
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				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
				#DIV/0!	\$0	#DIV/0!	\$0	1.00	\$0	1.00	\$0	\$0	\$0	
Job Total				\$30.00	\$106,981	2.16	\$235,398	1.00	\$24,519	1.00	\$72,554	\$332,471	\$75,741	
				3,633.0	\$50,676		\$159,657		\$24,519		\$72,554	\$256,730		

**DRAFT REMEDIAL DESIGN WORK PLAN AND DESIGN REPORT
FOR THE FIRE TRAINING AND DEMONSTRATION PAD (SEAD-25) AND THE FIRE
TRAINING PIT AND AREA (SEAD-26)**

SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Prepared for:

**AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS CITY-BASE, TEXAS**

and

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared by:

**PARSONS
150 Federal Street
Boston, MA 02110**

Contract Number FA8903-04-D-8675

Task Order No. 0012

CDRL A001G, A004 and A013

EPA SITE ID# NY0213820830

NY SITE ID# 8-50-006

June 2005

TABLE 6-2
Monitoring Well Sampling Summary
SEAD-25 and SEAD-26 Remedial Design Work Plan and Design Report
Seneca Army Depot Activity

Well ID	Groundwater Field Parameters	Frequency ¹	Monitoring Purpose
SEAD-25			
MW25-2 MW25-3 MW25-9	VOCs, SVOCs, natural attenuation parameters	Semi-annual	Plume wells: monitors plume concentrations and natural attenuation at SEAD-25
MW25-8 MW25-10 MW25-13 MW25-15 MW25-17 MW25-18	VOCs, SVOCs, natural attenuation parameters	Semi-annual	Sentinel wells – monitors groundwater quality to ensure no off-site migration of plume, as well as background parameters to evaluate natural attenuation
SEAD-26			
MW26-7	VOCs	Semi-annual	Monitors VOC concentrations and natural attenuation at SEAD-26
MW26-1	VOCs	Semi-annual	Upgradient/background well – monitors background parameters to evaluate natural attenuation
MW26-2 MW26-3 MW26-4	VOCs	Semi-annual	Downgradient wells – monitors downgradient groundwater quality and background parameters to evaluate natural attenuation

Notes:

1. Semi-annual sampling will be conducted for the first year. The sampling frequency will be reviewed and reassessed in the monitoring report after one year.
2. Natural attenuation parameters include nitrate, nitrite, chloride, sodium, sulfate, iron, pH, redox potential, and dissolved oxygen.

DRAFT ANNUAL REPORT
FOR THE FIRE TRAINING AND DEMONSTRATION PAD (SEAD-25) AND THE FIRE
TRAINING PIT AND AREA (SEAD-26)
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Site

Prepared for:
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS CITY-BASE, TEXAS
and
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared by:
PARSONS
150 Federal Street
Boston, MA 02110

Contract Number FA8903-04-D-8675
Task Order No. 0012
CDRL A001H
EPA SITE ID# NY0213820830
NY SITE ID# 8-50-006

February 2007

5.2 Recommendations

Based on the historical data and the results of the two rounds of semiannual LTM at SEAD-25 and SEAD-26, the Army recommends the following:

- The SEAD-25 monitoring wells should be sampled and analyzed for VOCs only, since no SVOCs of concern have been detected above groundwater standards at SEAD-25 for three consecutive rounds;
- Five monitoring wells at SEAD-25 should be removed from the LTM program. The wells should be removed since no COCs have been detected above detection limits at those wells at any time, and the concentrations in the source area wells (MW25-2, MW25-3, and MW25-9) have decreased to levels near the groundwater standards. The table below indicates which wells should be removed or retained in the program. **Figure 9** shows the location of the wells that will be retained.

Well ID	Included in LTM Program	Rationale
MW25-2	Include	Source well with detections of BTEX exceeding standards
MW25-3	Include	Historic detections of COCs
MW25-8	Eliminate	No COCs detected historically
MW25-9	Include	BTEX has been detected
MW25-10	Include	Chlorinated organics were detected
MW25-13	Include	Located downgradient of source well
MW25-15	Eliminate	No COCs detected since 1996
MW25-17	Eliminate	No COCs detected historically
MW25-18	Eliminate	No COCs detected historically
MW25-19	Eliminate	No COCs detected historically

- Groundwater monitoring will continue on a semiannual basis at SEAD-25 for 2007, and the frequency and number of wells included in the LTM program will be reevaluated as part of the 2007 annual report. If all COCs meet the cleanup goals in the next year of LTM, the monitoring program will be discontinued.
- At SEAD-26, the Army recommends that no further groundwater monitoring be performed. LTM is no longer needed since no COCs have been detected above the cleanup goals in the last two rounds of semiannual sampling. There is no evidence of contamination of the groundwater at SEAD-26 and further monitoring is not required.

END
SEAD 26
LTM

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. Recommendations in the Final Status Survey document and per previous discussions with the regulators, it is expected that this site will be classified as a No Further Action site.

Site: SEAD-48 Pitchblende Storage Igloos

Source:

1. Final E0800 Row Pitchblende Ore Storage Igloos (SEAD-48) Final Status Survey Report, March 2006
2. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1, 2, 5, 24 and 48, November 2007

Assumptions: No Further Action status is expected for SEAD-48. The Final Status Survey (FSS) demonstrates that the site will require No Further Action. A No Further Action PRAP and ROD will be submitted. The site will then require Site Close-Out Documentation and Well Abandonment.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 8
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-48

Site Closeout (RACER)	\$28,903
Well Abandonment (RACER)	16,548
Total Site Cost	\$45,452

Cost Decrease > 10% from 2007 Report? No

Prepared by: Janet R. Fallo

Janet R. Fallo 2/25/08
Signature Date

Reviewed by: Stephen M. Absolom

Stephen M. Absolom 2/25/08
Signature Date

FINAL
FINAL STATUS SURVEY REPORT
E0800 ROW PITCHBLENDE ORE STORAGE IGLOOS (SEAD-48)
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared For:

Seneca Army Depot Activity
Romulus, New York

Prepared By:

PARSONS
150 Federal Street, 4th Floor
Boston, Massachusetts 02110

from each Class 1 survey unit and two measurements from each Class 2 survey unit were co-located with soil boring locations from those survey units, described below. Collected spectra were compared to an appropriate background spectrum to assess the presence and relative levels of ROCs at the measurement locations.

Soil boring samples were collected at locations based on either historical information or scanning results. Locations of the soil borings collected at each igloo are presented in **Figures 3-14 through 3-18**, and **Figures 3-21 through 3-26**. At each exterior survey unit, soil boring samples were collected immediately outside the east and west drain outlets. In addition, soil borings were collected at a minimum of three locations at each of the exterior Class 1 survey units and a minimum of two locations at each of the exterior Class 2 survey units based on scanning measurements, per the SEAD-48 Work Plan (Parsons, 2003).

To ensure that the depth of contamination could be determined from the soil boring if contamination did exist, each soil boring was drilled to the depth of bedrock, which is between 3 and 10 feet below ground surface at SEAD-48. The first six inches (0.5 ft) of the soil boring was considered to be the surface soil interval. The remainder of the soil boring was divided into two-foot increments and composited. Soil boring logs from the field are presented in **Appendix P**.

Starting with the surface soil sample, the soil boring samples were incrementally screened using gamma spectroscopy. The spectrum from each sample was qualitatively compared to a background spectrum to look for energy peaks that were different from background. In addition, gross gamma count rates were compared. Measurements were initially taken on samples from the surface soil interval (0-0.5 ft bgs) from each soil boring (or from the asphalt layer for borings performed on asphalt surfaces). If the energy spectrum and/or gross count rate appeared to be elevated above background, the sample from the next depth interval (0.5-2 ft bgs) was screened. This procedure continued until the sample did not appear different from background, at which point screening of samples from that soil boring ceased.

All site samples that underwent the gamma spectroscopy screening were sent to GEL for further analysis using high purity germanium gamma spectroscopy. Any additional samples that were collected but not screened (i.e., those at deeper soil intervals below the level at which a background spectrum was observed) were archived. This process, which was based on the EPA Soil Screening Guidance for Radionuclides (EPA Publication 9355.4-16A), is outlined in the flowchart presented in **Figure 3-27**.

3.4.8 Monitoring Well Installation and Sampling

To investigate levels of ROCs in groundwater at SEAD-48, eight monitoring wells were installed per the SEAD-48 Work Plan (Parsons, 2003). Six of these monitoring wells were installed downgradient of the groundwater and surface water flow. The remaining two monitoring wells were installed upgradient and cross gradient of the SEAD-48 groundwater flow. **Figure 3-28** illustrates the

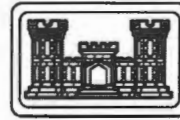
of
Wells to
REMOVE

#####

Proposed Plan – Revised Draft Final



FIVE FORMER SOLID WASTE MANAGEMENT UNITS (SWMUs) – SEADs 1, 2, 5, 24, and 48
SENECA ARMY DEPOT ACTIVITY (SEDA)
ROMULUS, NEW YORK



November 2007

#####

PURPOSE OF THE PLAN

This Proposed Plan describes the remedial alternatives selected for five areas of concern (AOCs), SEAD 1 (the former Hazardous Waste Container Storage Facility, Building 307), SEAD 2 (the former PCB Transformer Storage Facility, Building 301), SEAD 5 (the former Sewage Sludge Piles), SEAD 24 (the Abandoned Power Burn Pit), and SEAD 48 (Row 0E800 Pitchblende Storage Igloos) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, located in Seneca County, New York. This Proposed Plan was developed by the U.S. Army (Army) and the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). The Army and the EPA are issuing this Proposed Plan as part of their public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) of 1980, as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the contamination remaining at the five AOCs is described in greater detail in the following documents:

- "RCRA Closure Report: Building 307, Hazardous Waste Container Storage Facility; Building 301, Transformer Storage Building";
- Letter to Mr. James Dolen, Jr. from Todd Heino dated September 9, 2005 regarding "Response to Comments on the Draft Closure Plan dated September 4, 2003, Building 307, Hazardous Waste Storage Facility and Building 301, PCB Transformer Storage Building, Seneca Army Depot Activity, Romulus, New York, NYSDEC Site No.: 8-50-006";
- Letter to Mr. Stephen Absalom from James Dolen, Jr. dated September 29, 2005 regarding "SEDA – Facility EPA I.D. No. NY0213820830, Building 307, Hazardous Waste Storage Facility & Building 301, PCB Transformer Storage Building, Closure Certification Approval";
- "Industrial Waste Site (Sludge Piles) – SEAD 5 Time-Critical Removal Action Final Completion Removal Report";
- "Time Critical Removal Action, Metal Sites – SEAD 24 Final Completion Removal Report"; and,
- "Final Status Survey Report, E0800 Row Pitchblende Ore Storage Igloos (SEAD-48)" (Parsons, 2006).

The Army, EPA, and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the AOCs, the site and the Superfund activities that have been completed.

This Proposed Plan is being provided as a supplement to the aforementioned documents to inform the public of the Army's, EPA's and NYSDEC's preferred remedies for the AOCs and to solicit public comments pertinent to the selected remedies. The preferred remedy for three of the AOCs (i.e., SEADs 1, 2, and 5) is to formally impose and implement Land Use Controls (LUCs) that prohibit the use of the designated land and buildings for residential activities, and to prohibit access to and use of groundwater. The preferred remedy for SEAD 24 and SEAD 48 is No Further Action.

The identified LUCs selected for SEADs 1, 2, and 5 were previously established for three other AOCs (i.e., SEADs 27, 64A, and 66) that are located in proximity to the three subject AOCs. At the time of the Army's, EPA's and NYSDEC's final determination for SEADs 27, 64A, and 66, all parties agreed that the identified LUCs should be imposed on all land within the Planned Industrial / Office Development and Warehousing (PID) Area at the former Depot due to the anticipated future use of the land and the similarity of its known past uses by the Army and predecessors.

The remedies described in this Proposed Plan are the preferred remedies for each of the identified AOCs. Changes to the preferred remedy, or a change from the preferred remedy to another remedy, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedies will be made after the Army and the EPA have taken all public comments into consideration. The Army and the EPA are soliciting comments because the Army, EPA and NYSDEC may select a remedy other than the preferred remedy for either or both of the AOCs.

MARK YOUR CALENDAR

[Date] – [Date]:

Public comment period related to this Proposed Plan.

[Date] at 7:00 P.M.: Public meeting at the Seneca County Office Building, Village of Waterloo New York.

COMMUNITY ROLE IN SELECTION PROCESS

The Army, EPA, and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the RI Report and this proposed plan have been made available to the public for a public comment period which begins on Date and concludes on Date 2.

A public meeting will be held during the public comment period at the Seneca County Office Building on Date 3 at 7:00 p.m. to present the conclusions of the RI, to elaborate further on the reasons for selecting the preferred remedy, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document that formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Mr. Stephen M. Absolom
BRAC Environmental Coordinator
Seneca Army Depot Activity
Building 123, P.O. Box 9
5786 State Route 96
Romulus, NY 14541-0009

SCOPE AND ROLE OF ACTION

The primary goal of the proposed actions is to enable the Army to transfer or lease the land occupied by the identified AOCs to other private or public parties for beneficial reuse. Prior to transfer or lease of any property at the SEDA, the Army is required to ensure that the property is suitable for release and reuse.

Historically SEADs 1, 2, and 5 were used as temporary storage facilities for solid waste, hazardous waste or toxic (i.e., polychlorinated biphenyl) materials prior to off-site disposal or recycle. The area including SEAD-5 was also historically used as the Army's version of a Department of Public Works (DPWs) supply and staging area and equipment storage yard. The planned future use for land encompassing and surrounding SEADs 1, 2, and 5 is Planned Industrial / Office Development or Warehousing.

SEAD 24 was previously used for destruction of black powder, solid propellants and explosive contaminated trash. The planned future use for land surrounding and encompassing SEAD 24 is Development Reserve/Ethanol Plant construction.

The historic use of the igloos at SEAD 48 involved storage of pitchblende ore as part of the Manhattan Project, and later the igloos were used for ammunition storage; the planned future use of this area is Training.

Information exists for SEADs 1, 2, 5, that indicates that chemical contaminants are still present in the soil at these three AOCs at levels that pose potential risks to selected populations. Risk assessments based on exposure scenarios that are consistent with the planned future use of the land in these AOCs indicate that such uses are possible and appropriate given the residual levels of hazardous substances that remain at the AOCs. Therefore, the Army has determined that LUCs prohibiting residential activities, and access to and use of groundwater are needed to minimize any potential future health and environmental impacts at these three AOCs.

Information also exists for SEAD 24 that indicates that residual concentrations of chemicals are generally consistent with background and no further action is required.

Finally, information developed for radiological constituents at SEAD 48 indicate that residual radiation levels present are consistent with background concentrations and no further action is required.

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

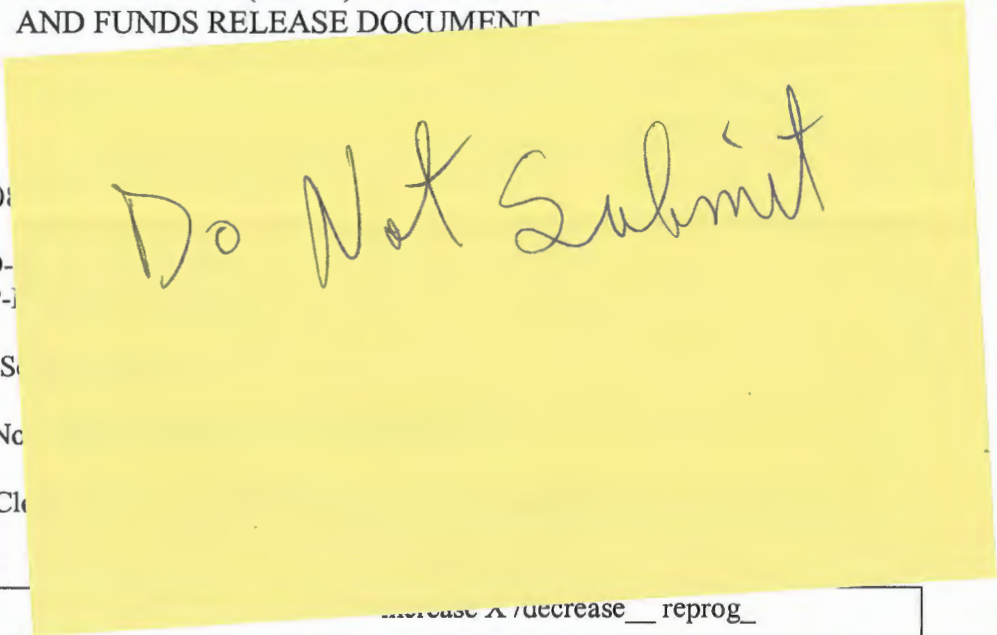
CEMP-NAD

DIRECTIVE NO. BR-SEN-01

ISSUED THRU: CENAD-PD-
 TO: CENAN-PP-E

ISSUED FOR: BRAC ER at S

1. Reference DA FAD, 27, No
2. You are authorized Base Cl
 following project(s).



BRAC ROUND: 97		increase X / decrease __ reprog__
APPRN: 97 X/2013 0510.40N1 2008 BCA		DIV/DIST: <u>NAN</u> ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u>	<u>+/- ALLOCATION</u>
SITES	61366R32	+ 46,000.00
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is Dave Koran, 202-761-0076.		

Funds Reviewed SENDYK

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-48
Project Name: SEAD-48
Project Category: None

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

Location Modifier

Default

User

1.055

1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-48 Pitchblend Storage Igloos

The document addressing the release of this site is awaiting regulatory approval. Recommendations in the Final Status Survey document and per previous discussions with the regulators, it is expected that this site will be classified as a No Further Action site.

Site: SEAD-48 Pitchblende Storage Igloos

Source:

1. Final E0800 Row Pitchblende Ore Storage Igloos (SEAD-48) Final Status Survey Report, March 2006

Assumptions: No Further Action status is expected for SEAD-48.
Additional data collected to address regulator comments on the Draft

Estimate Documentation Report

version of the Final Status Survey (FSS) demonstrates that the site will require No Further Action. After regulatory acceptance of the FSS, a No Further Action PRAP/ROD will be submitted. The site will then require Site Close-Out Documentation.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Cost Increase > 10% from 2005 Report? Yes

Reason: Addition of Site Close-Out Costs to the 2006 estimate

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-48
Site Name: Pitchblende Storage Igloos
Site Type: None

Media/Waste Type

Primary: N/A
Secondary: N/A

Contaminant

Primary: None
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-48 Pitchblende Storage Igloos will require Site Close-Out Documentation

Assumptions: No Further Action status is expected for SEAD-48. Additional data collected to address regulator comments on the Final Status Survey (FSS) demonstrates that the site will require No Further Action. After regulatory acceptance of the FSS, a No Further Action PRAP/ROD will be submitted. The site will then require Site Close-Out Documentation and Well Abandonment.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well Abandonment (LTM):

1. Number of wells: 8
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Support Team: Stephen M. Absolom - SEDA BEC
Randall Battaglia - US Army Corps of Engineers, Project Engineer

Estimate Documentation Report

- References:** 1. Final E0800 Row Pitchblende Ore Storage Igloos (SEAD-48) Final Status Survey Report, March 2006
2. Revised Draft Final Proposed Plan Five Former SWMUs- SEADs 1, 2, 5, 24 and 48, November 2007

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/20/2008

Estimator Signature: _____ **Date:** _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM	\$21,471	\$45,452
Total Cost:	\$21,471	\$45,452

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Site Close-Out Documentation and Well Abandonment

Start Date: April, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$45,452

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: Site Close-Out Documentation (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: Well Abandonment (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		8	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 19 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the site closeout.

Site: SEAD-11, Old Construction Debris Landfill

Source:

1. Draft Construction Completion Report for the Old Construction Debris Landfill (SEAD-11), March 2007
2. Professional judgment based on site knowledge

Site Assumptions: After the IRA, the source of contamination was removed. Following regulatory acceptance of the Final Completion Report, it is expected that the site should then qualify for a No Further Action Record of Decision. Because the groundwater contaminants are below the GA groundwater standard, no groundwater monitoring is expected to be required.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 7
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-11

Site Closeout & Well Abandonment (RACER)	\$55,071
Total Site Cost	\$55,071

Cost Increase > 10% from 2007 Report? Yes

Reason: Updated RACER estimate.

Prepared by: Janet R. Fallo

Signature Janet R. Fallo Date 2/21/08

Reviewed by: Stephen M. Absolom

Signature Stephen M. Absolom Date 2/21/08

DRAFT CONSTRUCTION COMPLETION REPORT
FOR THE OLD CONSTRUCTION DEBRIS LANDFILL (SEAD-11)
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NY

March 2007

Prepared for:
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE,
BROOKS CITY-BASE, TEXAS
and
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NY

Contract Number FA8903-04-D-8675
Task Order 0031, CDRL A001C

EPA Site ID# NY0213820830
NY Site ID# 8-50-006

Prepared by:
PARSONS
150 Federal Street
Boston, MA 02110

EXECUTIVE SUMMARY

This Construction Completion Report for the Old Construction Debris Landfill (SEAD-11), located at the Seneca Army Depot Activity (SEDA or the Depot) in Romulus, New York is intended to provide record documentation of interim removal action (IRA) construction activities for SEAD-11. It provides documentation that all landfill material and soil exceeding cleanup goals were removed and no further action at the site is required. These activities were conducted in accordance with the "Interim Removal Action Work Plan for SEAD-11, *Final*" (Parsons, 2006).

Project

Parsons and the selected earthwork contractor, St George Enterprises, Inc., mobilized to the site on October 27, 2006. Excavation of the landfill began on November 1, 2006 at the southern edge of the landfill, moving north. Using the depth contours sketch provided in the Work Plan as a guide, the dozer excavated to a depth at which all landfill material was visibly removed and native material was visible. As the landfill was excavated, larger material was size reduced prior to stockpiling and disposal. A total of 20 tons of metal was placed in a roll off box for disposal as scrap. The excavated material was stockpiled on the northwest corner of the landfill in an area adjacent to the newly constructed truck load-out road. The northeast corner, where materials were stockpiled, was the final section to be excavated. Four intact drums were recovered containing roofing material and a fifth drum contained a petroleum based liquid. Waste characterization samples were collected from the drums. The five drums were disposed off-site by a disposal company. A total of 32,900 cubic yards (cy) of material were excavated from the landfill and a total of 42,188 tons were hauled off-site and disposed at Ontario County Landfill.

Confirmatory samples were collected at a frequency of one sample from the base of excavation every 2500 square feet (sf) and one sample along the perimeter every 50 linear feet (lf). The samples were analyzed for volatile organic compounds (VOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and metals. Additional soil was excavated around the area of eight samples that failed to meet the cleanup goals, and additional confirmatory samples were collected to confirm that the newly excavated area met the cleanup goals. The cleanup goals proposed in the Work Plan for VOCs, cPAHs, and metals were NYSDEC TAGMs, 10 parts per million (ppm) benzo(a)pyrene toxicity equivalence (BTE), and USEPA Region IX Preliminary Remediation Goals (PRGs) for residential soil, respectively. In addition to QA/QC samples, a total of 80 final grid samples and 38 final perimeter samples were collected, and all of these samples met the cleanup goals. The sampling frequencies met the minimum requirements.

Once the excavation and confirmatory sampling was completed, the site was graded and seeded in order to restore vegetation. Backfilling the site was not necessary since the excavation of the landfill returned the site to its natural grade. The crew demobilized from the site on January 5, 2007.

Groundwater monitoring of the seven existing wells (MW11-1 through MW11-7) was completed between February 20 and February 22, 2007 to confirm that the groundwater has not been impacted since prior sampling events, and the groundwater is either meeting the GA standard or consistent with

background concentrations. Three VOCs (1,1,2-trichloro-1,2,2-trifluoroethane, tetrachloroethene, and trichloroethene) were detected below their respective groundwater action levels. Three metals (aluminum, iron, and manganese) were detected at concentrations above their respective groundwater action levels; however the maximum detection of each of the metals was significantly below their respective SEDA site-wide background concentrations.

All landfill material and soil exceeding proposed cleanup goals were removed from the site. The threat posed by the landfill material has been removed from the site. The remaining soil has been sampled and results demonstrate that it meets cleanup goals and is consistent with SEDA site-specific background concentrations. Groundwater sampling conducted after the IRM was consistent with SEDA background concentrations. Based on the data, the groundwater has not been negatively impacted by the presence of the landfill materials and no further monitoring for groundwater is required. No further action is required for this site for either soil or groundwater. The Army will proceed with preparing and submitting a No Further Action (NFA) Proposed Plan and Record of Decision (ROD).

NFA
Determination

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-11
Project Name: SEAD-11
Project Category: Training Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

Old Construction Debris Landfill- Site Closeout

A Performance Based Contract is being procured to take the site through response complete. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the site closeout.

Site: SEAD-11, Old Construction Debris Landfill

Source:

1. Final Action Memorandum for Removal Action at SEAD-11, April 2003
2. Professional judgment based on site knowledge

Site Assumptions: After the IRA, the source of the contamination will be removed. Following regulatory acceptance of the Final Completion Report,

Estimate Documentation Report

it is expected that the site should then qualify for a No Further Action Record of Decision. Because the groundwater contaminants are below the GA groundwater standard, no groundwater monitoring is expected to be required.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Cost Increase > 10% from 2005 Report? No

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-11
Site Name: Old Construction Debris Landfill
Site Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-11 Old Construction Debris Landfill.
Support Team: Stephen M. Absolom - SEDA BEC
Janet R. Fallo - US Army Corps of Engineers, Project Engineer
References: 1. Final Action Memorandum for Removal Action at SEAD-11, April 2003
2. Professional judgment based on site knowledge

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/12/2008

Estimator Signature: _____ **Date:** _____

Reviewer Information

Estimate Documentation Report

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM	\$24,535	\$55,071
<hr/>		
Total Cost:	\$24,535	\$55,071

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Site Closeout Documentation

Start Date: October, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$55,071

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		7	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out Documentation. LTM cost for groundwater monitoring and LUC review & certification came from the AFCEE contract. OE LTM has been eliminated as no MEC was found during the RA.

Site: SEAD-001-R-01 Deactivation Furnaces (alias SEAD-16/17)

Source:

1. AFCEE Contract FA 8903-04-D-8675 CLIN 0001 AC
2. Corps of Engineers S&A letter dated 31 March 2004
3. Final ROD for SEAD-16 and SEAD-17 March 2006
4. Professional judgment based on site knowledge

RACER Assumptions:

Site Closeout Documentation (LTM phase):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well Abandonment (LTM phase):

1. Number of wells: 12
2. Depth: 15 feet
3. Diameter: 2"
4. Unconsolidated
5. Overdrill/removal

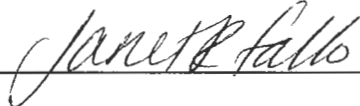
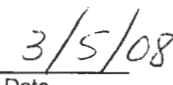
Cost Summary **SEAD-001-R-01**
 (SEAD-16/17)

LTM

GW monitoring and LUC Review & Certification Cost taken from contract x FY06 escalation factor $\$5,490 \times 1.0496 = 5,762/\text{yr}$ $5,762/\text{yr} \times 25 \text{ years} = 144,050$	\$144,050
5-year Reviews (Contract x FY06 escalation factor) $\$6,588 \times 1.0496 = 6,915/\text{yr}$ $\$6,915 \text{ per event} \times 5 \text{ events}$	34,575
Site Closeout & Well Abandonment (RACER)	63,341
COE Oversight for 25 years $(144,050 + 23,660 + 34,575 + 63,341) \times 0.07$	18,594

Total Site Cost	\$260,560
------------------------	------------------

Cost Difference > 10% from 2007 Report? No.

Prepared by: Janet R. Fallo	 _____ Signature	 _____ Date
-----------------------------	--	--

Reviewed by: Stephen M. Absolom	 _____ Signature	 _____ Date
---------------------------------	--	--

ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 8

Contract

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675	2. DELIVERY ORDER/ CALL NO. 0031	3. DATE OF ORDER/CALL (YYYYMMDD) 20 JUN 2006	4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE	5. PRIORITY DO-C9
--	-------------------------------------	--	--	----------------------

6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil	CODE FA8903	7. ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES P.O. BOX 9608 MISSION HILLS CA 91346-9608 DCMALOSANGELES@DCMA.MIL	CODE S0512A	8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER <small>(See Schedule if other)</small>
--	----------------	---	----------------	--

9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC 100 W WALNUT ST PASADENA CA 91124-0001 (626) 440-2000	CODE 1BVK6	FACILITY	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. X IF BUSINESS IS
			12. DISCOUNT ITEMS N	SMALL SMALL DISAD- VANTAGED WOMEN- OWNED
13. MAIL INVOICES TO ADDRESS IN BLOCK SEE BLOCK 15 (PAYMENT OFFICE)				

14. SHIP TO SEE SCHEDULE	CODE	15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-COWEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381 EFT:T	CODE HQ0339	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.
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16. TYPE OF ORDER	DELIVERY/ CALL <input checked="" type="checkbox"/>	PURCHASE <input type="checkbox"/>	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.		
Reference your _____ furnish the following on items specified herein.					
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.					

NAME OF CONTRACTOR	SIGNATURE	TYPED NAME AND TITLE	DATE SIGNED(YYYYMMDD)
If this box is marked, supplier must sign Acceptance and return the following number of copies:			

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
SEE SCHEDULE

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT

<i>*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.</i>	24. UNITED STATES OF AMERICA //signed// EDWIN CUSTODIO BY:	25. TOTAL \$10,820,000.00	29. DIFFERENCES
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26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED	27. SHIP NO.	28. D.O. VOUCHER NO.	30. INITIALS	32. PAID BY	33. AMOUNT VERIFIED CORRECT FOR
DATE SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL				34. CHECK NUMBER
36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER	<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL				35. BILL OF LADING

37. RECEIVED AT	38. RECEIVED BY (Print)	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.
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PARSONS

INVOICE

Parsons Infrastructure & Technology Group, Inc.

Remittance Address: PO Box 88954 • Chicago, IL 60695-1954 • www.parsons.com
 Wire transfer: Account 323289711 • ABA 021000021

Billed to:
 DFAS-Columbus Center
 West Entitlement Operations
 P.O. Box 182381
 Columbus, OH 43218-2381

Invoice date: 2006/10/10
Shipment number: SER0004
Invoice number: 06100626
Client number: 72483
Job number: 745172

Project name: Seneca Army Depot
 Remedial Actions
Authorization: Contract FA8903-04-D-8675 order 0031

Invoice amount: \$ 10,980

CLIN 0001	ACRN	Contract amount	Previously billed	Current billing	Cumulative billed
<i>SUMMARY BY ACRN</i>					
	AA	\$ 39,614	\$ 39,614	\$ -	\$ 39,614
	AB	\$ 600,000	\$ 160,320	\$ 10,980	\$ 171,300
	<i>LTM</i> - AC	\$ 548,386	\$ -	\$ -	\$ -
	AD	\$ 601,000	\$ 107,304	\$ -	\$ 107,304
	AE	\$ 4,870,000	\$ 1,017,093	\$ -	\$ 1,017,093
	AF	\$ 4,161,000	\$ 397,813	\$ -	\$ 397,813
		\$ 10,820,000	\$ 1,722,144	\$ 10,980	\$ 1,733,124

SEE MILESTONE DETAIL BEGINNING ON NEXT PAGE.

Jesse Perez

Shipment number SER0004, invoice number 06100626, continued

Milestone	ACRN	Milestone payment	Previously billed	Current billing	Cumulative billed
SEAD 16/17 Mobilization (5%)	AA	\$ 39,614	\$ 39,614	\$ -	\$ 39,614
SEAD 16/17 Mobilization (5%)	AB	\$ 19,786	\$ 19,786	\$ -	\$ 19,786
SEAD 16/17 Insurance/Bonds	AB	\$ 134,166	\$ 134,166	\$ -	\$ 134,166
Schedule	AB	\$ 6,368	\$ 6,368	\$ -	\$ 6,368
SEAD 16/17 Approval of QPP/Work Plan	AB	\$ 10,980	\$ -	\$ 10,980	\$ 10,980
SEAD 16/17 WP Submittal	AB	\$ 50,000	\$ -	\$ -	\$ -
SEAD 16/17 RA WP Approval	AB	\$ 50,000	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 50% Complete	AB	\$ 328,700	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 50% Complete	AC	\$ 168,858	\$ -	\$ -	\$ -
SEAD 16/17 Excavation 100% Complete	AC	\$ 300,000	\$ -	\$ -	\$ -
SEAD 16/17 RA Report Approval	AC	\$ 40,000	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 1 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 2 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 3 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 4 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Submit SEAD 16/17 Year 5 LTM Report	AC	\$ 5,490	\$ -	\$ -	\$ -
Approval of SEAD 16/17 5-Year Report	AC	\$ 6,588	\$ -	\$ -	\$ -
Response Complete SEAD 16/17	AC	\$ 5,490	\$ -	\$ -	\$ -
SEAD 4/38 Mobilization (5%)	AF	\$ 208,050	\$ 208,050	\$ -	\$ 208,050
SEAD 4/38 Insurance/Bonds	AF	\$ 129,001	\$ 129,001	\$ -	\$ 129,001
SEAD 4/38 Submittal of WBS and Schedule	AF	\$ 22,305	\$ 22,305	\$ -	\$ 22,305
SEAD 4/38 Approval of QPP/Work Plan	AF	\$ 38,457	\$ 38,457	\$ -	\$ 38,457
SEAD 4/38 PRAP Submittal	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 ROD Approval	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 WP Submittal	AF	\$ 75,000	\$ -	\$ -	\$ -
SEAD 4/38 RA Work Plan Submittal	AF	\$ 50,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 25% Complete	AF	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 50% Complete	AF	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 75% Complete	AF	\$ 650,000	\$ -	\$ -	\$ -
SEAD 4/38 Excavation 100% Complete	AF	\$ 559,745	\$ -	\$ -	\$ -
SEAD 4/38 RA Report Approval	AF	\$ 40,000	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 1 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 2 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 3 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 4 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Submit SEAD 4/38 Year 5 LTM Report	AF	\$ 19,228	\$ -	\$ -	\$ -
Approval of SEAD 4/38 5-Year Report	AF	\$ 23,074	\$ -	\$ -	\$ -
Response Complete SEAD 4/38	AF	\$ 19,228	\$ -	\$ -	\$ -

Annual LTM
5yr review

5,490 FY06 cost
1,0496 escalation factor

5,762 FY08 cost

6,588 FY06 cost
1,0496 escalation factor

6,915 FY08 cost

Shipment number SER0004, invoice number 06100626, continued

Milestone	ACRN	Milestone payment	Previously billed	Current billing	Cumulative billed
SEAD 11 Mobilization (5%)	AE	\$ 243,500	\$ 243,500	\$ -	\$ 243,500
SEAD 11 Insurance/Bonds	AE	\$ 542,479	\$ 542,479	\$ -	\$ 542,479
SEAD 11 Submittal of WBS and Schedule	AE	\$ 56,105	\$ 56,105	\$ -	\$ 56,105
SEAD 11 Approval of QPP/Work Plan	AE	\$ 75,009	\$ 75,009	\$ -	\$ 75,009
SEAD 11 RA WP Submittal	AE	\$ 100,000	\$ 100,000	\$ -	\$ 100,000
SEAD 11 RA WP Approval	AE	\$ 50,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 25% Complete	AE	\$ 1,100,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 50% Complete	AE	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 75% Complete	AE	\$ 705,871	\$ -	\$ -	\$ -
SEAD 11 Excavation 100% Complete	AE	\$ 685,000	\$ -	\$ -	\$ -
SEAD 11 RA Report Approval	AE	\$ 40,000	\$ -	\$ -	\$ -
SEAD 11 PRAP Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 ROD Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 LTM Plan Approval	AE	\$ 10,000	\$ -	\$ -	\$ -
Submit SEAD 11 Year 1 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 2 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 3 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 4 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 5 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Approval of SEAD 11 5-Year Report	AE	\$ 27,006	\$ -	\$ -	\$ -
Response Complete SEAD 11	AE	\$ 22,505	\$ -	\$ -	\$ -
SEAD 121C Mobilization (5%)	AD	\$ 30,050	\$ 30,050	\$ -	\$ 30,050
SEAD 121C Insurance/Bonds	AD	\$ 68,477	\$ 68,477	\$ -	\$ 68,477
SEAD 121C Submittal of WBS and Schedule	AD	\$ 3,222	\$ 3,222	\$ -	\$ 3,222
SEAD 121C Approval of QPP/Work Plan	AD	\$ 5,555	\$ 5,555	\$ -	\$ 5,555
SEAD 121C RA WP Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C Excavation 50% Complete	AD	\$ 174,100	\$ -	\$ -	\$ -
SEAD 121C Excavation 100% Complete	AD	\$ 139,601	\$ -	\$ -	\$ -
SEAD 121C RA Report Approval	AD	\$ 40,000	\$ -	\$ -	\$ -
SEAD 121C PRAP Submittal	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C ROD Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C LTM Plan Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
Submit SEAD 121C Year 1 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 2 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 3 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 4 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 5 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Approval of SEAD 121C 5-Year Report	AD	\$ 3,333	\$ -	\$ -	\$ -
Response Complete 121C	AD	\$ 2,777	\$ -	\$ -	\$ -
		\$ 10,820,000	\$ 1,722,144	\$ 10,980	\$ 1,733,124

**FINAL
RECORD OF DECISION**

FOR

**THE ABANDONED DEACTIVATION FURNACE (SEAD-16) AND
THE ACTIVE DEACTIVATION FURNACE (SEAD-17)**

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA**

Prepared By:

**PARSONS
150 Federal St.
4th Floor
Boston, Massachusetts**

Contract Number: DACA87-95-D-0031

Delivery Order 003

USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

March 2006

1.0 DECLARATION OF THE RECORD OF DECISION

Site Name and Location

The Abandoned Deactivation Furnace (SEAD-16) and the Active Deactivation Furnace (SEAD-17)
Seneca Army Depot Activity
CERCLIS ID# NY0213820830
Romulus, Seneca County, New York

Statement of Basis and Purpose

This decision document presents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (USEPA's) selected remedy for SEAD-16 and SEAD-17, located at the Seneca Army Depot Activity (SEDA or the Depot) near Romulus, New York. The decision was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Director of the National Capital Region Field Office, and the USEPA Region II have been delegated the authority to approve this Record of Decision (ROD). The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have concurred with the selected remedy.

This ROD is based on the Administrative Record that has been developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The State of New York, through the NYSDEC and NYSDOH, has concurred with the selected remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected in this ROD is necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from SEAD-16 and SEAD-17, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The selected remedy for SEAD-16 and SEAD-17 addresses contaminated soil, building debris, and groundwater. The selected remedy will result in the removal of soil and groundwater as a pathway

for potential receptors. Groundwater will be monitored to ensure that soil contamination left on-site does not further degrade groundwater quality.

The elements that compose this remedy include:

- Conduct additional sampling as part of the pre-design sampling program to further delineate the areas of excavation;
- Remove, test, and dispose of the SEAD-16 building debris off-site;
- Excavate approximately 275 cubic yards (cy) of ditch soil to a depth of 1 foot (ft.) with lead concentrations greater than 1250 mg/Kg until cleanup standards are achieved;
- Excavate approximately 1760 cy of surface soils to a depth of 1 ft. at SEAD-16 with lead concentrations greater than 1250 mg/Kg, and polycyclic aromatic hydrocarbon (PAH) and metal concentrations greater than risk-based derived cleanup standards listed below and in **Table 1-1**;
- Excavate approximately 67 cy of subsurface soils to a depth of 2 ft. to 3 ft. at SEAD-16 (areas around SB16-2, SB16-4, and SB16-5) with lead concentrations greater than 1250 mg/Kg, and PAH and metal concentrations greater than risk-based derived cleanup standards listed below and in **Table 1-1 (Figure 1-1)**;
- Excavate approximately 2590 cy of surface soils to a depth of 1 ft. at SEAD-17 with lead concentrations greater than 1250 mg/Kg and metal concentrations greater than risk-based derived cleanup standards listed below (**Table 1-1 (Figure 1-2)**);
- Stabilize excavated soils from SEAD-16 and SEAD-17 and building debris from SEAD-16 exceeding the toxicity characteristic leaching procedure (TCLP) criteria in order to attain Land Disposal Restrictions (LDR);
- Dispose of the excavated material in an off-site landfill;
- Backfill the excavated areas with clean backfill;
- Conduct groundwater monitoring at SEAD-16 and SEAD-17 until concentrations are below the GA criteria; *GW monitoring*
- Remediate material potentially presenting an explosive hazard and munitions and explosives of concern to meet the Department of Defense Explosive Safety Board (DDESB) requirements for unrestricted use or to put into place land use restrictions as may be required by DDESB;
- Submit a Completion Report following the remedial action;
- Establish and maintain land use controls (LUCs) to prevent access to or use of the groundwater and to prevent residential use until cleanup standards are met; and *LUCs*
- Complete a review of the selected remedy every 5 years (at minimum), in accordance with Section 121(c) of the CERCLA. *5 year review*

Cleanup Standards for Industrial Use at SEAD-16 and SEAD-17

COMPOUNDS	SOIL CLEANUP GOAL
Polycyclic Aromatic Hydrocarbons (PAHs)	
Benzo(a)anthracene ($\mu\text{g}/\text{Kg}$)	20,417
Benzo(a)pyrene ($\mu\text{g}/\text{Kg}$)	2,042
Benzo(b)fluoranthene ($\mu\text{g}/\text{Kg}$)	20,417
Benzo(k)fluoranthene ($\mu\text{g}/\text{Kg}$)	50,000
Chrysene ($\mu\text{g}/\text{Kg}$)	50,000
Dibenz(a,h)anthracene ($\mu\text{g}/\text{Kg}$)	2,042
Indeno(1,2,3-cd)pyrene ($\mu\text{g}/\text{Kg}$)	20,417
Metals	
Antimony (mg/Kg)	29
Arsenic (mg/Kg)	20
Cadmium (mg/Kg)	14
Copper (mg/Kg)	331
Lead (mg/Kg)	1250
Mercury (mg/Kg)	0.54
Thallium (mg/Kg)	2.6
Zinc (mg/kg)	773

To complete Resource Conservation and Recovery Act (RCRA) closure of the deactivation furnace at SEAD-17, the Army will either further decontaminate or demolish and dispose off-site the structures that failed to meet closure standards during the interim closure (i.e., concrete slabs and block walls).

SEAD-16 AND SEAD-17 Land Use Control (LUC) Performance Objectives

The LUC performance objectives for SEAD-16 and SEAD-17 are to:

- Prevent access to or use of the groundwater until cleanup levels are met; and
- Prevent residential housing, elementary and secondary schools, childcare facilities and playgrounds activities.

The LUCs would be implemented over the area bounded by the boundary at SEAD-16 (**Figure 1-1**) and SEAD-17 (**Figure 1-2**). The boundary of SEAD-16 is defined as the fence; SEAD-17 is bounded by the fence to the east and by natural boundaries, such as ditches. It should be noted that land within the Planned Industrial/Office Development (PID) area, which includes SEAD-16 and SEAD-17, is also subject to a separate Proposed Plan and ROD that include institutional controls (ICs) ["Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas" (Parsons, 2004)]. Groundwater use restrictions will continue until groundwater constituent concentrations have been reduced to levels that allow for unlimited exposure and unrestricted use. With USEPA approval, once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated.

To implement the Army's remedy, which includes the imposition of LUCs, a LUC Remedial Design for SEAD-16 and SEAD-17 will be prepared which satisfies the applicable requirements of Paragraphs (a) and (c) of Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for SEAD-16 and SEAD-17, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of the property's transfer from federal ownership. A schedule for completion of the draft SEAD-16 and SEAD-17 LUC Remedial Design Plan (LUC RD) will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA).

The Army shall implement, inspect, report, and enforce the LUCs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

State Concurrence

NYSDOH forwarded a letter of concurrence regarding the selection of a remedial action to NYSDEC, and NYSDEC, in turn, forwarded to USEPA a letter of concurrence regarding the selection of a remedial action in the future. This letter of concurrence has been placed in **Appendix B**.

Declaration

CERCLA and the NCP require each selected remedy to be protective of human health, public welfare, and the environment; be cost effective, comply with other statutory laws; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent possible. CERCLA and the NCP also state a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The selected remedy is consistent with CERCLA and the NCP and is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions. This remedy also reduces the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants.

Because this remedy may result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure for an indeterminate period, a statutory review will be conducted every 5 years after initiation of the remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

constituent concentrations have been reduced to levels that allow for unlimited exposure and unrestricted use. With USEPA approval, once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated.

To implement the Army's remedy, which includes LUCs, a LUC RD for SEAD-16 and SEAD-17 will be prepared which satisfies the applicable requirements of Paragraphs (a) and (c) of ECL Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for SEAD-16 and SEAD-17, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of SEAD-16's and SEAD-17's transfer from federal ownership. A schedule for completion of the draft SEAD-16 and SEAD-17 LUC RD will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the FFA.

The present worth cost of this alternative is \$3,109,400. The capital cost and the present worth O&M cost of Alternative 4 are \$1,699,900 and \$1,409,500, respectively.

In comparison to other remedies considered in the FS, Alternative 4 has the highest overall ranking. While it does not rank highest for any single evaluation criterion, as Alternatives 2 and 6 do, neither does it rank the lowest for any evaluation criteria considered, which each of the other intrusive alternatives did. Alternative 4 ranks second of all the alternatives for long-term effectiveness and permanence and reduction of mobility of contaminants. It also ranks highest of the three alternatives (2, 4, and 6) for technical feasibility and overall cost. The preferred alternative will eliminate source soils from further impacting SEAD-16 and SEAD-17 by preventing contact with receptors and migration of contaminants to surface water and groundwater. It is a cost-effective, readily available alternative that does not require long-term maintenance aside from groundwater monitoring and maintenance of LUCs, such as groundwater restrictions, and residential/daycare land use restrictions; and, the alternative can be implemented quickly to provide short-term effectiveness. Finally, it is a permanent solution that would significantly reduce the mobility of the contaminants and potential for exposure at SEAD-16 and SEAD-17.



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

CERM-P (37)

S: 26 April 2004
31 March 2004

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDERS

SUBJECT: Defense Environmental Restoration Program (DERP) Supervision and Administration (S&A) Rate Change

1. The actual DERP S&A costs have been about one percent below the rate charged customers since the beginning of fiscal year 2002. The Director of Military Programs has asked that the cost saving from these efficiencies be passed on to the customer through lower S&A flat rates.
2. Effective 1 April 2004 the flat rate for DERP and BRAC environmental work will be reduced one percent. The new rates will be 7.0% for CONUS and 7.5% OCONUS. All locations outside the continental 48 states and DC are classified as OCONUS by the Department of Defense. S&A
RATE
3. Please provide your district and MSC mid-year S&A schedules reflecting the lower DERP rates by 26 April 2004 in the standard electronic format. MSC-specific formats will be emailed individually to your POCs within a week.
4. POC is Mr. Philip Blount, CERM-P at (202) 761-5620.

FOR THE COMMANDER:


STEPHEN COAKLEY
Director of Resource Management

CF:
CEMP-I
CEMP-SWD

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-001-R-01
Project Name: SEAD-001-R-01
Project Category: Planned Industrial Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-001-R-01 Deactivation Furnaces This MMR site was known as SEAD-16 & 17

Since this site is a Military Munitions Rule site, some costs reported have been captured in an OE EE/CA. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out Documentation.

Site: SEAD-001-R-01 Deactivation Furnaces (alias SEAD-16/17)

Source: 1. Final ROD for the Abandon Deactivation Furnace (SEAD-16) and the Active Deactivation Furnace (SEAD-17), March 2006
2. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
3. Professional judgment based on site knowledge.

Estimate Documentation Report

RACER Assumptions:

Site Closeout Documentation (LTM phase):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Well Abandonment (LTM phase):

1. Number of wells: 12
2. Depth: 15 feet
3. Diameter: 2"
4. Unconsolidated
5. Overdrill/removal

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-001-R-01
Site Name: Deactivation Furnaces
Site Type: None

Media/Waste Type

Primary: Groundwater
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-001-R-01 Deactivation Furnaces. MMR site (alias SEAD-16/17) will require Long Term Maintenance to include 5- Year Review and Site Closeout Documentation, and Land Use Controls. This estimate is for Site Closeout Documentation.

Support Team: Stephen M. Absolom - BEC for Seneca Army Depot
Randy Battaglia- US Army Corps of Engineers, Project Engineer

References: 1. Final ROD for the Abandon Deactivation Furnace (SEAD-16) and the Active Deactivation Furnace (SEAD-17), March 2006
2. AFCEE Contract FA 8903-04-D-8675 CLIN 0001 AC
3. Professional judgment based on site knowledge.

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/12/2008

Estimate Documentation Report

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Stephen Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address:
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 03/26/2008

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1	\$29,831	\$63,341
Total Cost:	\$29,831	\$63,341

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring

Phase Name: LTM #1

Description: Well abandonment assumed 12 wells, 2" diameter, 15 ft deep, unconsolidated, overdrill/removal.

Start Date: October, 2038

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Phase Markups: System Defaults

Technology Markups

Site Close-Out Documentation

Well Abandonment

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0
Yes	100	0

Total Marked-up Cost: \$63,341

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		5	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		12	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out Documentation and Land Use Controls.

Site: SEAD-59/71, Fill Area West 135/Paint Disposal Area

Source:

1. Final Removal Report, SEAD-59 and 71, January 2003
2. Draft Phase II Remedial Investigation, SEAD-59 and SEAD-71, June 2005
3. Draft Record of Decision, SEAD-59 and 71, January 2008
4. Professional judgment based on site knowledge

Assumptions: No Further Action will be required at SEAD-59/71. An Interim Removal Action has been completed and the contamination has been removed. Currently, these sites are in the Phase II RI stage to document the removal action has eliminated all the risk from the site and a proposed plan will address the No Further Action recommendation for SEAD-59/71. This site will require Site Close-Out Documentation and Land Use Controls.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 11
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Summary SEAD-59,71

LTM

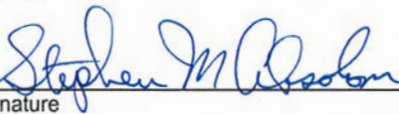
Site Closeout from (RACER)	\$28,903
Well Abandonment (RACER)	21,254
Land Use Controls (RACER) in perpetuity costed for 30 years	244,361
Total Site Cost	\$294,518

Cost Increase > 10% from 2007 Report? No.

Prepared by: Janet R. Fallo


Signature _____ Date 2/22/08

Reviewed by: Stephen M. Absalom


Signature _____ Date 2/22/08

**DRAFT
RECORD OF DECISION**

FOR

**THE FILL AREA WEST OF BUILDING 135 (SEAD-59) AND
THE ALLEGED PAINT DISPOSAL AREA (SEAD-71)**

ROD
FOR
SITE

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
ROMULUS, NEW YORK 14541**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA 35816**

Prepared By:

**Parsons
150 Federal St., 4th Floor
Boston, Massachusetts 02110**

Contract Number: DACA87-02-D-0005

Delivery Orders: 0013

USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

January 2008

1.0 DECLARATION OF THE RECORD OF DECISION

Areas of Concern Name and Location

The Fill Area West of Building 135 (SEAD-59) and the Alleged Paint Disposal Area (SEAD-71)
Seneca Army Depot Activity
5786 State Route 96
ROMULUS, NEW YORK 14541
USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

Statement of Basis and Purpose

This Record of Decision (ROD) documents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (USEPA's) selected remedies for the Fill Area West of Building 135 (SEAD-59) and the Alleged Paint Disposal Area (SEAD-71) located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Varick and Romulus, Seneca County, New York. The decisions for these two areas of concern (AOCs) were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. Section 9601, *et seq.* and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the USEPA Region II have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial actions. This index is included in **Appendix A**.

The State of New York, through the New York State Department of Environmental Conservation (NYSDEC), has concurred with the selected remedies. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

AOC Assessment

The response actions selected in this ROD are necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from SEAD-59 and SEAD-71, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedies

The selected remedies for SEAD-59 and SEAD-71 address contaminated soil and groundwater. The selected remedies will result in the removal of soil and groundwater as exposure pathways for potential receptors.

The elements that compose the selected remedies at SEAD-59 and SEAD-71 include:

- Spreading previously excavated soils that are currently staged in piles in SEAD-59 out over a portion of the AOC, covering them with a layer of demarcation fabric, and then interring the fabric and the spread soils under a 12-inch layer of acceptable backfill that is graded and upon which a vegetative cover is established;
- Implementing a land use control (LUC) that prohibits unauthorized excavations or activities likely to disturb the demarcation fabric in the location(s) where the interred soil is placed;
- Establishing and maintaining land use control (LUCs) that prohibit access to or use of the groundwater and that prohibit residential activities until unrestricted use and unlimited exposure criteria are attained at SEAD-59 and SEAD-71; and,
- Completing a review of the selected remedies every 5 years (at minimum), in accordance with Section 121(c) of the CERCLA.

LUC's
5 yr review

The unauthorized excavation LUC will be implemented only on those locations where previously excavated soil has been laid out, marked and interred under a vegetated 12-inch soil cap. The LUCs that prohibit groundwater access/use and residential activities will be implemented over all land contained within the boundaries of SEAD-59 and SEAD-71. Equivalent AOC-wide LUCs have been implemented over other land that is located within the greater Planned Industrial/Office Development and Warehousing (PID) Area, but these LUCs were not officially imposed on parcels of land within the PID Area that are retained by the Army, pending completion of the CERCLA regulatory process. The existing PID Area-wide LUCs were implemented as a result of conditions identified in SEADs 27, 64A, and 66 and these conditions are presented in the Record of Decision entitled *Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas* (Parsons, 2004). The groundwater and residential activity LUCs may be eliminated, on a site-by-site basis, if data is provided to, and approved by, the Army, USEPA, and the NYSDEC and document that groundwater quality achieves NYSDEC's GA standards and that soil data allows for unrestricted use and unlimited exposures.

The location(s) of the interred soils will be determined and documented subsequent to the completion of their interment and covering. The LUC prohibiting unauthorized excavations will continue in perpetuity or until the interred soil is exhumed from SEAD-59 and transported off-site for disposal at an off-site licensed landfill.

To implement the Army's selected remedies, which include the imposition of LUCs, a LUC Remedial Design for SEAD-59 and SEAD-71 will be prepared which is consistent with Paragraphs (a) and (c) of the New York State Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for SEAD-59 and SEAD-71, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York and the Army, which will be recorded at the time of the property's transfer from federal ownership and which will require the owner and/or any person responsible for implementing the LUCs set forth in this ROD to periodically certify that such institutional controls are in place. A schedule for completion of the draft SEAD-59 and SEAD-71 LUC Remedial Design Plan (LUC RD) will be

**US Army
Engineering & Support Center
Huntsville, AL**

FINAL

**Removal Report
SEAD-59 and 71
Time Critical Removal Action
Seneca Army Depot Activity
Romulus, NY**

**Contract No. GS-10F-0115K
Delivery Order No. DACA87-02-F-0137**

**ENSR Corporation
January 2003
Document Number 09090-029-320**

5.0 DEBRIS FOUND

During the excavation phase various types of debris was located. The most commonly found items were construction and demolition debris consisting of bricks, concrete, asphalt, and scrap metal, pipe, lumber and wood. All large pieces of concrete that were discovered, and were clean, were used as backfill in SEAD 59, Area 1. The remaining construction and demolition debris was shipped off-site for disposal. Some wood debris, consisting of logs and tree stumps was left at the site.

There were two areas where drums and pails were found. In SEAD 59, Area 3, dried and crushed paint pails from one quart to five gallons in size were discovered. These items were staged and handled separately from the other excavated material. In SEAD 59, Area 1, 55 gallon drums, and pieces of drums and pails were discovered. Most of these were empty and had been previously crushed. Approximately nine drums had substantial amounts of material in them, all of which was in a solid state. These drums were staged separately from the other debris and then sampled and analyzed for waste categorization. Based on this analysis all of these materials were able to be shipped for disposal as non-hazardous debris.

The April 2002 Action Memorandum outlined the objective of the remedial action to eliminate or significantly reduce potential risks to human health, the environment and groundwater quality by focusing on the removal of drums, paint cans and other containers as well as addressing the surrounding soils and groundwater. Based on the actual debris and containers found, the analysis of their contents, and the analysis of the surrounding soils that were removed and left in place, this objective has been met. Refer to:

- Appendix G, Analytical Results
- Appendix K, Confirmation Soil Sampling Logs
- Table 1, Pile Summary

*RA completed
and objectives were met*

SEAD 59/71

Phase	2009	2010	2011	2012	2013	2014	2015	Outyears
CO								29.
Wallo	21							
Lvc	8	8	8	8	8	8	8	188

$$\begin{array}{r} 30 \overline{) 244} \\ \underline{240} \\ 40 \\ \underline{30} \\ 106 \\ \underline{90} \\ 166 \\ \underline{150} \\ 16 \end{array}$$

$$\begin{array}{r} 244 \\ 56 \\ \hline 188 \end{array}$$

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-48
Project Name: SEAD-48
Project Category: None

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-48 Pitchblend Storage Igloos

The document addressing the release of this site is awaiting regulatory approval. Recommendations in the Final Status Survey document and per previous discussions with the regulators, it is expected that this site will be classified as a No Further Action site.

Site: SEAD-48 Pitchblende Storage Igloos

Source:

1. Final E0800 Row Pitchblende Ore Storage Igloos (SEAD-48) Final Status Survey Report, March 2006

Assumptions: No Further Action status is expected for SEAD-48.
Additional data collected to address regulator comments on the Draft

Estimate Documentation Report

version of the Final Status Survey (FSS) demonstrates that the site will require No Further Action. After regulatory acceptance of the FSS, a No Further Action PRAP/ROD will be submitted. The site will then require Site Close-Out Documentation.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Cost Increase > 10% from 2005 Report? Yes

Reason: Addition of Site Close-Out Costs to the 2006 estimate

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-48
Site Name: Pitchblende Storage Igloos
Site Type: None

Media/Waste Type

Primary: N/A
Secondary: N/A

Contaminant

Primary: None
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-48 Pitchblende Storage Igloos will require Site Close-Out Documentation

Assumptions: No Further Action status is expected for SEAD-48. Additional data collected to address regulator comments on the Draft version of the Final Status Survey (FSS) demonstrates that the site will require No Further Action. After regulatory acceptance of the FSS, a No Further Action PRAP/ROD will be submitted. The site will then require Site Close-Out Documentation..

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. There is no well abandonment.

Support Team: Stephen M. Absolom - SEDA BEC
Randall Battaglia - US Army Corps of Engineers, Project Engineer

References: 1. Final E0800 Row Pitchblende Ore Storage Igloos (SEAD-48) Final Status Survey Report, March 2006

Estimator Information

Estimator Name: Janet Fallo

Estimate Documentation Report

Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/20/2008

Estimator Signature: _____ **Date:** _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM	\$11,320	\$28,903
Total Cost:	\$11,320	\$28,903

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Long Term Maintenance- Site Close-Out Documentation

Start Date: April, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0

Total Marked-up Cost: \$28,903

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 22 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out Documentation and Land Use Controls.

Site: SEAD-59/71, Fill Area West 135/Paint Disposal Area

Source:

1. Final Removal Report, SEAD-59 and 71, January 2003
2. Draft Phase II Remedial Investigation, SEAD-59 and SEAD-71, June 2005
3. Draft Record of Decision, SEAD-59 and 71, January 2008
4. Professional judgment based on site knowledge

Assumptions: No Further Action will be required at SEAD-59/71. An Interim Removal Action has been completed and the contamination has been removed. Currently, these sites are in the Phase II RI stage to document the removal action has eliminated all the risk from the site and a proposed plan will address the No Further Action recommendation for SEAD-59/71. This site will require Site Close-Out Documentation and Land Use Controls.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 11
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Cost Summary SEAD-59,71

LTM

Site Closeout from (RACER)	\$28,903
Well Abandonment (RACER)	21,254
Land Use Controls (RACER) in perpetuity costed for 30 years	244,361
Total Site Cost	\$294,518

Cost Increase > 10% from 2007 Report? Yes

Reason: RACER cost update.

Prepared by: Janet R. Fallo

Signature

Date

Reviewed by: Stephen M. Absolom

Signature

Date

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-59 and 71
Project Name: SEAD-59 and 71
Project Category: Planned Industrial Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-59/71 - Fill Area West of Bldg.135 and Paint Disposal Area

The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Site Close-Out Documentation and Land Use Controls.

Site: SEAD-59/71, Fill Area West 135/Paint Disposal Area

Source:

1. Final Removal Report, SEAD-59 and 71, January 2003
2. Draft Phase II Remedial Investigation, SEAD-59 and SEAD-71, June 2005
3. Professional judgment based on site knowledge

Assumptions: No Further Action will be required at SEAD-59/71. An

Estimate Documentation Report

Interim Removal Action has been completed and the contamination has been removed. Currently, these sites are in the Phase II RI stage to document the removal action has eliminated all the risk from the site and a proposed plan will address the No Further Action recommendation for SEAD-59/71. This site will require Site Close-Out Documentation and Land Use Controls.

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Land Use Controls (LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-59 and 71
Site Name: Fill Area West 135 and Paint Disposal Area
Site Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: Site Closeout Documentation and Well Abandonment for SEAD-59/71 .
Support Team: Stephen M. Absolom - BEC, Seneca Army Depot
Janet R. Fallo - US Army Coprs of Engineers, Project Engineer
References: 1. Final Removal Report, SEAD-59 and 71, January 2003
2. Draft Phase II Remedial Investigation, SEAD-59 and SEAD-71, June 2005
3. Professional judgment based on site knowledge

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/20/2008

Estimator Signature: _____ **Date:** _____

Estimate Documentation Report

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1	\$24,389	\$50,157
LTM #2	\$90,177	\$244,361
Total Cost:	\$114,566	\$294,518

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1
Description: Site Closeout Documentation for SEAD-59/71.

Start Date: April, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$50,157

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		11	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #2
Description: Land Use Controls for the SEAD-59/71..

Start Date: October, 2007
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
ADMINISTRATIVE LAND USE CONTROLS	Yes	100	0

Total Marked-up Cost: \$244,361

Technologies:

Estimate Documentation Report

Technology Name: **Administrative Land Use Controls (# 1)**
User Name: **ADMINISTRATIVE LAND USE CONTROLS**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2007	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2007	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2036	n/a
Type of Site	Transferring Government Installation		n/a

Implementation

Required Parameters

Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitability to Transfer (FOST)		No	n/a

Monitoring & Enforcement

Required Parameters

Duration of Monitoring/Enforcement		30	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: **Administrative Land Use Controls (# 1)**

User Name: **ADMINISTRATIVE LAND USE CONTROLS**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 19 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of site close out. RD/RA costs were obtained from the RI/FS and RCRA Closure Plan.

Site: SEAD-12, Radioactive Waste Burial Pits including SEAD-72, Building 803

Source:

1. Final Feasibility Study Report, SEAD-12, January 2008
2. RCRA Closure Plan, Building 803, Mixed Waste Storage Facility, December 2004
3. Corps of Engineers S&A letter dated 31 March 2004
4. Professional judgment based on site knowledge

Note: Building 803 (SEAD-72) is included with SEAD-12. The RCRA Closure of SEAD-72 will require funding for the cleaning as addressed in the Closure Plan. In addition, the Draft Final Supplemental RI for SEAD-12 addressed a TCE contaminated area at Bldg. 813/814. This Supplemental RI concludes that No Further Action will be required at Bldg. 813/814 site.

RACER Assumptions:

Site Closeout will be required following the SEAD-12 Removal Action. No post remediation monitoring is expected as contaminants are associated with the soil and the proposed plan will be to excavate all contaminated soil and dispose off-site.

Site Closeout Documentation (LTM):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 45
2. Well depth: 15 feet
3. Well diameter: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-12

Remedial Design from FS	\$218,258
Remedial Action from FS	2,226,742
Excavate and dispose of 14,000 cubic yards of soil off-site	
RCRA Closure Bldg 803 (Plan) 58,000 plus escalation (1.1125)	64,525
Corps of Engineers oversight (218,258 + 2,226,742 + 64,525) x 0.07	175,667
LTM	
Site Closeout (RACER)	41,132
Well Abandonment (RACER)	72,043
Total Site Cost	\$2,798,367

Cost Decrease > 10% from 2007 Report? Yes

Reason: Updated cost estimate from Feasibility Report.

Prepared by: Janet R. Fallo  2/25/08
Signature Date

Reviewed by: Stephen M. Absolom  2/25/08
Signature Date

**FINAL
FEASIBILITY STUDY REPORT**

**FOR THE RADIOACTIVE WASTE BURIAL SITES (SEAD-12)
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NY**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
ROMULUS, NEW YORK 14541**

and

**UNITED STATES ARMY CORPS OF ENGINEERS
4820 UNIVERSITY SQUARE
HUNTSVILLE, ALABAMA 35816**

Prepared by:

**PARSONS
150 Federal Street
Boston, MA 02110**

Contract Number: DACA87-02-D-0005

Delivery Order: 0031

USEPA Site ID: NY0213820830

NY Site ID: 8-50-006

January 2008

Alternative 2, Excavation/Disposal in Off-Site Landfill/Environmental Easement:

Approximately 5,000 cubic yards of soil and debris will be excavated from Disposal Pit A/B and approximately 9,000 cubic yards of soil and debris will be removed from Disposal Pit C. Because there are no contaminants of concern at these areas, the extent of excavation will be the limits of the debris encountered within the excavation areas. All debris and soil removed from the excavation will be scanned for the presence of radionuclides. Although there were no radiological exceedances in the disposal pits, the soil and debris will be screened to provide further concurrence that all subsurface materials encountered are free from unacceptable levels of radioactivity. If elevated levels of radioactivity are found, further analytical testing would be performed to confirm and identify the radionuclides of concern. Such material would be disposed properly off-site at a licensed facility. Once all military debris and radiologically-impacted soils have been removed, the remaining soil will be backfilled. Additional clean fill from off-site will be used, as needed. The excavated areas will be re-contoured to match the existing terrain characteristics. The cost for the debris excavation and disposal is approximately \$2.371 million.

In addition to the excavation of military debris, an environmental easement will be prepared to prohibit access to Buildings 813/814 and any newly constructed building in the area, prior to conducting an indoor air survey. This is needed due to the presence of trichloroethylene in soil beneath the buildings foundation. The cost for the environmental easement is about \$74,000.

The total present worth cost for this alternative is \$2.445 million (\pm 25-50 percent).

Alternative 4, Excavation/Disposal in Off-Site Landfill/Building Demolition for Unrestricted Use: Actions for Disposal Pit A/B and Disposal Pit C are the same as those presented in Alternative 2. The cost for the debris excavation and disposal is approximately \$2.371 million, the same as the cost for Alternative 2. In addition to the excavation of military debris, a vapor intrusion study will be performed for Buildings 813 and 814. If warranted based on the study results, the buildings will be demolished and soil associated with elevated trichloroethylene concentrations underneath the building foundation will be excavated and disposed. This alternative will result in unrestricted use for SEAD-12. The alternative involves demolition of approximately 150 cubic yards of building material and excavation of approximately 900 cubic yards of soil underneath the buildings. The cost for the vapor intrusion study and buildings demolition is estimated at \$440,000.

The total present worth cost for this alternative is \$2.811 million (\pm 25-50 percent).

5,000
+ 9,000

14,000
cubic
yards

4.5.3.5 Costs

Alternative 1 (no-action) has no costs associated with it and was therefore ranked higher than Alternative 2 (excavation/disposal/easement) and Alternative 4 (excavation/disposal/building demolition).

The cost for excavation and disposal of debris from Disposal Pits A/B and C is estimated at \$2,371,000, the same for Alternative 2 and Alternative 4. The costs for the Buildings 813/814 area remediation are \$74,000 and \$440,000 for Alternative 2 and Alternative 4, respectively. The cost of Alternative 4 for the Buildings 813/814 area remediation is about six times of the cost for Alternative 2. The total estimated costs for Alternative 2 and Alternative 4 are \$2,445,000 and \$2,811,000. The accuracy of these cost estimates are expected to be on the order of $\pm 25\text{-}50\%$. These estimates were developed primarily for comparative purposes.

4.6 UNCERTAINTY ASSOCIATED WITH ALTERNATIVE

Alternatives discussed in this FS have been well defined. Nonetheless, uncertainties related to the alternatives remain. A significant uncertainty that would affect the alternative analysis and cost estimate is the actual volumes of debris present in the disposal pits. Other uncertainties (e.g., uncertainties with the definition of alternatives, uncertainties associated with land disposal, and uncertainties related to construction) would also affect the alternative analysis and cost estimation. The focus of the alternative analysis presented in this FS is to make comparative estimates for alternatives with relative accuracy; uncertainties associated with the identified alternatives are not expected to impact the overall alternative comparison results.

4.7 SUMMARY AND CONCLUSIONS

All of the identified remedial alternatives meet the threshold criteria of protectiveness of human health and the environment and compliance with ARARs based upon the results of the human health and ecological risk assessment and a comparison with ARARs. These alternatives are intended to address the presence of military-related debris identified during the Remedial Investigation in specific areas of SEAD-12.

Alternative 4 ranked the highest among the four alternatives for long-term human health and environmental protectiveness, reduction of mobility, reduction of volume, permanence, and administrative feasibility. Both Alternative 2 and Alternative 4 would result in the excavation and disposal of military debris associated with Disposal Pit A/B and Disposal Pit C. The only difference between Alternative 2 and Alternative 4 is the way in which potential future exposure to indoor air in Buildings 813/814 are managed. An environmental easement is adopted in Alternative 2 for Buildings 813/814 while building demolition is proposed in Alternative 4. Alternative 1 ranked the highest among the four alternatives for short-term human health and environmental protectiveness, technical feasibility, and availability of services and materials. All the four alternatives ranked the same in reduction of toxicity.

Alternatives 2 and 4 have the highest total scores among the four alternatives (29 and 30, respectively). The intended land-use for SEAD-12 is institutional training. The presence of military

debris could potentially place restrictions on the use of SEAD-12 as an institutional training area. Based upon the lack of long-term effectiveness and permanence associated with military debris for the no-action alternative, Alternatives 2 and 4 are the recommended alternatives. A detailed screening process would be employed during the excavation and stockpiling stage to ensure that all materials classified as military or containing isotopes above the threshold criteria are disposed of properly. In addition, an environmental easement (Alternative 2) or a building demolition (Alternative 4) will be performed for Buildings 813/814 area. The easement will state that an investigation of vapor intrusion potential and indoor air quality must be performed before the buildings, or any newly constructed buildings in the vicinity, are occupied. The building demolition will include demolition of the Buildings 813/814 and excavation of soil associated with elevated levels of TCE in soil underneath the building foundation. The estimated costs are \$2,445,000 and \$2,811,000 for Alternative 2 and Alternative 4, respectively. The cost for the debris excavation from Disposal Pits A/B and appropriate disposal is \$2,371,000, the same for Alternative 2 and Alternative 4. The cost for the Buildings 813/814 area remediation using Alternative 4 is approximately six times of the cost for Alternative 2 (\$74,000 and \$440,000 for Alternative 2 and Alternative 4, respectively). The costs associated with these two alternatives assume that a percentage of the materials excavated would be classified for off-site disposal. The actual costs may be higher or lower depending upon the type and volume of material present in the areas identified for excavation.

Table 4-1
COST ESTIMATE SUMMARY FOR REMEDIAL ACTION ALTERNATIVES
SEAD-12 Feasibility Study
Seneca Army Depot Activity

Costs	Reference Table	Alternative 2 Excavation of Soil/Debris, Off-site Disposal of Debris, and Environmental Easement	Alternative 4 (unrestricted) Excavation of Soil/Debris, Off-site Disposal of Debris, Vapor Intrusion Study, and Buildings 813/814 Demolition
Disposal Pits A/B and C			
Capital Costs			
Remedial Design	A-2	\$ 158,000	\$ 158,000
Mobilization/Demobilization	A-2	\$ 39,000	\$ 39,000
Rad Sampling, Testing, & Air Monitoring	A-2	\$ 41,000	\$ 41,000
Site Services	A-2	\$ 355,000	\$ 355,000
Soil/Debris Excavation, Backfill and Disp.	A-2	\$ 1,124,000	\$ 1,124,000
Cost to Prime		\$ 1,717,000	\$ 1,717,000
Field Office Support (5%)		\$ 86,000	\$ 86,000
Home Office Support (15%)		\$ 270,000	\$ 270,000
Profit (10%)		\$ 207,000	\$ 207,000
Bond (4%)		\$ 91,000	\$ 91,000
Cost to Owner		\$ 2,371,000	\$ 2,371,000
Buildings 813/814 Area			
Capital Costs			
Vapor Intrusion Study	A-4	NA	\$ 94,000
Building Demolition	A-6	NA	\$ 224,000
Cost to Prime		\$ -	\$ 318,000
Field Office Support (5%)		\$ -	\$ 16,000
Home Office Support (15%)		\$ -	\$ 50,000
Profit (10%)		\$ -	\$ 38,000
Bond (4%)		\$ -	\$ 17,000
O&M Costs			
Environmental Easement ¹	A-2	\$ 74,000	NA
Cost to Owner		\$ 74,000	\$ 440,000
SEAD-12 Total			
TOTAL PRESENT WORTH COST (±25-50%)		\$ 2,445,000	\$ 2,811,000

Notes:

- The present worth cost associated with environmental easement was calculated based on an annual \$3,000 cost, along with a discount rate of 7% and a 30-year time interval.
- Refer to Appendix A, Tables A-1 through A-6, for cost estimate information and backup quantity estimate information.

RDCost 158,000
 x 1.05 field office support

 165,900
 x 1.15 home office support

 190,785
 x 1.10 profit

 209,863.5
 x 1.04 bond

 218,258

RD + RA
 RD/RA ⇒ 2,445,000
 RD - 218,258

 RA 2,226,742

RD = 218,258

RCRA Closure Plan

Building 803, Mixed Waste Storage Facility

Prepared for:

**Seneca Army Depot Activity
Romulus, New York**

and

**US Army Corps of Engineers
Huntsville Center**

Prepared by:

PARSONS

**100 Summer Street, Suite 800
Boston, Massachusetts 02110**

Contract No.: DACA87-95-D-0031

Delivery Order No.: 25

739263

December 2004

2.3.10 Closure Costs

An estimate of the costs to close Building 803, the Mixed Waste Storage Facility has been developed using MCACES. Costs projected for this activity have been derived based on the Army retaining a third-party consultant to oversee the proposed closure of Building 803 and to collect the necessary samples for analysis, and a third-party organization being retained to complete all of the required decontamination and hazardous waste removal operations. All decontamination wastes deemed hazardous will be shipped off-site for disposal at a licensed TSDF.

The estimated cost for closing Building 803 is approximately \$58,000, however, this cost includes the possible necessity of steam cleaning the entire building. If this is not necessary, the cost will decrease significantly. Details of this estimate are summarized in Table 2-5 and detailed in Appendix D of this closure plan .

Action -
Cost to clean bldg 803 (part of SEAD-12)
for RCRA closure.

\$ 58,000 FY04
1.1125 escalation

\$ 64,525 FY08 cost

Bldg 803 closure cost = \$64,525



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

CERM-P (37)

S: 26 April 2004
31 March 2004

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDERS

SUBJECT: Defense Environmental Restoration Program (DERP) Supervision and Administration (S&A) Rate Change

1. The actual DERP S&A costs have been about one percent below the rate charged customers since the beginning of fiscal year 2002. The Director of Military Programs has asked that the cost saving from these efficiencies be passed on to the customer through lower S&A flat rates.
2. Effective 1 April 2004 the flat rate for DERP and BRAC environmental work will be reduced one percent. The new rates will be 7.0% for CONUS and 7.5% OCONUS. All locations outside the continental 48 states and DC are classified as OCONUS by the Department of Defense. S&A
RATE
3. Please provide your district and MSC mid-year S&A schedules reflecting the lower DERP rates by 26 April 2004 in the standard electronic format. MSC-specific formats will be emailed individually to your POCs within a week.
4. POC is Mr. Philip Blount, CERM-P at (202) 761-5620.

FOR THE COMMANDER:


STEPHEN COAKLEY
Director of Resource Management

CF:
CEMP-I
CEMP-SWD

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-12
Project Name: SEAD-12
Project Category: Institutional/Training

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-12, Radioactive Waste Burial Sites and SEAD-72, Building 803

The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of site close out. RD/RA costs were obtained from the RI/FS and RCRA Closure Plan.

Site: SEAD-12, Radioactive Waste Burial Pits including SEAD-72, Building 803

Source:

1. Final Feasibility Study Report, SEAD-12, January 2008
2. RCRA Closure Plan, Building 803, Mixed Waste Storage Facility, December 2004
3. Corps of Engineers S&A letter dated 31 March 2004
4. Professional judgment based on site knowledge

Estimate Documentation Report

Note: Building 803 (SEAD-72) is included with SEAD-12. The RCRA Closure of SEAD-72 will require funding for the cleaning as addressed in the Closure Plan. In addition, the Draft Final Supplemental RI for SEAD-12 addressed a TCE contaminated area at Bldg. 813/814. This Supplemental RI concludes that No Further Action will be required at Bldg. 813/814 site.

RACER Assumptions:

Site Closeout will be required following the SEAD-12 Removal Action. No post remediation monitoring is expected as contaminants are associated with the soil and the proposed plan will be to excavate all contaminated soil and dispose off-site.

Site Closeout Documentation (LTM):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 45
2. Well depth: 15 feet
3. Well diameter: 2"
4. Unconsolidated
5. Overdrill/removal

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-12
Site Name: Radioactive Waste Burial Sites
Site Type: None

Media/Waste Type

Primary: Solids
Secondary: N/A

Contaminant

Primary: Radioactive (Low Level)
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: Site Closeout Documentation for SEAD-12 (SEAD-72 is included as part of SEAD-12. It is a RCRA permitted Mixed Waste Storage Building located within the SEAD-12 boundry and Closure Costs are captured in Reference #2 document noted below).

Support Team: Stephen M. Absolom - BEC, Seneca Army Depot
Thomas R. Enroth- US Army Corps of Engineers, Project Engineer

References: 1. Final Feasibility Study Report, SEAD-12, January 2008
2. RCRA Closure Plan, Building 803, Mixed Waste Storage Facility, December 2004

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/14/2008

Estimate Documentation Report

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM	\$61,384	\$113,175
Total Cost:	\$61,384	\$113,175

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Site Closeout Documentation

Start Date: October, 2008
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$113,175

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	12	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: Site Close-Out Documentation (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		5	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: Well Abandonment (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		45	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 19 February 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. Since this site is a Military Munitions Rule site, OE costs reported have been captured in an OE EE/CA. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the RD/RA HTRW component.

Site: SEAD-003-R-01, Former EOD Range (alias SEAD-57) and the 3.5" Rocket Range (alias SEAD-46)

Source:

1. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
2. Completion Report, Munitions Response and CERCLA Closure, SEAD 002-R-01, SEAD 57, SEAD 46, and SEAD 007-R-01, April 2007
3. Munitions Response AFCEE Contract dated 16 Feb 2006 Contract no. FA8903-04-D-8675
4. Professional judgment based on site knowledge.

Phase: LTM will be an Institutional Control in perpetuity. Initial duration is 30 years for a recurring review every 2 years.

RACER Assumptions:

Remedial Design/ Remedial Action:

RA: The HTRW component of this site is soil contaminants with metals in and below the berm area at the EOD berm at SEAD-57. Assume that once the berm and soils below the berm have been removed and disposed of at an off-site landfill, the COC's will pose no threat to the groundwater. Therefore, no groundwater monitoring or 5-year reviews will be required for the HTRW removal. The berm is approximately 250' x 30' x 5' and the area around and under the berm are approximately 100 x 150 x 5' as shown in Figure 4-7 of the RI report.
RD: RACER calculated per the RA cost total for the HTRW component. Design percentage equals 10%.

Site Closeout Documentation (LTM phase):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well Abandonment (LTM phase):

1. Number of wells: 13
2. Depth of wells: 15 feet
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

**Cost Summary SEAD-003-R-01
(SEAD-46/57)**

Remedial Design (RACER) \$37,440

Remedial Action
Soil Contamination Removal derived from RACER 409,980
from previously noted assumptions

LTM

Site Closeout & Well Abandonment (RACER) 69,929

OE Review site visits from EECA 25,350
\$1,690 per visit for 15 visits

Total Site Cost \$542,699

Cost Difference > 10% from 2007 Report? Yes

Reason: RACER Update for HTRW Removal, OE Removal contracted in FY06.

Prepared by: Janet R. Fallo  2/21/08
Signature Date

Reviewed by: Stephen M. Absolom  2/21/08
Signature Date

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675	2. DELIVERY ORDER/ CALL NO. 0026	3. DATE OF ORDER/CALL (YYYYMMDD) 16 FEB 2006	4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE	5. PRIORITY DO-G3
---	-------------------------------------	--	--	----------------------

6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil	CODE FA8903	7. ADMINISTERED BY (If Other than 6) DEPARTMENT OF THE AIR FORCE AFMC 311 HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 SCD: C PAS: (NONE)	CODE FA8903	8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)
--	----------------	--	----------------	---

9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC 100 W WALNUT ST PASADENA CA 91124-0001 (626) 440-2000	CODE 1BVK6	FACILITY	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. X IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED
			12. DISCOUNT ITEMS N	
13. MAIL INVOICES TO ADDRESS IN BLOCK See Field 15 (Payment Office) and Section G				

14. SHIP TO SEE SCHEDULE	CODE	15. PAYMENT WILL BE MADE BY PR W1J5 USACE FIN CTR 5722 INTEGRITY DRIVE BLDG 787; PARENT CODE 2100 MILLINGTON TN 38054-5005 EFT:T	CODE W916TX	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.
-----------------------------	------	---	----------------	---

16. TYPE OF ORDER	DELIVERY/ CALL	<input checked="" type="checkbox"/>	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
	PURCHASE	<input type="checkbox"/>	Reference your _____ furnish the following on items specified herein.
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.			

NAME OF CONTRACTOR _____ SIGNATURE _____ TYPED NAME AND TITLE _____ DATE SIGNED(YYYYMMDD) _____

If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
SEE SCHEDULE

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT

*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.	24. UNITED STATES OF AMERICA //signed// CLIFFORD R. TRIMBLE BY: _____	25. TOTAL \$2,304,100.00 29. DIFFERENCES
		16 FEB 2006 CONTRACTING/ORDERING OFFICER

26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED	27. SHIP NO.	28. D.O. VOUCHER NO.	30. INITIALS
DATE _____ SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	32. PAID BY	33. AMOUNT VERIFIED CORRECT FOR
36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT. DATE _____ SIGNATURE AND TITLE OF CERTIFYING OFFICER _____	<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	34. CHECK NUMBER	35. BILL OF LADING

37. RECEIVED AT	38. RECEIVED BY (Print)	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.
-----------------	-------------------------	------------------------------	----------------------	---------------------	---------------------

SCHEDULE

1. In accordance with the terms and conditions of the Basic Contract FA8903-04-D-8675 and this task order 0026, the contractor shall accomplish the effort described in the attached Statement of Work (SOW) dated 5 August 2005 at a total Cost Plus Fixed Fee amount of \$2,304,100.00.

2. **SECTION B - Supplies/Services:**

Pursuant to FAR 52.232-20, entitled "Limitation of Cost", estimated cost is \$2,180,163.00.

The estimated cost and fee for this Task Order is shown below. The applicable fixed fee set for target fee set forth below may be increased or decreased only by negotiation and modification of the contract for added or deleted work. As determined by the Contracting Officer, it shall be paid as it accrues, in regular installments based upon the percentage of the completion of work (or the expiration of the agreed-upon periods(s) for term contracts).

Cost: \$2,180,163.00
 Fixed Fee: \$ 123,937.00
 Total CPFF: \$2,304,100.00

ITEM	SUPPLIES OR SERVICES	Qty Purch Unit	Unit Price Total Item Amount
0005		1	EST \$2,304,100.00
		Lot	EST \$2,304,100.00
	<i>Noun:</i>	ENVIRONMENTAL REMEDIATION AND CONSTRUCTION EFFORTS	
	<i>NSN:</i>	N - Not Applicable	
	<i>Contract type:</i>	U - COST PLUS FIXED FEE	
	<i>Inspection:</i>	DESTINATION	
	<i>Acceptance:</i>	DESTINATION	
	<i>FOB:</i>	DESTINATION	
	<i>Item project mgr.:</i>	IWA	
	<i>Descriptive Data:</i>	The contractor shall provide the necessary effort for environmental remediation in accordance with the Statement of Work, dated 5 August 2005.	
000501			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AA \$194,644.00	
	<i>PR/MIPR:</i>	F1JFAA6019B0AC	\$194,644.00
000502			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AB \$144,007.00	
	<i>PR/MIPR:</i>	F1JFAA6019B0AC	\$144,007.00
000503			
	<i>Noun:</i>	Funding Info Only	
	<i>ACRN:</i>	AC \$150,686.00	
	<i>PR/MIPR:</i>	F1JFAA6019B0AC	\$150,686.00

SCHEDULE

ITEM	SUPPLIES OR SERVICES	Qty Purch Unit	Unit Price Total Item Amount
000504	<i>Noun:</i> Funding Info Only <i>ACRN:</i> AD <i>PR/MIPR:</i> F1JFAA6019B0AC		\$600,000.00
000505	<i>Noun:</i> Funding Info Only <i>ACRN:</i> AE <i>PR/MIPR:</i> F1JFAA6019B0AC		\$781,893.00
000506	<i>Noun:</i> Funding Info Only <i>ACRN:</i> AF <i>PR/MIPR:</i> F1JFAA6019B0AC		\$283,790.00
000507	<i>Noun:</i> Funding Info Only <i>ACRN:</i> AG <i>PR/MIPR:</i> F1JFAA6019B0AC		\$149,080.00
0006	<i>Noun:</i> DATA <i>ACRN:</i> U <i>NSN:</i> N - Not Applicable <i>Contract type:</i> U - COST PLUS FIXED FEE <i>Inspection:</i> DESTINATION <i>Acceptance:</i> DESTINATION <i>FOB:</i> DESTINATION <i>Item project mgr.:</i> IWA <i>Descriptive Data:</i> The contractor shall provide data in accordance with CDRL Tables in Exhibits A, B, and C, and as implemented by direction provided in the SOW. This CLIN is Not Separately Priced (NSP). The prices associated with this CLIN are included in CLIN 0005.	1 Lot	NSP NSP

3. **SECTION C - Description/Specs/Work Statement:** Work is to be performed in accordance with the Statement of Work (SOW) dated 5 August 2005 "Munitions Response and CERCLA Closure at Seneca Army Depot, NY". Projects: AMSCO 61366R62, AMSCO 61366R01, AMSCO 61366R02

4. **SECTION D - Packaging and Marking:**

a. D-001 entitled, "PRESERVATION, PACKAGING, PACKING AND MARKING REQUIREMENTS (FEB 1997)":

PKV-D1 MARKING OF SHIPMENTS (ALTERNATE I)(SEP 2000)".

(a) The contractor shall mark all shipments under this contract in accordance with MIL-STD-129 entitled "Marking for Shipment and Storage".

(b) Each shipment of material and/or data/reports shall be clearly marked to show the following information:

SHIP TO: AFCEE/IWA
 3300 Sidney Brooks
 Brooks-City Base, TX 78235-5112

MARK FOR: Contract Number: FA8903-04-D-8675
 Task Order No: 0026
 Data Item No: (see block 1 of CDRL Table for data item no.)
 Title/Subtitle (as applicable): (see blocks 2 & 3 for title and/or subtitle)

b. All shipments submitted under this order shall be forwarded prepaid.

5. SECTION E - Inspection and Acceptance:

Inspection and acceptance (including the pre-final) will be performed by the Contracting Officer's designated representative. Final inspection and acceptance location is at Seneca Army Depot, NY.

6. SECTION F - Schedule Data:

ITEM	SUPPLIES SCHEDULE DATA	QTY	SHIP TO	MARK FOR	TRANS PRI	DATE
0005		1	F1JFAA			28 Feb 2007
	<i>Noun:</i>		ENVIRONMENTAL REMEDIATION AND CONSTRUCTION EFFORTS			
	<i>ACRN:</i>	9				
	<i>Descriptive Data:</i>	The contractor shall deliver the remediation effort in accordance with the Statement of Work, dated 5 August 2005.				
0006		1	F1JFAA			28 Feb 2007
	<i>Noun:</i>		DATA			
	<i>ACRN:</i>	U				
	<i>Descriptive Data:</i>	The contractor shall deliver data in accordance with the CDRL Tables, Exhibits A, B, and C, and as directed by the SOW.				

7. SECTION G- Accounting and Appropriation Data:

This task order is not Wide Area Work Flow (WAWF) eligible at this time.

a. Submit cost vouchers and invoices electronically to the AFCEE Contract Administrator with the pertinent supporting documentation, cost/schedule/status reports, as attachments in one e-mail to:

- (1). AFCEE_ACW_INVOICES @brooks.af.mil
- (2). cc: (Contracting Officer Representative) [COR]@brooks.af.mil
- (3). cc: Base POC if applicable
- (4). cc: AFCEE.MSCMSCS@brooks.af.mil

SCHEDULE

- b. Ensure the subject line is in the following format:
 FA8903-04-D-8675-0026, Invoice/Voucher #*, Seneca Army Depot NY, NONAF, CPFF
 (#* use actual number)
- c. All other documents are to be submitted per the CDRL tables.
- d. Incomplete submissions will be rejected and returned.

ACRN	Appropriation/Lmt Subhead/Supplemental Accounting Data	Obligation Amount
AA	97 X0510 40B1 E3199608801161366R6200025GZC8541CNAS190160 <i>Funding breakdown:</i> On CLIN 000501: \$194,644.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$194,644.00 <i>PR Long line:</i> 97 X0510 40B1 E3199608801161366R6200025GZC8541CNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53563491, Basic, Dtd 22 Dec 2005, expires 30 Nov 2008 \$194,644.00 Project AMSCO 61366R62 PR Complete	\$194,644.00
AB	97 X0510 40E1 E3199908801161366R6200025FBC8541CNAS190160 <i>Funding breakdown:</i> On CLIN 000502: \$144,007.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$144,007.00 <i>PR Long line:</i> 97 X0510 40E1 E3199908801161366R6200025FBC8541CNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53563491, Basic, Dtd 22 Dec 2005, expires 30 Nov 2008 \$144,007.00 Project AMSCO 61366R62 PR Complete	\$144,007.00
AC	97 X0510 0000 E3200008801161366R6200025FBC8541CNAS190160 <i>Funding breakdown:</i> On CLIN 000503: \$150,686.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$150,686.00 <i>PR Long line:</i> 97 X0510 0000 E3200008801161366R6200025FBC8541CNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53563491, Basic, Dtd 22 Dec 2005, expires 30 Nov 2008 \$150,686.00 Project AMSCO 61366R62 PR Complete	\$150,686.00

ACRN	Appropriation/Lmt Subhead/Supplemental Accounting Data	Obligation Amount
AD	97 X0510 40G1 E3200108801161366R6200025FBC8541CNAS190160 <i>Funding breakdown:</i> On CLIN 000504: \$600,000.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$600,000.00 <i>PR Long line:</i> 97 X0510 40G1 E3200108801161366R6200025FBC8541CNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53563491, Basic, Dtd 22 Dec 2005, expires 30 Nov 2008 \$600,000.00 Project AMSCO 61366R62 PR Complete	\$600,000.00
AE	97 X0510 40K1 E3200508801161366R6200025FBC8541CNAS190160 <i>Funding breakdown:</i> On CLIN 000505: \$781,893.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$781,893.00 <i>PR Long line:</i> 97 X0510 40K1 E3200508801161366R6200025FBC8541CNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53563491, Basic, Dtd 22 Dec 2005, expires 30 Nov 2008 \$781,893.00 Project AMSCO 61366R62 PR Complete	\$781,893.00
AF	97 X0510 40K1 E3200508801161364R0200025FBFKBB50NAS190160 <i>Funding breakdown:</i> On CLIN 000506: \$283,790.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$283,790.00 <i>PR Long line:</i> 97 X0510 40K1 E3200508801161364R0200025FBFKBB50NAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53493245, Basic, Dtd 15 Dec 2005, expires 30 Dec 2007 \$283,790.00 Project AMSCO 61364R02000 PR Complete	\$283,790.00
AG	97 X0510 40K1 E3200508801161366R0100025FBHF572DNAS190160 <i>Funding breakdown:</i> On CLIN 000507: \$149,080.00 <i>PR/MIPR:</i> F1JFAA6019B0AC \$149,080.00 <i>PR Long line:</i> 97 X0510 40K1 E3200508801161366R0100025FBHF572DNAS1901600008735 <i>Descriptive data:</i> MSR Control # Army 06-154/155/156 W16ROE53493241, Basic, Dtd 15 Dec 2005, expires 30 Dec 2007 \$149,080.00 Project AMSCO 61366R01000 PR Complete	\$149,080.00

STATEMENT OF WORK
MUNITIONS RESPONSE AND CERCLA CLOSURE

At

SENECA ARMY DEPOT, NY

CONTRACT: FA8903-04-D-8675
TASK ORDER: 0026
Project Numbers: AMSCO 61366R62, AMSCO 61366R01, AND
AMSCO 61366R02

5 August 2005

SEAD-003-R-01
= SEAD-46, 57

FA8903-04-D-8675-0026
Attachment 1
5 August 05
Page 4 of 23

1.0 SCOPE

This task order statement of work (SOW) defines the scope of construction and environmental activities necessary to remediate the Seneca Army Depot Activity (SEDA), NY.

1.2 General

Several geophysical investigations have been conducted at SEAD 46, SEAD 002-R-01, SEAD 57, and SEAD 007-R-01 to provide detailed coordinates of subsurface anomalies and define site boundaries for further investigation and/or removal actions. It is anticipated that after Munitions Response actions are completed, the soils remaining on the sites will be suitable for inclusion in a Preliminary Remedial Action Plan (PRAP) and Record of Decision (ROD) documenting that no further actions are required under CERCLA.

The SEAD OE EE/CA, February 2004 and the Geophysical Investigation SEAD 46 and 57, April 2005 is available to the Contractor to estimate the types and amounts of effort required. The subsurface objects/anomalies are to be presumed to be MPPEH (UXO, DMM, MC) at SEAD 57 and SEAD 007-R-01. SEAD 46 and SEAD 002-R-01 are presumed to contain Munitions Debris only and will be conducted with On-call Construction Support requirements unless MPPEH items are encountered as work progresses. The USACE will provide a DOD approved Explosives Safety Plan for incorporation into the contractor's Site Safety Plan under this concept.

The scope of work is to complete the subsurface investigations previously referenced, reacquire known and new targets, excavate the locations (max 2' radius, 4' depth) until a target object is identified, record the results while providing appropriate QC and Safety oversight of the UXO teams. In addition, soil excavation, MMR clearance, and soil transport and disposal is necessary for saturated response areas (metal contamination). General project requirements include; review and incorporation of the Final Reports and SEAD OE EE/CA, February 2004 and Geophysical Investigations Munitions Destruction Areas, SEAD 46 and 57, development of detailed project work plans and cost proposals, mobilization, mowing and grubbing as necessary, general site security, performance of appropriate intrusive investigations for all anomalies over 50 Mv response, excavation, clearance, and disposal of soil and debris in areas with more than 600 anomalies per acre, sampling and analysis of excavated and surface soils for disposition and closure of the sites, and preparation of all draft and final project reports including the PRAP and ROD, data, surveys and mapping.

1.2. Background

The work required under this scope of work falls under the Base Realignment and Closure (BRAC) program. Unexploded ordnance is a safety hazard and may constitute danger to site personnel and the local population if improperly managed. All activities involving work in areas potentially containing MPPEH shall be conducted in full compliance with USACE, DA and DOD requirements regarding personnel, equipment, and safety procedures. 29 CFR 1910 and

FINAL

**ORDNANCE AND EXPLOSIVES
ENGINEERING EVALUATION/
COST ANALYSIS REPORT**

**SENECA ARMY DEPOT
ROMULUS, SENECA COUNTY, NEW YORK**

Prepared For:

**SENECA ARMY DEPOT ACTIVITY
and
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
and
HUNTSVILLE CENTER**

**Contract No. DACA87-95-D-0018
Delivery Order No. 0052**

Prepared By:

**PARSONS ENGINEERING SCIENCE, INC.
100 SUMMER ST
BOSTON, MA 02110**

JANUARY 2004

EXECUTIVE SUMMARY

ES1 The 10,587-acre Seneca Army Depot Activity (SEDA) facility was constructed in 1941 and has been owned by the United States Government and operated by the Department of the Army since that date. From its inception in 1941 until 1995, SEDA's primary mission was the receipt, storage, maintenance, and supply of military items, including munitions and equipment. The Depot's mission changed in early 1995 when the Department of Defense (DOD) recommended closure of the Seneca Army Depot under its Base Realignment and Closure (BRAC) process. This recommendation to close Seneca Army Depot Activity was approved by Congress on September 28, 1995 and the Depot was officially closed in July 2000.

ES2 In accordance with the requirements of the BRAC process, the Seneca County Board of Supervisors established the Seneca Army Depot Local Redevelopment Authority (LRA) in October 1995. The primary responsibility assigned to the LRA was to plan and oversee the redevelopment of the Depot. The Reuse Plan and Implementation Strategy for Seneca Army Depot was adopted by the LRA and approved by the Seneca County Board of Supervisors on October 22, 1996. Under this plan and subsequent amendment, areas within the Depot were classified as to their most likely future use. These areas included: housing, institutional, industrial, an area for the existing navigational LORAN transmitter, recreational/conservation, and an area designated for a future prison.

ES3 In July of 1998, the U.S. Army Corps of Engineers (USACE) conducted a site visit and historical data collection effort. The findings are documented in the Archives Search Report (ASR). The ASR initially subdivided the depot into 27 Areas of Interest (AOIs) for ordnance contamination based on physical attributes, homogeneity, and current and historical land use. The ASR evaluated each AOI to determine whether the area should or should not be investigated for ordnance and explosives/ unexploded ordnance (OE/UXO). Each AOI was classified as requiring further investigation or not requiring further investigation based on a review of historical documents, aerial photography, and employee interviews. Most of the AOIs were also visited by USACE to determine whether any traces of OE were readily apparent.

ES4 The ASR classified 15 of the areas as uncontaminated. Subsequently, one of the areas recommended for further investigation, SEAD-43, was classified as a no further action site after a geophysical and intrusive investigation in 1999. The remaining 11 AOIs discussed in the ASR were classified as sites where OE might present a safety risk. This Engineering Evaluation and Cost Assessment project was undertaken in order to determine the nature and extent of possible OE contamination at these sites.

ES5 The EE/CA fieldwork used geophysical survey techniques and intrusive investigations to estimate the density of the ordnance in different areas, which was then compared with the current and future activities and anticipated users. Data collected from this characterization project were also used to develop alternatives designed to reduce the risk of possible exposure to UXO within AOIs. These alternatives were then evaluated to determine their effectiveness, implementability, and cost.

ES6 Results of this comparison indicate that there are portions of SEDA where alternatives requiring removal of UXO will be necessary to ensure public safety. The results also indicate that implementation of site-wide institutional controls will be necessary to manage residual risk. Several AOIs within SEDA will not require any OE removal operations to make the property safe for the proposed future uses.

ES7 OE response action alternatives were evaluated for each of the 11 AOIs at SEDA 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 was used to identify candidate OE response alternatives for further qualitative evaluation. Each of the alternatives remaining after this screening were then compared to each other as far as effectiveness, implementability, and cost. Once the remaining alternatives at each AOI had been compared, one alternative was chosen as the most appropriate response to the existing OE hazard.

ES8 The following response actions have been chosen for the AOIs investigated during the Seneca OE EE/CA:

- NFA – SEAD-53 (Igloo Area) ditches, Demo Range, Indian Creek Burial Area. These sites are no longer under consideration as ordnance sites
- Institutional Controls – Base wide, no individual areas
- Clearance to Depth of 6” – SEADs-16 and -17 (Deactivation Furnaces), EOD Area #2
- Clearance to Depth of Instrument Detection – EOD Area #3, SEAD-44A (QA Function Test Area), SEAD-46 (3.5” Rocket Range), Grenade Range
- Clearance to Depth by Means of Excavation and Mechanical Sorting – SEAD-45 (Open Detonation Area), SEAD-57 (Former EOD Range)

Complete descriptions of each of these alternatives are contained in Section 7.

Table G-23
SEAD-4 (3.5" Rocket Range)
Cost Estimate for Alternative 3:
Clearance to 6"

This estimate assumes:
Clearance to 6" of 370 acres in SEAD-45
A 700' x 700' fence surrounding the demo berm in SEAD-57

Item	Unit	Unit Cost	Amount	Initial Cost	Life Cycle Cost (30 yrs)	Total Cost
UXO Clearance to 6" ¹	acre	\$3,400	370	\$1,258,000	\$0	\$1,258,000
UXO Sweep Contractor ²	linear feet	\$2	5,700	\$11,400	\$0	\$11,400
Fencing Installed ³	linear feet	\$10	5,700	\$57,000	\$171,000	\$228,000
Signs Installed	1 sign (per 500' of fence)	\$93	11	\$1,060	\$6,840	\$7,900
A-E Field Oversight		15% of UXO Clearance/IC		\$199,119	\$0	\$199,119
A-E Project Management		8% of UXO Clearance/IC		\$106,197	\$0	\$106,197
Moderate Brush Cutting ⁴	acre	\$426	185	\$78,810	0	\$78,810
Heavy Brush Cutting ⁴	acre	\$603	185	\$111,555	0	\$111,555
			<i>Subtotal:</i>	\$1,711,586	\$177,840	\$1,889,426
CEHNC Oversight		15% of subtotal		\$256,738	\$0	\$256,738
				Total Cost Estimate:		\$2,146,164
				Contingency (25%):		\$536,541
						\$2,682,705
				Cost per. Acre =		\$6,464

Assumptions

- ¹Cost for UXO clearance includes all ODC and mobilization costs, and equipment
- ²Estimate includes surface sweep of area to be performed prior to having fence installed
- ³Cost to install fencing is \$10 per linear foot of 8 foot chain link with three strands of barbed wire
- ⁴Brush cutting costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History

Table G-24
Seneca Army Depot Activity
Costs for Recurring Reviews
30 Year Period

Reviews
30 yr duration
Every 2 yrs for all sites

This estimate assumes:
Recurring review Depot wide every 2 years
2 man crew on site for 4 days
Report to be files upon completion of review

Item	Unit	Unit Cost	Amount	Per Review Cost	Total Cost (30 yrs) ¹
Mob/Demob		\$1,500	2	\$3,000	\$18,427
Per Diem	day	\$124	8	\$992	\$6,093
Reviewers (2)	hour	\$65	100	\$6,500	\$39,924
A-E Field Oversight		15% of UXO Clearance/IC		\$1,574	\$9,667
A-E Project Management		8% of UXO Clearance/IC		\$839	\$5,155
			<i>Subtotal:</i>	\$12,905	\$79,266
CEHNC Oversight		15% of subtotal		\$1,936	\$11,890

Total Cost Estimate: \$91,156
Contingency (25%): \$22,789
\$113,944

\$ 113,944 FY04 cost
1.0769 escalation factor
\$ 122,706 FY07 cost

\$ 122,706 = \$24,541 per site
5 sites

\$ 24,541 per site = \$1,636 per site visit every 2 yrs for 30 yrs
15 site visits

Assumptions

¹30 Year costs assume present value costs with a discount factor of 7%

30 yr site cost
\$ 24,541

Cost/site visit = \$1,636

ES6 Results of this comparison indicate that there are portions of SEDA where alternatives requiring removal of UXO will be necessary to ensure public safety. The results also indicate that implementation of site-wide institutional controls will be necessary to manage residual risk. Several AOIs within SEDA will not require any OE removal operations to make the property safe for the proposed future uses.

ES7 OE response action alternatives were evaluated for each of the 11 AOIs at SEDA 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 was used to identify candidate OE response alternatives for further qualitative evaluation. Each of the alternatives remaining after this screening were then compared to each other as far as effectiveness, implementability, and cost. Once the remaining alternatives at each AOI had been compared, one alternative was chosen as the most appropriate response to the existing OE hazard.

ES8 The following response actions have been chosen for the AOIs investigated during the Seneca OE EE/CA:

- NFA – SEAD-53 (Igloo Area) ditches, Demo Range, Indian Creek Burial Area. These sites are no longer under consideration as ordnance sites
- Institutional Controls – Base wide, no individual areas
- Clearance to Depth of 6" – SEADs-16 and -17 (Deactivation Furnaces), EOD Area #2
- Clearance to Depth of Instrument Detection – EOD Area #3, SEAD-44A (QA Function Test Area), SEAD-46 (3.5" Rocket Range), Grenade Range
- Clearance to Depth by Means of Excavation and Mechanical Sorting – SEAD-45 (Open Detonation Area), SEAD-57 (Former EOD Range)

Complete descriptions of each of these alternatives are contained in Section 7.

ACTION SITE

ACTION sites

Table G-17
SEAD-57 (Former EOD Range)
Cost Estimate for Alternative 5:
Soil Excavation and Sifting

*This estimate assumes:
the excavation and sifting of 12,000 cubic yards of material from SEAD-57
Clearance to depth of detection of 41 acres where brush can be cleared for geophysical surveys
Clearance to 6" of 20 thickly wooded acres (this area includes a portion of the Demo Range)*

Item	Unit	Unit Cost	Amount	Total Cost	Life Cycle Cost (30 yrs)	Total Cost
Soil Excavated and Sifted ¹	cubic yard	\$30	12,000	\$360,000	\$0	\$360,000
Replacement/Compaction of Soil ²	cubic yard	\$5	12,000	\$60,000	\$0	\$60,000
Re-seeding Disturbed Soil ²	acre	\$438	7	\$3,241	\$0	\$3,241
UXO Clearance to depth ¹	acre	\$11,000	41	\$445,500	\$0	\$445,500
UXO Clearance to 6" ⁴	acre	\$3,400	20	\$108,000	\$0	\$108,000
A-E Field Oversight		15% of UXO Clearance		\$146,511	\$0	\$146,511
A-E Project Management		8% of UXO Clearance		\$78,139	\$0	\$78,139
Light Brush Cutting ³	acre	\$120	46	\$5,520	\$0	\$5,520
Moderate Brush Cutting ³	acre	\$426	20	\$8,520	\$0	\$8,520
Heavy Brush Cutting ³	acre	\$603	9	\$5,427	\$0	\$5,427
			<i>Subtotal:</i>	\$1,220,859	\$0	\$1,220,859
CEHNC Oversight		15% of subtotal		\$183,129	\$0	\$183,129

Total Cost Estimate \$1,403,987
Contingency (25%) \$350,997
\$1,754,984

Cost per acre = \$24,175

details

Assumptions

- ¹Unit cost assumes \$25/yard³ for primary sift, \$3/yard³ for secondary sift, and \$2/yard³ for tertiary sift and hand sort
- ²Costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History
- ³Cost for UXO clearance includes all ODC and mobilization costs, and equipment
With EM-61, it also includes the collection, processing, and storage of data as well as the reacquisition and removal of anomalies and a 10% QC survey
- ⁴Cost for UXO clearance includes all ODC and mobilization costs, and equipment

Table G-18
SEAD-57 (Former EOD Range)
Cost Estimate for Alternative 4:
Clearance to Depth

*This estimate assumes:
Clearance to depth of detection of 30 acres where brush can be cleared for geophysical surveys
Clearance to 6" of 20 thickly wooded acres (this area includes a portion of the Demo Range)
A 700' x 700' fence surrounding the demo berm in SEAD-57*

Item	Unit	Unit Cost	Amount	Initial Cost	Life Cycle Cost (30 yrs)	Total Cost
UXO Clearance w/ EM-61 ¹	acre	\$11,000	30	\$330,000	\$0	\$330,000
UXO Clearance w/ Schonstedt ²	acre	\$3,400	20	\$68,000	\$0	\$68,000
UXO Sweep Contractor ³	linear feet	\$2	2,800	\$5,600	\$0	\$5,600
Fencing Installed ⁴	linear feet	\$10	2,800	\$28,000	\$84,000	\$112,000
Signs Installed	1 sign (per 500' of fence)	\$93	6	\$521	\$3,600	\$4,121
A-E Field Oversight		15% of UXO Clearance/IC		\$64,818	\$0	\$64,818
A-E Project Management		8% of UXO Clearance/IC		\$34,570	\$0	\$34,570
Light Brush Cutting ³	acre	\$120	46	\$5,520	\$0	\$5,520
Moderate Brush Cutting ³	acre	\$426	20	\$8,520	\$0	\$8,520
Heavy Brush Cutting ³	acre	\$603	9	\$5,427	\$0	\$5,427
			<i>Subtotal:</i>	\$545,549	\$87,600	\$633,149
CEHNC Oversight		15% of subtotal		\$81,832	\$0	\$81,832

Total Cost Estimate: \$714,981
Contingency (25%): \$178,745
\$893,726

Cost per Acre = \$12,413

Assumptions

- ¹Cost for UXO clearance includes all ODC and mobilization costs, and equipment
With EM-61, it also includes the collection, processing, and storage of data as well as the reacquisition and removal of anomalies and a 10% QC survey
- ²Cost for UXO clearance includes all ODC and mobilization costs, and equipment
- ³Estimate includes surface sweep of area to be performed prior to having fence installed
- ⁴Cost to install fencing is \$10 per linear foot of 8 foot cham link with three strands of barbed wire
- ⁵Brush cutting costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History

TABLE 8.22
SEAD-46 (3.5" ROCKET RANGE)
COST COMPARISON

Alternative	Effectiveness	Implementability	Cost
Institutional Controls	3	3	\$400,906
Clearance to 6"	2	2	\$264,080
Clearance to Depth	1	1	\$788,153

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

cost chosen response action

TABLE 8.23
SEAD-57 (FORMER EOD RANGE)
COST COMPARISON

Alternative	Effectiveness	Implementability	Cost
Institutional Controls	3	4	\$1,070,539 ¹
Clearance to 6"	2	3	\$490,594
Clearance to Depth	1	2	\$893,726
Clearance of OE to Depth by means of Mechanical Sorting	1	1	\$1,754,984

Note: Ranking from best to worst; best=1, worst=4

¹Institutional controls alternative is combined with SEAD-45

cost-chosen response action

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-NAD

21 December 2005

DIRECTIVE NO. BR-SEN-06-08

ISSUED THRU: CENAD-MT-HS (HUNTLEY)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC 97 ER at **Seneca AD, NY**.

1. Reference DA FAD, 21 December 2005, advice number 06-0002-00165.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: (1, 91, 93, or 95) <u>95</u>		increase /decrease__reprog_X
APPRN: 97 X/2005 0510.40F1 2000		DIV/DIST: <u>NAN</u> ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u>	<u>+/- ALLOCATION</u>
Seneca AD -- OB Ground SEAD 23	61366R34	- \$ 150,686.00
Seneca AD - Munitions Destruction Area	61366R62	+ \$ 150,686.00
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is James Huang, 202-761-8632.		

SEAD
003-R

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-NAD

15 November 2005

DIRECTIVE NO. BR-SEN-06-07

ISSUED THRU: CENAD-MT-HS (HUNTLEY)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC 97 ER at **Seneca AD, NY**.

1. Reference DA FAD, 14 November 2005, advice number 06-0002-00083.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: (1, 91, 93, or 95) <u>95</u>		increase /decrease__reprog_X
APPRN: 97 X/2004 0510.40E1 1999		DIV/DIST: <u>NAN</u> ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u>	<u>+/- ALLOCATION</u>
Seneca AD – OB Ground SEAD 23	61366R34	- \$ 144,007
Seneca AD - Munitions Destruction Area	61366R62	+ \$ 144,007
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is James Huang, 202-761-8632.		

SEAD-003-R-01

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

COMPLETION REPORT

MUNITIONS RESPONSE

SEAD 002-R-01, SEAD 57, SEAD 46 AND SEAD 007-R-01

**SENECA ARMY DEPOT ACTIVITY,
ROMULUS, NEW YORK**

April 2007

Prepared by:

**PARSONS
150 Federal Street
Boston, MA 02110**

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3.0 ORDNANCE AND EXPLOSIVES DEMILITARIZATION AND DISPOSAL

All MD and scrap metal items collected by UXO technicians on a daily basis were transferred to a staging area, inspected by both the SUXOS and UXO QC Supervisor, and placed into a locked storage area for temporary storage. Additional inspections were performed by the Senior UXO Supervisor (SUXOS), and again by the Senior QC (UXOQCS) Supervisor prior to being transferred to drums where a 1348-1A form was issued, Section 3.2 describes the final disposal procedures for all explosives and MD scrap metal

3.1 INTENTIONAL DETONATIONS

Demolition operations for MPPEH were conducted at the Open Detonation Hill (OD) to the north of the former Open Burning Grounds (OBG). In accordance with "Procedures for Demolition of Multiple Rounds (Consolidate Shots) on UXO Sites", dated August 1998 and approved by DDESB on 27 October 1998. Explosives Consumption Records are included in Appendix D. A table showing the suspected MPPEH items and the date they were vented is included as Table 2-2. Venting with a shape charge was used to distinguish MEC from MD.

All demolition explosives were transferred from the Army to Parsons/USA Environmental and kept in a secure storage bunker provided by the Army. All explosives were inspected weekly while in storage and transported in accordance with the State of New York's Department of Labor, Industrial Rule 39 and the Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF) regulations.

3.2 OTHER DEMILITARIZATION PROCEDURES

All projectiles and intact MD were demilitarized by either explosive venting or by the removal/deformation of the rotating bands and fuse wells following inspections.

Following venting of all MPPEH items, thermal treatment of small arms, and/or physical demilitarization procedures, all items were disposed of off-site. A total of 4,180 pounds of cultural debris scrap metal, 618 pounds of aluminum MD and 2,689 pounds of ferrous MD scrap metal was disposed off-site. A 1348-1A form, chain of custody form, and certificate of destruction for this material is included in Appendix D.

Demobilization

Demobilization occurred in November 2006 following completion of the 10% QC inspection for all six sites.

3.3 CONCLUSIONS

Between May 2006 and November 2006, Parsons performed munitions removal operations in accordance with the ESS requirements. In general, the results of the munitions removal project performed at Seneca Amy Depot for SEAD 46, SEAD 57, SEAD 007-R-01 and SEAD 002-R-01 indicate that all MPPEH has been cleared from these sites. A total of two of the 11,739 identified anomalies which were investigated were found to be MEC. This indicates that these sites were free of MEC with the exception of an area north of SEAD 57 buffer area and not part of this project. The

Army believes that no additional munitions response activities are required at these sites. The conclusions from each individual site are provided below.

SEAD 57 (Former EOD Range) and the SEAD-57 Buffer Area

The only MEC items encountered during this project were found north of SEAD 57 including one fused unfired 37mm projectile in Grid 57 K-16 and one MKII grenade located in 57K-18 as shown on Figure 1-4c. Most ferrous MD items at SEAD 57 were found north of Building T011 and were not found within the high density 1,000 foot kick out radius from the SEAD 57 berm. Figure 1-4c identifies all ferrous and aluminum MD items that were recovered as part of the SEAD 57 investigation. The ferrous MD items are shown in this figure. The pattern of the aluminum MD clearly radiates out from the center of the SEAD 57 berm in a circular pattern. The 43 other MPPEH items (listed on Table 2-2) found at SEAD 57 were all determined to be MD upon venting of the items during the disposal process. SEAD 57 is considered cleared of MPPEH.

SEAD 46 (Former 3.5-inch Rocket Range)

During the investigation of SEAD 46, 22 MPPEH items were found from the 1,611 geophysical anomalies investigated. All 22 items were found to be MD after they were vented. No MEC items were found at SEAD 46. The locations of the MD suggest that the SEAD 46 berm was not used as a target for anything other than small arms practice. The MD items are actually found in areas located away from the berm. Based on the discovery of inert landmines and a sign that identifies the area as a practice minefield for EOD and military training exercises, this was most likely the use of the site. There is no evidence that it was used as a rocket range as previously identified. Based on the results of the past three investigations SEAD 46 is considered cleared of MPPEH.

SEAD 002-R-01 (EOD Areas 2 and 3)

Two MPPEH items (an electric Squibb) were found at EOD Area 2 and it was later determined to be expended. The second item, a M16 APERS, was found by the survey team conducting a boundary survey of the pond low water mark. This item was found without a fuse but due to the mud and debris that filled the case, the item was vented to dispose of any explosive residue that may have remained. It was determined to be inert. At EOD Area 3, no MPPEH items were found during the geophysical anomaly investigation or the expanded handheld investigation of the unmapped area. SEAD 002-R-01 is considered cleared of MPPEH.

SEAD 007-R-01 (Grenade Range)

During the anomaly investigation of the Grenade Range, a total of 221 MPPEH items were found. All MPPEH were related to the M73 Practice LAW Rocket. The 40mm practice grenade found at this site has an inertia driven expelling system with no explosive material. The M73 Practice LAW Rocket has a 1.5 gram spotting charge. The 1.5 gram spotting charge is designed to produce only a flash, smoke, and noise at the time of impact initiated by an inertia driven firing pin. Of the 221 M73 Sub-caliber rounds found, none were found to have the rocket motor intact, all had been functioned previously. Based on these reasons, all of the MPPEH items were reclassified as MD. All 221 of

these rounds were brought to the demolition area and disposed of by detonation. SEAD 007-R-01 is considered cleared of MPPEH.

Local Training Areas

Six individual MD items were found in the Local Training Areas B through L. The items were 37mm and 57mm TPT (target practice) rounds that contained no explosives. The remaining MD items were all small arms ammunition (50 cal.) both ball and incendiary ammunition that were thermally treated before disposal. The Local Training Areas B-7 through L-7 are considered free of MPPEH.

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\e3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-003-R-01
Project Name: SEAD-003-R-01
Project Category: Conservation

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-003-R-01 Explosive Ordnance Range (EOD) Range (alias SEAD-57) This site also includes the 3.5" Rocket Range (alias SEAD-46)

Since this site is a Military Munitions Rule site, total OE costs reported have been captured in an OE EE/CA. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the RD/RA HTRW component.

Site: SEAD-003-R-01, Former EOD Range (alias SEAD-57) and the 3.5" Rocket Range (alias SEAD-46)

Source:

1. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
2. Completion Report, Munitions Response and CERCLA Closure, SEAD

Estimate Documentation Report

002-R-01, SEAD 57, SEAD 46, and SEAD 007-R-01, April 2007
3. Professional judgment based on site knowledge.

Phase: LTM will be an Institutional Control in perpetuity. Initial duration is 30 years for a recurring review every 2 years.

RACER Assumptions:

Remedial Design/ Remedial Action:

RA: The HTRW component of this site is the soils contaminates with metals in and below the berm area at the EOD berm at SEAD-57.

Assume that once the berm and soils below the berm have been removed and disposed of at an off-site landfill, the COC's will pose no threat to the groundwater. Therefore, no gw monitoring or 5-year reviews will be required for the HTRW removal. The berm is approximately 250' x 30' x 5' and the area around and under the berm are approximately 100 x 150 x 5' as shown in Figure 4-7 of the RI report.

RD: RACER calculated per the RA cost total for the HTRW component. Design percentage equals 10%.

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-57
Site Name: EOD Range
Site Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-003-R-01 The EOD Range will require HTRW contamination addressed in addition to the OE during the removal action.

Support Team: Stephen M. Absolom - SEDA BEC
Randy Battaglia- US Army Corps of Engineers, Project Engineer

References: 1. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
2. Completion Report, Munitions Response and CERCLA Closure, SEAD 002-R-01, SEAD 57, SEAD 46, and SEAD 007-R-01, April 2007
3. Professional judgment based on site knowledge.

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Estimate Prepared Date: 02/12/2008

Estimator Signature: _____

Date: _____

Estimate Documentation Report

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address:
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
RD	\$0	\$37,440
RA(C)	\$289,558	\$409,980
LTM	\$31,901	\$69,929
Total Cost:	\$321,459	\$517,350

Estimate Documentation Report

Phase Documentation:

Phase Type: Design Percent Method
Phase Name: RD
Description: Design for the removal of the berm and below the berm soils contaminated with metals.

Total Capital Costs are the marked up costs for the Phase, excluding the Professional Labor Management, Administrative Land Use Controls, and Operations and Maintenance technologies. Only the first year costs are included for cost-over-time technologies.

Phase Name	Phase Date	Design Approach	Total Capital Cost	Design %	Design Costs	Design Cost Year
RA(C)	September, 2012	Ex Situ Removal - Off-site Treatment or Disposal	\$374,395	10.00	\$37,440	2011

Total Design Cost: \$37,440

Estimate Documentation Report

Phase Documentation:

Phase Type: Remedial Action
Phase Name: RA(C)
Description: Removal of contaminated soils in and below the berm.
Approach: Ex Situ
Start Date: September, 2012
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Excavation	Yes	100	0
Off-site Transportation and Waste Disposal	Yes	100	0
Decontamination Facilities	Yes	100	0
Professional Labor Management	Yes	100	0
Load and Haul	Yes	100	0

Total Marked-up Cost: \$409,980

Technologies:

Estimate Documentation Report

Technology Name: Excavation (# 1)

<u>Description</u>	<u>Default</u>	<u>Value</u>	<u>UOM</u>
System Definition			
<u>Required Parameters</u>			
Estimating Method		Length / Width / Depth	n/a
Length		150	FT
Width		100	FT
Depth		5	FT
Soil Type		Silt/Silty-Clay Mixture	n/a
Safety Level		D	n/a
Excavation			
<u>Secondary Parameters</u>			
Existing Cover	Soil/Gravel	Soil/Gravel	n/a
Replacement Cover	Soil/Seeding	Soil/Seeding	n/a
Sidewall Protection	None	None	n/a
% of Excavated Material To Be Used as Backfill	0	0	%
Source of Additional Fill	Off Site	Off Site	n/a
Backfill Hauling Distance (one way)	10	10	MI
Dewatering Required	No	No	n/a
Analytical			
<u>Secondary Parameters</u>			
Primary Analytical Template	System Soil - Metals	System Soil - Metals	n/a
Secondary Analytical Template	None	None	n/a
Number of Sampling Points/Locations	28	28	EA
Number of Composites Submitted to Lab	7	7	EA
Turnaround Time	Standard (21 Days)	Standard (21 Days)	n/a
Submit Data Electronically	Yes	Yes	n/a
Data Package / QC	Stage 1	Stage 1	n/a
Lab Data Review	Stage 1	Stage 1	n/a
Sampling Reports	Abbreviated	Abbreviated	n/a

Comments: This is to remove the soils below the berm footprint that is to be removed. The depth of the excavation is 5'. The area to be excavated is 100' by 150' wide.

Estimate Documentation Report

Technology Name: Off-site Transportation and Waste Disposal (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Waste Type		Non-Hazardous	n/a
Waste Form		Solid	n/a
Condition of Waste		Bulk to remain as bulk	n/a
Volume of Bulk Solid Waste		185	CY
Stabilization		Not Required	n/a
Transportation Type		Truck	n/a
Truck Distance (One-way)		75	MI
Safety Level		D	n/a

Comments: For disposal of the contaminated soil below the berm surface.

Estimate Documentation Report

Technology Name: Decontamination Facilities (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
New Decontamination Facility Pad Construction		Yes	n/a
Equipment Rating		Medium Equipment Rating	n/a
Equipment Decontamination Operations		Yes	n/a
Equipment Decontamination Operations: Duration		24	weeks
Personnel Decontamination Trailers		No	n/a
Personnel Decontamination Trailers: Average Crew Size		0	per shift
Personnel Decontamination Trailers: Duration		0	weeks
Safety Level		D	n/a

Decon Pad

Secondary Parameters

Area of Decontamination Pad	800	800	SF
Use Flexible Membrane Liner	Yes	Yes	n/a
Percentage of Time Decontamination Pad in Use	25	25	%

Work Shifts

Secondary Parameters

Equipment Decontamination		One Shift per Day	n/a
Personnel Decontamination		n/a	n/a

Comments:

Technology Name: Professional Labor Management (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Markedup Construction Cost (\$)		179,720	\$
Percentage	19.8	19.8	%
Dollar Amount		35,585	\$

Comments:

Estimate Documentation Report

Technology Name: **Load and Haul (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Truck Type		Highway	n/a
Volume		1,400	CY
One-way Haul Distance		75	MI
Dump Charge		65	\$/CY
Safety Level		D	n/a

Comments: To remove berm, above ground mound. Approx. size is 250' x 30' x 5' with slightly sloped sides. This will need to be removed and disposed of off-site.

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM
Description: Site Closeout for SEAD-003-R-01.

Start Date: September, 2014
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$69,929

Technologies:

Estimate Documentation Report

Technology Name: Site Close-Out Documentation (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		No	n/a
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a

Estimate Documentation Report

Technology Name: Site Close-Out Documentation (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Long Term Document Storage		Yes	n/a
Number of Boxes		5	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: Well Abandonment (# 1)

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		13	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

FINAL

**ORDNANCE AND EXPLOSIVES
ENGINEERING EVALUATION/
COST ANALYSIS REPORT**

**SENECA ARMY DEPOT
ROMULUS, SENECA COUNTY, NEW YORK**

Prepared For:

**SENECA ARMY DEPOT ACTIVITY
and
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
and
HUNTSVILLE CENTER**

**Contract No. DACA87-95-D-0018
Delivery Order No. 0052**

Prepared By:

**PARSONS ENGINEERING SCIENCE, INC.
100 SUMMER ST
BOSTON, MA 02110**

JANUARY 2004

Table G-23
SEAD-4 (3.5" Rocket Range)
Cost Estimate for Alternative 3:
Clearance to 6"

This estimate assumes:
 Clearance to 6" of 370 acres in SEAD-43
 A 700' x 700' fence surrounding the demo berm in SEAD-57

Item	Unit	Unit Cost	Amount	Initial Cost	Life Cycle Cost (30 yrs)	Total Cost
UXO Clearance to 6" ¹	acre	\$3,400	370	\$1,258,000	\$0	\$1,258,000
UXO Sweep Contractor ²	linear feet	\$2	5,700	\$11,400	\$0	\$11,400
Fencing Installed ³	linear feet	\$10	5,700	\$57,000	\$171,000	\$228,000
Signs Installed	1 sign (per 500' of fence)	\$93	11	\$1,060	\$6,840	\$7,900
A-E Field Oversight		15% of UXO Clearance/IC		\$199,119	\$0	\$199,119
A-E Project Management		8% of UXO Clearance/IC		\$106,197	\$0	\$106,197
Moderate Brush Cutting ⁴	acre	\$426	185	\$78,810	0	\$78,810
Heavy Brush Cutting ⁴	acre	\$603	185	\$111,555	0	\$111,555
			<i>Subtotal:</i>	\$1,711,586	\$177,840	\$1,889,426
CEHNC Oversight		15% of subtotal		\$256,738	\$0	\$256,738
				Total Cost Estimate:		\$2,146,164
				Contingency (25%):		\$536,541
						\$2,682,705
				<i>Cost per. Acre =</i>		<i>\$6,464</i>

Assumptions

- ¹Cost for UXO clearance includes all ODC and mobilization costs, and equipment
- ²Estimate includes surface sweep of area to be performed prior to having fence installed
- ³Cost to install fencing is \$10 per linear foot of 8 foot chain link with three strands of barbed wire
- ⁴Brush cutting costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History

Table G-24
Seneca Army Depot Activity
Costs for Recurring Reviews
30 Year Period

Reviews
30 yr duration
Every 2 yrs for all sites

This estimate assumes:
 Recurring review Depot wide every 2 years
 2 man crew on site for 4 days
 Report to be files upon completion of review

Item	Unit	Unit Cost	Amount	Per Review Cost	Total Cost (30 yrs) ¹
Mob/Demob		\$1,500	2	\$3,000	\$18,427
Per Diem	day	\$124	8	\$992	\$6,093
Reviewers (2)	hour	\$65	100	\$6,500	\$39,924
A-E Field Oversight		15% of UXO Clearance/IC		\$1,574	\$9,667
A-E Project Management		8% of UXO Clearance/IC		\$839	\$5,155
			<i>Subtotal:</i>	\$12,905	\$79,266
CEHNC Oversight		15% of subtotal		\$1,936	\$11,890

$\$113,944$ FY04 cost
 1.1125 escalation factor
126,763 FY08 cost

Total Cost Estimate: \$91,156
 Contingency (25%): \$22,789
 \$113,944

$\$126,763$
5 sites = \$25,353 per site

$\$25,353$ per site
15 site visits = \$1,690 per site visit every 2 yrs for 30 yrs

Assumptions

¹30 Year costs assume present value costs with a discount factor of 7%

30 yr site cost
 \$25,353

Cost/site visit
 = \$1,690

COMPLETION REPORT

MUNITIONS RESPONSE

SEAD 002-R-01, SEAD 57, SEAD 46 AND SEAD 007-R-01

**SENECA ARMY DEPOT ACTIVITY,
ROMULUS, NEW YORK**

April 2007

Prepared by:

**PARSONS
150 Federal Street
Boston, MA 02110**

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3.0 ORDNANCE AND EXPLOSIVES DEMILITARIZATION AND DISPOSAL

All MD and scrap metal items collected by UXO technicians on a daily basis were transferred to a staging area, inspected by both the SUXOS and UXO QC Supervisor, and placed into a locked storage area for temporary storage. Additional inspections were performed by the Senior UXO Supervisor (SUXOS), and again by the Senior QC (UXOQCS) Supervisor prior to being transferred to drums where a 1348-1A form was issued, Section 3.2 describes the final disposal procedures for all explosives and MD scrap metal

3.1 INTENTIONAL DETONATIONS

Demolition operations for MPPEH were conducted at the Open Detonation Hill (OD) to the north of the former Open Burning Grounds (OBG). In accordance with "Procedures for Demolition of Multiple Rounds (Consolidate Shots) on UXO Sites", dated August 1998 and approved by DDESB on 27 October 1998. Explosives Consumption Records are included in Appendix D. A table showing the suspected MPPEH items and the date they were vented is included as Table 2-2. Venting with a shape charge was used to distinguish MEC from MD.

All demolition explosives were transferred from the Army to Parsons/USA Environmental and kept in a secure storage bunker provided by the Army. All explosives were inspected weekly while in storage and transported in accordance with the State of New York's Department of Labor, Industrial Rule 39 and the Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF) regulations.

3.2 OTHER DEMILITARIZATION PROCEDURES

All projectiles and intact MD were demilitarized by either explosive venting or by the removal/deformation of the rotating bands and fuse wells following inspections.

Following venting of all MPPEH items, thermal treatment of small arms, and/or physical demilitarization procedures, all items were disposed of off-site. A total of 4,180 pounds of cultural debris scrap metal, 618 pounds of aluminum MD and 2,689 pounds of ferrous MD scrap metal was disposed off-site. A 1348-1A form, chain of custody form, and certificate of destruction for this material is included in Appendix D.

Demobilization

Demobilization occurred in November 2006 following completion of the 10% QC inspection for all six sites.

3.3 CONCLUSIONS

Between May 2006 and November 2006, Parsons performed munitions removal operations in accordance with the ESS requirements. In general, the results of the munitions removal project performed at Seneca Army Depot for SEAD 46, SEAD 57, SEAD 007-R-01 and SEAD 002-R-01 indicate that all MPPEH has been cleared from these sites. A total of two of the 11,739 identified anomalies which were investigated were found to be MEC. This indicates that these sites were free of MEC with the exception of an area north of SEAD 57 buffer area and not part of this project. The

Army believes that no additional munitions response activities are required at these sites. The conclusions from each individual site are provided below.

SEAD 57 (Former EOD Range) and the SEAD-57 Buffer Area

The only MEC items encountered during this project were found north of SEAD 57 including one fused unfired 37mm projectile in Grid 57 K-16 and one MKII grenade located in 57K-18 as shown on Figure 1-4c. Most ferrous MD items at SEAD 57 were found north of Building T011 and were not found within the high density 1,000 foot kick out radius from the SEAD 57 berm. Figure 1-4c identifies all ferrous and aluminum MD items that were recovered as part of the SEAD 57 investigation. The ferrous MD items are shown in this figure. The pattern of the aluminum MD clearly radiates out from the center of the SEAD 57 berm in a circular pattern. The 43 other MPPEH items (listed on Table 2-2) found at SEAD 57 were all determined to be MD upon venting of the items during the disposal process. SEAD 57 is considered cleared of MPPEH.

SEAD 46 (Former 3.5-inch Rocket Range)

During the investigation of SEAD 46, 22 MPPEH items were found from the 1,611 geophysical anomalies investigated. All 22 items were found to be MD after they were vented. No MEC items were found at SEAD 46. The locations of the MD suggest that the SEAD 46 berm was not used as a target for anything other than small arms practice. The MD items are actually found in areas located away from the berm. Based on the discovery of inert landmines and a sign that identifies the area as a practice minefield for EOD and military training exercises, this was most likely the use of the site. There is no evidence that it was used as a rocket range as previously identified. Based on the results of the past three investigations SEAD 46 is considered cleared of MPPEH.

SEAD 002-R-01 (EOD Areas 2 and 3)

Two MPPEH items (an electric Squibb) were found at EOD Area 2 and it was later determined to be expended. The second item, a M16 APERS, was found by the survey team conducting a boundary survey of the pond low water mark. This item was found without a fuse but due to the mud and debris that filled the case, the item was vented to dispose of any explosive residue that may have remained. It was determined to be inert. At EOD Area 3, no MPPEH items were found during the geophysical anomaly investigation or the expanded handheld investigation of the unmapped area. SEAD 002-R-01 is considered cleared of MPPEH.

SEAD 007-R-01 (Grenade Range)

During the anomaly investigation of the Grenade Range, a total of 221 MPPEH items were found. All MPPEH were related to the M73 Practice LAW Rocket. The 40mm practice grenade found at this site has an inertia driven expelling system with no explosive material. The M73 Practice LAW Rocket has a 1.5 gram spotting charge. The 1.5 gram spotting charge is designed to produce only a flash, smoke, and noise at the time of impact initiated by an inertia driven firing pin. Of the 221 M73 Sub-caliber rounds found, none were found to have the rocket motor intact, all had been functioned previously. Based on these reasons, all of the MPPEH items were reclassified as MD. All 221 of

these rounds were brought to the demolition area and disposed of by detonation. SEAD 007-R-01 is considered cleared of MPPEH.

Local Training Areas

Six individual MD items were found in the Local Training Areas B through L. The items were 37mm and 57mm TPT (target practice) rounds that contained no explosives. The remaining MD items were all small arms ammunition (50 cal.) both ball and incendiary ammunition that were thermally treated before disposal. The Local Training Areas B-7 through L-7 are considered free of MPPEH.

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 24 March 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Groundwater Monitoring, Five Year Review, Site Closeout, Well Abandonment, and Land Use Control costs. SEAD-023 has been combined with this site SEAD-006-R-01 as directed by AEC. Costs for SEAD-023 were added to the RI/FS phase as directed by AEC.

Site: SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115)

Source:

1. Concept Plan, Ordnance and Explosives for A RCRA Closure of the OB/OD Grounds at Seneca Army Depot Activity, Sept. 2002
2. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
3. Draft RCRA Closure Plan Open Burn Tray in SWMU Unit -23 (SEAD-23, OB Grounds), December 2004
4. Final Record of Decision Former Open Burning Grounds Site, January 1999
5. Final Long Term Monitoring Plan for Open Burning Grounds, January 2007
6. Professional judgment based on site knowledge

RACER Assumptions RI/FS phase (OB Grounds SEAD-023):

Monitoring Groundwater (RI/FS)

1. Monitor groundwater and Reeder Creek sediment for 30 years for metals
2. Monitor 6 wells total, and 4 sediment sites
3. Annual analysis begins in 2017, QC level 4, standard turnaround time
4. Annual analysis of GW, with six 5-year review period
5. Data management includes full plans and reports, data evaluation/validation, and submits analysis electronically
6. RACER estimate for Monitoring, 5-Year Review and Site Closeout using professional judgment and site knowledge.

Five-Year Review (RI/FS)

1. 6 review cycles
2. Review period begins October 2006 with the first review in 2011
3. Moderate complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Site Closeout Documentation (RI/FS)

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (RI/FS)

1. Number of wells: 10
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (RI/FS)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

RACER Assumptions LTM phase:

Monitoring Groundwater (LTM)

1. Monitor groundwater and Reeder Creek sediment for 30 years for metals
2. Monitor 6 wells total, and 4 sediment sites
3. Annual analysis begins in 2017, QC level 4, standard turnaround time
4. Annual analysis of GW, with six 5-year review period
5. Data management includes full plans and reports, data evaluation/validation, and submits analysis electronically
6. RACER estimate for Monitoring, 5-Year Review and Site Closeout using professional judgment and site knowledge.

Five-Year Review (LTM):

1. 6 review cycles
2. Reviews cycle begins 2017 with first review in July 2022
3. Moderate complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Site Closeout Documentation (LTM):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 10
2. Well depth: 15 feet
3. Well diameter: 2"
4. Unconsolidated
5. Overdrill/excavation

**Cost Summary SEAD-006-R-01
(SEAD-115)**

RI/FS

**Monitoring at OB Grounds, SEAD-023 added to this site and
cost put in RI/FS phase according to AEC Guidance**

Monitor 6 GW monitoring wells annually \$39,773/yr for 29 years (RACER)	1,153,429
5-year Reviews (RACER) \$36,349 each, 6 over 30 yrs	218,093
Land Use Controls from RACER in perpetuity \$9,506 per yr for 30 years	285,172
Site Closeout & Well Abandonment (RACER)	60,642
RI/FS Cost Total (OB Grounds, SEAD-023)	\$1,717,336

RA

IRM (Closure Plan) FY02 cost plus escalation \$16,021,506 x 1.1427 (FY02 escalation per AEC)	\$18,307,775
RCRA Closure of OB/OD Tray from RCRA plan	44,500
Funding previously provided for mapping (see WAD/FAD)	(3,500,000)

RA (cont.)	
Remedial Design 5% of RA (0.05 x 14,852,275) Industry Std. is 10%. However, with the low complexity and repetition of work & professional judgment, cost was decreased to 5%.	742,614
COE over site of RA cost 7.0% (14,852,275 + 742,614) x .07	1,091,642
Procurement cost AFCEE 3.5% (14,852,275 + 742,614) x .035	545,821
RA Total	\$17,232,352

LTM	
OE Review (EECA) \$1,690/review for 15 reviews	25,350
GW Monitoring (RACER) \$88,765/yr for 30 yrs	2,662,954
5 Year Reviews (RACER) \$41,566 each, 6 over 30 yrs	249,396
Site Closeout (RACER)	40,381
Well Abandonment (RACER)	19,972
LTM Total	\$2,998,053

Total Site Cost **\$21,947,741**

Cost Difference > 10% from 2007 Report? No

Prepared by: Janet R. Fallo

Signature

Date

Reviewed by: Stephen M. Absolom

Signature

Date

Conceptual Plan

**Ordnance and Explosives for a RCRA Closure
of the
Open Burning and Open Detonation (OB/OD) Grounds,
Seneca Army Depot Activity
Romulus, New York**

September, 2002

**Submitted by
Seneca Army Depot Activity**

1. Introduction

This plan is submitted to gain conceptual approval for the placement of a Resource Conservation and Recovery Act (RCRA) cap in the Open Burn/Open Detonation (OB/OD) area at Seneca Army Depot Activity (SEDA). An overall site map showing the general location of the OB/OD grounds is provided as Figure 1. Both New York State and EPA Remedial Project Managers defer Ordnance and Explosives/Unexploded Ordnance (OE/UXO) requirements to the Department of Defense (DoD). If this concept is approved, the Army will submit a standard Explosives Safety Submission (ESS), providing the normally required level of detail to the Department of Defense Explosives Safety Board (DDESB) for approval.

As part of this closure process, a large disposal pile resulting from previous response actions in the OB area will be consolidated and contained beneath the proposed RCRA Cap. The overall closure approach is to level this pile on the OD area where clearance of potential OE is costly and a four-foot thick RCRA cap is the proposed remedy. The large quantity of range residue, demil residue, fragments, and non-OE scrap metal at the OD grounds likely creates a situation where capping, and not removal, is the proposed remedy. The remainder of the OB/OD area will have anomalies investigated and removed to depth such that at the end of the project the area can be certified for surface recreation. This general concept is presented in Figure 2. The essence of this proposed remedy is that a 4-foot cap of clean fill is the equivalent of clearance to 4 feet, which is the default clearance depth to allow unrestricted surface recreation (Chapter 12 of DoD 6055.9 STD, July 1999).

This preliminary determination is requested so that SEDA can begin planning and interfacing with the regulators and the community with a high degree of confidence that the proposed approach is conceptually acceptable internally within the DoD

2. Facility Background

SEDA is a 10,600-acre US Army facility located in Seneca County, New York, Figure 1. It is bounded on the west by State Route 96A and on the east by State Route 96. The cities of Geneva and Rochester are located to the northwest (14 and 50 miles, respectively); Syracuse is 53 miles to the northeast and Ithaca is 31 miles to the south. The surrounding area is generally used for farming.

Open detonation/open burning operations have been conducted from the early 1940s until recently in the munitions destruction area (90 acres) in the northwest portion of the installation. The OD grounds occupy an area of approximately 60 acres within the northern portion of this site and the OB grounds cover an adjacent 30 acres.

At the OB/OD grounds a variety of rounds were demilitarized and there is no Chemical Warfare Materials (CWM) known or suspected at this site.

improvements in separation and handling were achieved over time during the clearance of the OB grounds, for the debris pile it may be more cost effective to use the alternate approach of consolidation and capping at the OD grounds than is now being proposed (see Section 4 – cost evaluation).

After the initial removal of OE materials from the OB grounds, the entire area (30 acres) was then subjected to geophysical survey and the anomalies that were discovered were flagged. SEDA has just recently completed the investigation and removal of all anomalies to a depth of at least two feet. Initial indications are that based on the type and depth of anomalies being found that clearance of the entire 30 acres to a depth of 4 feet has been accomplished.

An initial survey for OE has been performed at the OD grounds as part of the Ordnance and Explosive Engineering Evaluation and Cost Analysis (May 2000, Parsons Engineering Science, Inc.). An Expanded Site Inspection (ESI) was performed in 1995 to evaluate potential releases of hazardous substances at the OD grounds.

4. Cost Analysis

Alternatives for the handling of the oversized material were evaluated in the “Seneca Validation Report for Mt. Molle Disposal Pile”, June 14, 2002. The report focused on the handling of this material separately from the actions at the OD grounds. However since these two areas are an integrated Solid Waste management Unit (SWMU) and overall cost efficiencies can be obtained by handling the oversized material with the OD grounds closure, new alternatives are now being considered. Two alternatives for addressing the oversized material and the OD closure together are summarized below and costs presented for each.

Alternative 1. Segregate OE materials from oversize pile and dispose according to current procedures. Clear the approximately 76 acres of the central area of the OD area using methods refined during OB grounds clearance. Clearance will be performed such that future use of the area can be unrestricted surface activity. In general this involves: excavating the top 1 foot of soil over the entire area and separating out OE materials; after the top 1 foot is removed, performing a geophysical survey to identify remaining anomalies; intrusively investigating identified anomalies, removing and demilitarizing OE materials found; replacing excavated soils and final grading. During this process soils contaminated with metals will be segregated, stabilized and disposed off-site.

Alternative 2. Cap central area of OD grounds (approximately 76 acres) and consolidate pile of oversized material under the cap at the OD grounds. The cap will meet RCRA requirements for closure of the OD grounds and will have a thickness (four feet) to enable future use as unrestricted surface recreation.

Tables 1 and 2 present the costs for Alternatives 1 and 2 respectively. The total capital cost of Alternative 1 is approximately \$17,721,000 and the total capital cost for

Approve
Option

Table 1
OD Clearance and Mt. Molle Treatment

SENECA ARMY DEPOT

Item Description	Cost
Process Material to Separate out Dangerous Items	\$5,845,000
Stabilize HTRW Contaminated Soil	\$1,740,000
Load HTRW Soils	\$463,386
Transport and Dispose of HTRW Soils	\$5,236,000
Clear Soil of Dangerous Items	\$1,100,000
Geophysically Map New Conditions (Final Clearance Survey)	\$98,800
Investigate Anomalies	\$760,000
Treatment of OE/OES (Dangerous) Items	\$726,880
Grade and Vegetate Area	\$1,500
Work Plan Preparation	\$50,000
Oversize Material From OB Separation and Processing	\$1,699,528
Total Remedial Action	\$17,721,094
Per Acre Cost	\$233,172

*Not part of this Proj
COST*

17,721,094
- 1,699,528

16,021,566

16,021,506 FY02 cost



DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY OPERATIONS SUPPORT COMMAND
1 ROCK ISLAND ARSENAL
ROCK ISLAND, IL 61299-6000

REPLY TO
ATTENTION OF:

12 SEP 2002

AMSOS-SF

MEMORANDUM FOR

US Army Material Command (Elaine Andregg), 5001 Eisenhower Avenue, Alexandria, VA 22333-0001
Defense Ammunition Center, SOSAC-ES (Jean Gallagher) 1C Tree Road, Building 35, McAlester, OK 74501-9053
Commander's Representative, SOSSE-BEC, Seneca Army Depot Activity, 5786 State Rte 96, P.O. Box 9, Romulus, New York, 14541-0009

SUBJECT: OB/OD Concept Plan

Capping Disapproval

1. AMSOS-SF non-concurs in this concept for remediation of open burning (OB) / open detonation (OD) grounds at Seneca Army Depot Activity (SEDA) and elsewhere. This plan calls for "capping" (putting layers of soil over) OB/OD grounds instead of removing ordnance and explosives (OE) and unexploded ordnance (UXO). In essence, this plan advocates burial of OE/UXO as remediation in lieu of removal and treatment. We strongly disagree with that premise. Our objective must be to remove and treat OE/UXO.
2. We have even more objections to the SEDA-proposed application of this plan. SEDA proposes to bring OE/UXO from their cleanup of the OB ground to the OD ground, spread it out on the OD ground, then cover it all with soil. Deliberate introduction of OE/UXO into the "cap" is not acceptable in our view.
3. This plan conflicts with mandatory provisions of DOD 6055.9-STD, "Ammunition and Explosives Safety Standards", August 1999. Paragraph C12.2.2.2 prohibits burial of OE/UXO as remediation. It reads: "Permanent contamination of real property by final disposal of ammunition and explosives or chemical agents is prohibited. This prohibition extends to disposal by land burial; by discharge onto watersheds or into sewers, streams, lakes or waterways". Furthermore, paragraph 12.3.2.4 requires removal of OE/UXO. It reads: "Ammunition, explosives or chemical agents shall be removed until an acceptable level of protection is reached".

FINAL

**ORDNANCE AND EXPLOSIVES
ENGINEERING EVALUATION/
COST ANALYSIS REPORT**

**SENECA ARMY DEPOT
ROMULUS, SENECA COUNTY, NEW YORK**

Prepared For:

**SENECA ARMY DEPOT ACTIVITY
and
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
and
HUNTSVILLE CENTER**

**Contract No. DACA87-95-D-0018
Delivery Order No. 0052**

Prepared By:

**PARSONS ENGINEERING SCIENCE, INC.
100 SUMMER ST
BOSTON, MA 02110**

JANUARY 2004

EXECUTIVE SUMMARY

ES1 The 10,587-acre Seneca Army Depot Activity (SEDA) facility was constructed in 1941 and has been owned by the United States Government and operated by the Department of the Army since that date. From its inception in 1941 until 1995, SEDA's primary mission was the receipt, storage, maintenance, and supply of military items, including munitions and equipment. The Depot's mission changed in early 1995 when the Department of Defense (DOD) recommended closure of the Seneca Army Depot under its Base Realignment and Closure (BRAC) process. This recommendation to close Seneca Army Depot Activity was approved by Congress on September 28, 1995 and the Depot was officially closed in July 2000.

ES2 In accordance with the requirements of the BRAC process, the Seneca County Board of Supervisors established the Seneca Army Depot Local Redevelopment Authority (LRA) in October 1995. The primary responsibility assigned to the LRA was to plan and oversee the redevelopment of the Depot. The Reuse Plan and Implementation Strategy for Seneca Army Depot was adopted by the LRA and approved by the Seneca County Board of Supervisors on October 22, 1996. Under this plan and subsequent amendment, areas within the Depot were classified as to their most likely future use. These areas included: housing, institutional, industrial, an area for the existing navigational LORAN transmitter, recreational/conservation, and an area designated for a future prison.

ES3 In July of 1998, the U.S. Army Corps of Engineers (USACE) conducted a site visit and historical data collection effort. The findings are documented in the Archives Search Report (ASR). The ASR initially subdivided the depot into 27 Areas of Interest (AOIs) for ordnance contamination based on physical attributes, homogeneity, and current and historical land use. The ASR evaluated each AOI to determine whether the area should or should not be investigated for ordnance and explosives/ unexploded ordnance (OE/UXO). Each AOI was classified as requiring further investigation or not requiring further investigation based on a review of historical documents, aerial photography, and employee interviews. Most of the AOIs were also visited by USACE to determine whether any traces of OE were readily apparent.

ES4 The ASR classified 15 of the areas as uncontaminated. Subsequently, one of the areas recommended for further investigation, SEAD-43, was classified as a no further action site after a geophysical and intrusive investigation in 1999. The remaining 11 AOIs discussed in the ASR were classified as sites where OE might present a safety risk. This Engineering Evaluation and Cost Assessment project was undertaken in order to determine the nature and extent of possible OE contamination at these sites.

ES5 The EE/CA fieldwork used geophysical survey techniques and intrusive investigations to estimate the density of the ordnance in different areas, which was then compared with the current and future activities and anticipated users. Data collected from this characterization project were also used to develop alternatives designed to reduce the risk of possible exposure to UXO within AOIs. These alternatives were then evaluated to determine their effectiveness, implementability, and cost.

ES6 Results of this comparison indicate that there are portions of SEDA where alternatives requiring removal of UXO will be necessary to ensure public safety. The results also indicate that implementation of site-wide institutional controls will be necessary to manage residual risk. Several AOIs within SEDA will not require any OE removal operations to make the property safe for the proposed future uses.

ES7 OE response action alternatives were evaluated for each of the 11 AOIs at SEDA 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 was used to identify candidate OE response alternatives for further qualitative evaluation. Each of the alternatives remaining after this screening were then compared to each other as far as effectiveness, implementability, and cost. Once the remaining alternatives at each AOI had been compared, one alternative was chosen as the most appropriate response to the existing OE hazard.

ES8 The following response actions have been chosen for the AOIs investigated during the Seneca OE EE/CA:

- NFA – SEAD-53 (Igloo Area) ditches, Demo Range, Indian Creek Burial Area. These sites are no longer under consideration as ordnance sites
- Institutional Controls – Base wide, no individual areas
- Clearance to Depth of 6” – SEADs-16 and –17 (Deactivation Furnaces), EOD Area #2
- Clearance to Depth of Instrument Detection – EOD Area #3, SEAD-44A (QA Function Test Area), SEAD-46 (3.5” Rocket Range), Grenade Range
- Clearance to Depth by Means of Excavation and Mechanical Sorting – SEAD-45 (Open Detonation Area), SEAD-57 (Former EOD Range)

Complete descriptions of each of these alternatives are contained in Section 7.

Table G-23
SEAD-4 (3.5" Rocket Range)
Cost Estimate for Alternative 3:
Clearance to 6"

This estimate assumes:
Clearance to 6" of 370 acres in SEAD-45
A 700' x 700' fence surrounding the demo berm in SEAD-57

Item	Unit	Unit Cost	Amount	Initial Cost	Life Cycle Cost (30 yrs)	Total Cost
UXO Clearance to 6" ¹	acre	\$3,400	370	\$1,258,000	\$0	\$1,258,000
UXO Sweep Contractor ²	linear feet	\$2	5,700	\$11,400	\$0	\$11,400
Fencing Installed ³	linear feet	\$10	5,700	\$57,000	\$171,000	\$228,000
Signs Installed	1 sign (per 500' of fence)	\$93	11	\$1,060	\$6,840	\$7,900
A-E Field Oversight		15% of UXO Clearance/IC		\$199,119	\$0	\$199,119
A-E Project Management		8% of UXO Clearance/IC		\$106,197	\$0	\$106,197
Moderate Brush Cutting ⁴	acre	\$426	185	\$78,810	\$0	\$78,810
Heavy Brush Cutting ⁴	acre	\$603	185	\$111,555	\$0	\$111,555
			<i>Subtotal:</i>	\$1,711,586	\$177,840	\$1,889,426
CEHNC Oversight		15% of subtotal		\$256,738	\$0	\$256,738
				Total Cost Estimate:		\$2,146,164
				Contingency (25%):		\$536,541
						\$2,682,705
				Cost per Acre =		\$6,464

Assumptions

- ¹Cost for UXO clearance includes all ODC and mobilization costs, and equipment
- ²Estimate includes surface sweep of area to be performed prior to having fence installed
- ³Cost to install fencing is \$10 per linear foot of 8 foot chain link with three strands of barbed wire
- ⁴Brush cutting costs taken from ECHOS 1996 and adjusted for inflation using Engineering News Record Construction Cost Index History

Table G-24
Seneca Army Depot Activity
Costs for Recurring Reviews
30 Year Period

Reviews
30 yr duration
Every 2 yrs for all sites

This estimate assumes:
Recurring review Depot wide every 2 years
2 man crew on site for 4 days
Report to be files upon completion of review

Item	Unit	Unit Cost	Amount	Per Review Cost	Total Cost (30 yrs) ¹
Mob/Demob		\$1,500	2	\$3,000	\$18,427
Per Diem	day	\$124	8	\$992	\$6,093
Reviewers (2)	hour	\$65	100	\$6,500	\$39,924
A-E Field Oversight		15% of UXO Clearance/IC		\$1,574	\$9,667
A-E Project Management		8% of UXO Clearance/IC		\$839	\$5,155
			<i>Subtotal:</i>	\$12,905	\$79,266
CEHNC Oversight		15% of subtotal		\$1,936	\$11,890

Total Cost Estimate: \$91,156
Contingency (25%): \$22,789
\$113,944

\$ 113,944 FY04 cost
1.0769 escalation factor
\$ 122,706 FY07 cost

\$ 122,706 = \$24,541 per site
5 sites

Assumptions

¹30 Year costs assume present value costs with a discount factor of 7%

30 yr site cost
\$ 24,541

\$ 24,541 per site = \$1,636
15 site visits per site visit every 2 yrs for 30 yrs

Cost/site visit
= \$1,636

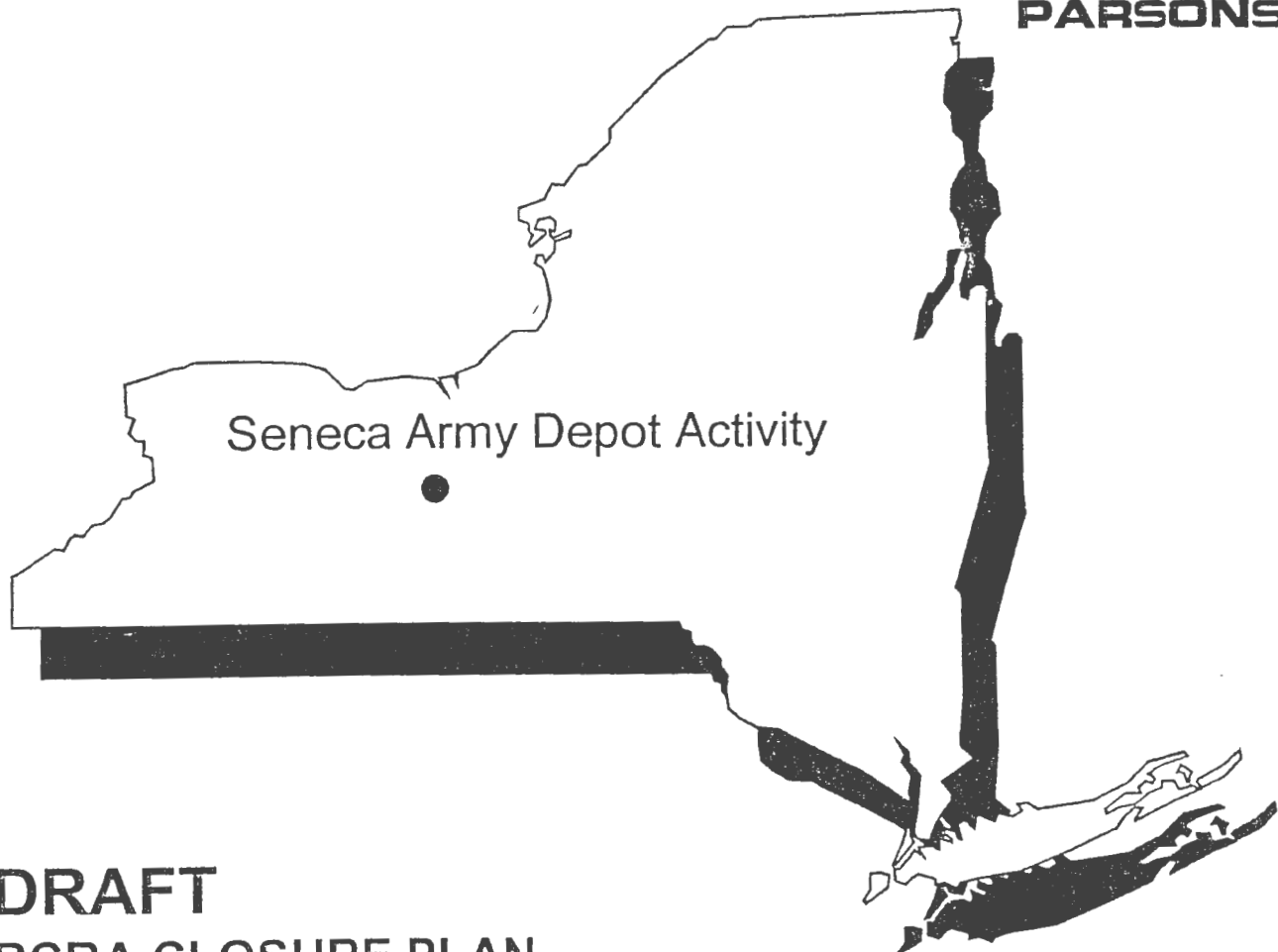


US Army, Engineering & Support Center
Huntsville, AL

Seneca Army Depot Activity
Romulus, NY



PARSONS



DRAFT
RCRA CLOSURE PLAN
OPEN BURN TRAY
IN SOLID WASTE MANAGEMENT UNIT – SEAD-23
SENECA ARMY DEPOT ACTIVITY

EPA Site ID# NY0213820830
NY Site ID# 8-50-006
CONTRACT NO. DACA87-02-D-0031
DELIVERY ORDER NO. 0025

December 2004

registered in New York. Documentation supporting the independent registered professional engineer's certification must be furnished to the commissioner upon request until the commissioner releases the Army from the financial assurance requirements for closure under NYCRR § 373-3.8(d).

2.3.8 Schedule

The Army plans to begin closure of the Open Burn Tray when OE removal operations have been completed at the Depot. The anticipated timetable for closure of this facility is depicted in Figure 2-2. As shown, closure and certification of the closure of the Open Burn Tray is expected to be completed within 150 days of the Army's notification of its intention to close the tray.

2.3.9 Closure Costs

An estimate of the costs to close the Open Burn Tray has been developed using MCACES. Costs projected for this activity have been derived based on the Army retaining a third-party consultant to oversee the proposed closure of the tray and to collect the necessary samples for analysis, and a third-party organization being retained to complete all of the required decontamination and hazardous waste removal operations. All decontamination wastes will be disposed of properly.

The estimated cost for closing the Open Burn Tray is approximately \$40,000. This cost is exclusive of the removal and disposal of any residual drummed quantities of hazardous waste other than wastes generated during the proposed decontamination process. Details of this estimate are summarized in Table 2-1. This estimate assumes that one of the four roll-offs of concrete pad rubble will need to be disposed of as hazardous waste, however, the cost will not be appreciably greater (approx. \$1,400) if all four must be disposed of as hazardous. Details of the estimate are provided in Appendix A of this closure plan.

\$	40,000	FY04
	<u>1,125</u>	escalation
	44,500	FY08

(05)

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-RI

12 August 2002

DIRECTIVE NO. BR-SEN-02-03

ISSUED THRU: CENAD-PM-M (JIMENEZ)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC 95 ER at **Seneca AD, NY**.

1. Reference DA FAD, 9 August 2002, advice number 02-0002-00821.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: (1, 91, 93, or 95) <u>95</u>		increase <u>X</u> /decrease__reprog__	
APPRN: 97 X/2007 0510.40H1	2	DIV/DIST: <u>NAN</u>	ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u>	<u>+/- ALLOCATION</u>	
Munitions Destruct Area	61366R62	+	\$ 472,000
OB/OD Grounds	61366R69	+	3,500,000
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-RI is Bob Martin, 202-761-4904.			

SEN-006-R-01

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-RI as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

CF: AMC (ANDEREGG); CENAN-PP-M (DOWNING)



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

CERM-P (37)

S: 26 April 2004
31 March 2004

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDERS

SUBJECT: Defense Environmental Restoration Program (DERP) Supervision and Administration (S&A) Rate Change

1. The actual DERP S&A costs have been about one percent below the rate charged customers since the beginning of fiscal year 2002. The Director of Military Programs has asked that the cost saving from these efficiencies be passed on to the customer through lower S&A flat rates.
2. Effective 1 April 2004 the flat rate for DERP and BRAC environmental work will be reduced one percent. The new rates will be 7.0% for CONUS and 7.5% OCONUS. All locations outside the continental 48 states and DC are classified as OCONUS by the Department of Defense. S&A
RATE
3. Please provide your district and MSC mid-year S&A schedules reflecting the lower DERP rates by 26 April 2004 in the standard electronic format. MSC-specific formats will be emailed individually to your POCs within a week.
4. POC is Mr. Philip Blount, CERM-P at (202) 761-5620.

FOR THE COMMANDER:


STEPHEN COAKLEY
Director of Resource Management

CF:
CEMP-I
CEMP-SWD

**FINAL RECORD OF DECISION (ROD)
FORMER OPEN BURNING (OB) GROUNDS SITE
SENECA ARMY DEPOT ACTIVITY (SEDA)
ROMULUS, NY**

**Prepared For:
United States Army Corps of Engineers**

**Prepared By:
Parsons Engineering Science, Inc.
30 Dan Road
Canton, MA 02021-2809
January 1999
CONTRACT NO. DACA87-92-D-0022**

Delivery Order 0010

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy outlined in this ROD addresses potential exposure to elevated levels of metals, such as lead, in the on-site soils and sediment in Reeder Creek. The following describes the significant aspects of the remedy:

- The OB Grounds was used for surface burning of explosive trash and propellants. The concern for OE below the surface, at depth, at this site is small. Although OE is not expected to be found at depth at this site, through a combination geophysics, excavation, sifting, removal and soil cover, the Army will nevertheless remediate OE to meet the Department of Defense Explosive Safety Board (DDESB) requirements for unrestricted use or put into place land use restrictions as may be required by the DDESB.
- Excavation of soils with lead concentrations above 500 mg/kg and sediments from Reeder Creek with concentrations of copper and lead above the NYSDEC criteria of the 16 mg/kg and 31 mg/kg, respectively.
- Treatment of soils exceeding the Toxicity Characteristic Leaching Procedure (TCLP), estimated to be approximately 3,800 CY of the excavated soil, via solidification /stabilization will be performed to remove the RCRA characteristic of toxicity. This will allow the soil to be landfilled, in accordance with the requirements of the Land Disposal Restrictions (LDR) of RCRA.
- Disposal of the excavated and solidified soil in an off-site Subtitle D landfill. The total quantity of soil to be disposed of is estimated to be 17,900 CY, including the 3,800 CY of solidified soil.
- Construction of a soil cover of at least 9 inches of compacted soils in the areas of the OB Grounds with soils remaining on the site with lead concentrations above 60 ppm. The area to be covered is estimated to be approximately 27.5 acres, which encompasses most of the area of the OB Grounds. The PRAP incorrectly identified the area to be covered as 43.8 acres. The cap will be vegetated with indigenous grasses to prevent erosion and to prevent direct contact and incidental soil ingestion by terrestrial wildlife. The monitoring program will ensure that the 9-inch soil/vegetative cover is maintained after the remedy is complete.
- Control of surface water runoff, as necessary, to prevent erosion of the vegetative cover and solids loading to the creek. This will be accomplished with vegetation, regrading of site topography and drainage swales.
- Conducting a monitoring program for site groundwater and sediment in Reeder Creek. This program will monitor metals. For groundwater, the level of detection will be to below 15 ug/L, the federal action level for lead in groundwater. For sediment, the detection limit for lead will be to 10 mg/kg. Should a significant exceedance be noted, the exceedance will be

confirmed through additional sampling and, if confirmed, appropriate corrective measures will be implemented to eliminate the threat posed by the exceedance. For groundwater, this action may include metals removal via filtering. A similar process will apply for a sediment exceedance observed in Reeder Creek. First, the source of the exceedance will be identified and confirmed. If the exceedance is determined to originate from the OB Grounds site, then maintenance of or improvements to the existing erosion control systems will be instituted to reduce the threat due to erosion of on-site soils to the Creek. This may include revegetation or the construction of drainage control swales or structures.

STATE CONCURRENCE

NYSDEC has concurred with the selected remedy. **Appendix B** of this Record of Decision contains a copy of the Declaration of Concurrence.

DECLARATION

The selected remedy is consistent with CERCLA and to the extent practicable the NCP, is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. The remedy uses a permanent solution for soil contamination. This remedy will not result in hazardous substances, above cleanup goals, remaining at SEDA. Because these alternatives would result in hazardous substances, pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, CERCLA requires that the lead agency review the remedial action no less than every five years after its initiation. If justified by the review, remedial actions may be implemented to remove or treat the wastes.

FINAL
LONG-TERM MONITORING PLAN FOR
OPEN BURNING (OB) GROUNDS
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared for

U.S. Army, Engineering & Support Center, Huntsville

4820 University Square

Huntsville, AL 35816

and

Seneca Army Depot Activity

5786 State Route 96

PO Box 9

Romulus, New York 14541

Prepared by

PARSONS
150 Federal Street, 4th Floor
Boston, MA 02110-1713

Contract DACA87-02-D-0005, Delivery Order 29
USEPA Site ID: NY0213820830; NY Site ID: 8-50-006

January 2007

7.0 SUMMARY OF MONITORING PROGRAM

This section presents a brief summary of the activities to be performed and requirements of the groundwater and vegetated soil cap monitoring program. This section has been prepared to serve as a brief summary of the Plan requirements for current and future field crews and office personnel who will conduct the work associated with the OB Grounds monitoring program. This section is only intended to provide a brief summary for staff personnel. Supervisory and management personnel are expected to review the entire Plan.

7.1 WATER LEVEL MONITORING

Water levels will be obtained from all wells at the OB Grounds during groundwater sampling events. Levels will be collected on a quarterly basis during the baseline period, which will last for at least the first year. Groundwater level monitoring may be reduced after the first year if the wells are shown to be in compliance with the ROD requirements. The locations of the wells to be installed at the OB Grounds are shown on **Figure 5-1**. All water level measurements will be obtained in accordance with the procedures identified in the SOPs included in the Sampling and Analysis Plan (Parsons 2005, included by reference only).

7.2 WATER QUALITY MONITORING

Water quality monitoring will be performed at six wells. These wells are shown on **Figure 5-1**. Samples will be obtained on a quarterly basis for at least the first year and analyzed for the parameters listed on **Table 5-1**. Sampling frequency after the first year may be revised depending on the results and evaluation of data collected during the first year.

Number of wells = 6

Sampling frequency quarterly for the first year

Samples will be collected in accordance with the procedures described in the SOPs contained the Sampling and Analysis Plan. Quality control samples will be obtained in accordance with the requirements set forth in the QAPP, which is included in the Sampling and Analysis Plan. Laboratory analyses and data validation will be performed in accordance with the procedures set forth in the QAPP.

7.3 VEGETATED SOIL CAP AND DRAINAGE SWALE INSPECTIONS

The vegetated, compacted soil cap overlying the lead contaminated soil that has been left at the former OB Grounds site will initially be inspected and documented once per quarter for one year, concurrent to the quarterly groundwater monitoring events. Inspection of the surface will include observations pertinent to the integrity of the soil and indigenous vegetative covering, and the condition of surface water run-off channels, infiltration galleries, and swales. Any significant

breach of the vegetated, soil cap or erosion in the run-off and infiltration galleries will be repaired within one month of being noted. After collection of this initial data set and the decision regarding whether the cap is effective in isolating the lead-contaminated soil, the cap inspections will be reduced to an annual basis. After a total of five years of inspections, a decision will be made whether the inspections should be terminated or continued into the next five-year period.

7.4 DATA EVALUATION AND REPORTING

All of the water quality and water level monitoring data obtained pursuant to this plan will be reported in OB Grounds Monitoring Program Reports. During the period of baseline (initial four samples) data collection, Monitoring Reports will be prepared quarterly.

During the baseline reporting period, each quarterly report will present new data and information developed during the most recent monitoring event (as is identified in **Section 5.6**, above), and will provide summary presentations of the data developed to date. Summary presentations will include:

1. trend plots of groundwater elevation data for each of the monitoring wells;
2. trend plots for all chemical concentration data developed for each of the monitoring wells;
3. trend plots for key indicator parameter data developed for each of the monitoring wells; and,
4. a chronological listing of any noted vegetated, soil cap breach or erosion and an indication of the correction action taken to alleviate the identified condition.

All data from the first year of monitoring will be reported in the annual OB Grounds Long-Term Monitoring Report. Upon completion of baseline monitoring, data will be reported in annual reports. Reports will be prepared and submitted to USEPA and NYSDEC on or before the first day of the second month after the end of the monitoring period (quarter or 12-month period) from which the data were obtained (i.e., the Groundwater Monitoring Report for data obtained in the fall quarter is to be submitted by February 1st of the following year). The contents of the annual report will include:

1. Complete tabulations, including the identification of maximum and minimum levels, of all groundwater elevation data developed to date;
2. Trend plots of groundwater elevation data for each of the monitoring wells;
3. A potentiometric map of site groundwater;
4. Complete tabulations of all chemical concentration data developed to date;
5. Complete tabulations of all indicator parameter data developed to date;

6. Summary presentations (e.g., sample population, maximums, minimums, median, mean, standard deviation, coefficient of variation, etc.) of all chemical concentration data developed to date for downgradient and background wells versus the regulatory criteria value;
7. Trend plots for all chemical concentration data developed for each of the monitoring wells;
8. Trend plots for key indicator parameter data developed for each of the monitoring wells;
9. A chronological listing of any noted vegetated, soil cap breach or erosion and an indication of the correction action taken to alleviate the identified condition; and,
10. A recommendation of any changes (e.g., changing frequency of data collection to semi-annual or annual, development of a sediment monitoring program, etc.) that are proposed to be implemented for the OB Grounds LTM Plan.

Groundwater data collected during the RI also indicated that, with the possible exception of two monitoring well locations, groundwater had not been impacted by metal contamination that was then present in the soil. Groundwater data from all but the two well locations indicated lead concentrations ranging from non-detectable to less than the 15 µg/L limit stipulated in the ROD. The two exceptions showed lead concentrations higher than 15 µg/L; however, these samples were highly turbid and results from filtered samples collected at these locations showed lead concentrations below 15 µg/L. Based on these findings, the Army indicated that the turbid nature of the samples resulted in the elevated concentrations of lead identified.

Based on the flow direction of groundwater, the existence of a groundwater divide, the lack of widespread metals contamination in groundwater at the OB Grounds, and the ROD requirement to prevent future degradation of Reeder Creek, the monitoring well network will consist of six wells, all of which will need to be constructed at the site. New wells are required due to abandonment of 32 historic wells during the OB Grounds remedial action (Weston Solutions, June 2005) and due to the lack of maintenance applied to the three remaining well installations at the OB Grounds. The locations of the six new proposed wells are shown on **Figure 5-1**, and they will be positioned as follows:

6 new wells

- Three wells will be installed on the east side of the OB Grounds, between the former grounds, the location of the buried lead contaminated soil, and Reeder Creek. These wells will be used to monitor the groundwater for possible future impacts to Reeder Creek.
- Two wells will be installed on the west side of the OB Grounds, west of the groundwater divide. These wells will be used to monitor groundwater flowing off the OB Grounds to the west southwest.
- One well will be installed south of the OB Grounds, outside the area that formerly contained contaminated soil. This well will serve as a background well for comparison to the five other wells installed at the site.

These wells will adequately monitor the OB Grounds to assess future degradation of groundwater in the area of the former OB Grounds and potential migration of affected groundwater towards Reeder Creek. Collection of groundwater levels and generation of potentiometric maps will be used to check the direction of groundwater flow and be used to evaluate the need for additional wells should the groundwater flow directions alter from that currently anticipated.

The exact details of the final monitoring well installations will be determined and documented once they are installed, and will be contingent on conditions found at the OB Grounds. However, based on details of the historic monitoring well network previously located at the OB Grounds, it is expected that all new wells placed at the former AOC will be installed in the till with the screen top set at a depth of 4 to 5 feet below grade surface (bgs), with the screen length extending down

into the underlying weathered shale horizon. Setting the top of the screen 4 to 5 feet bgs will allow for the construction of a permanent well installation consisting of a 2 foot thick concrete collar, overlying a 1 - 2 foot thick bentonite seal and a minimum of 1 foot of sand pack above the top of the screen. The screen length at each monitoring well location will be set to maximize coverage across the till and weathered shale horizons, and as such screen lengths may vary from 2 feet to 10 feet in length. All wells in the historic monitoring network at the OB Grounds had screen lengths of 5 feet.

5.3 MONITORING ANALYTE LIST

year one is quarterly, annual after that

The ROD stipulated that groundwater at the OB Grounds is required to contain less than 15 µg/L lead, and the sediment in Reeder Creek found to contain more than 16 mg/Kg copper and 31 mg/Kg lead was to be excavated. The ROD also required that these media be analyzed for metals. In accordance with these requirements, the samples of groundwater from the OB Grounds will be analyzed initially for total lead and total copper. If preliminary results suggest that turbidity is potentially affecting the sample results, groundwater analyses will also include the determination of total and dissolved lead and copper in the samples. The State of New York Contract Required Quantitation Limits for lead and copper are shown in **Table 5-1** below.

5.4 MONITORING FREQUENCY

As is indicated above, all wells proposed for monitoring groundwater at the OB Grounds will be new; therefore, the initial sampling frequency will be once per quarter for at least one year until it can be established that the wells meet or exceed the required concentrations limits, within the acceptable error tolerances specified in Section 4.2 After collection of this initial data set and the decision regarding whether the wells meet the ROD-specified concentration limits, the Army anticipates that the sampling frequency will be reduced to once per year. After a total of five years of sampling, a decision will be made whether the sampling should be terminated or continued into the next five-year period.

The vegetated, compacted soil cap overlying the lead contaminated soil that has been left at the former OB Grounds site will initially be inspected and documented once per quarter, concurrent to the quarterly groundwater monitoring events. Inspection of the surface will include observations pertinent to the integrity of the soil and indigenous vegetative covering, and the condition of surface water run-off channels, infiltration galleries, and swales. Any identified breach of the vegetated, soil cap or erosion in the run-off and infiltration galleries will be repaired within one month of being noted. After collection of this initial data set and the decision regarding whether the cap is effective in isolating the lead-contaminated soil, the cap inspections will be reduced to an annual basis. After a total of five years of inspections, a decision will be made whether the inspections should be terminated or continued into the next five-year period.

registered in New York. Documentation supporting the independent registered professional engineer's certification must be furnished to the commissioner upon request until the commissioner releases the Army from the financial assurance requirements for closure under NYCRR § 373-3.8(d).

2.3.8 Schedule

The Army plans to begin closure of the Open Burn Tray when OE removal operations have been completed at the Depot. The anticipated timetable for closure of this facility is depicted in Figure 2-2. As shown, closure and certification of the closure of the Open Burn Tray is expected to be completed within 150 days of the Army's notification of its intention to close the tray.

2.3.9 Closure Costs

An estimate of the costs to close the Open Burn Tray has been developed using MCACES. Costs projected for this activity have been derived based on the Army retaining a third-party consultant to oversee the proposed closure of the tray and to collect the necessary samples for analysis, and a third-party organization being retained to complete all of the required decontamination and hazardous waste removal operations. All decontamination wastes will be disposed of properly.

The estimated cost for closing the Open Burn Tray is approximately \$40,000. This cost is exclusive of the removal and disposal of any residual drummed quantities of hazardous waste other than wastes generated during the proposed decontamination process. Details of this estimate are summarized in Table 2-1. This estimate assumes that one of the four roll-offs of concrete pad rubble will need to be disposed of as hazardous waste, however, the cost will not be appreciably greater (approx. \$1,400) if all four must be disposed of as hazardous. Details of the estimate are provided in Appendix A of this closure plan.

\$ 40,000 FY04
 1,125 escalation

 44,500 FY08

(05)

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-006-R-01 combined
Project Name: SEAD-006-R-01 combined
Project Category: Planned Industrial Area

Location

State / Country: MONTANA
City: MONTANA STATE AVERAGE

Location Modifier

Default

User

1.055

1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115)

The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of the Groundwater Monitoring and Site Closeout Documentation costs.

Site: SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115)

Source:

1. Concept Plan, Ordnance and Explosives for A RCRA Closure of the OB/OD Grounds at Seneca Army Depot Activity, Sept. 2002
2. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
3. Draft RCRA Closure Plan Open Burn Tray in SWMU Unit -23

Estimate Documentation Report

(SEAD-23, OB Grounds), December 2004

4 Professional judgment based on site knowledge.

RACER Assumptions:

Monitoring Groundwater (LTM)

1. Monitor groundwater and Reeder Creek sediment for 30 years for metals
2. Monitor 6 wells total, and 4 sediment sites
3. Annual analysis begins in 2012, QC level 4, standard turnaround time
4. Annual analysis of GW, with six 5-year review period
5. Data management includes full plans and reports, data evaluation/validation, and submits analysis electronically
6. RACER estimate for Monitoring, 5-Year Review and Site Closeout using professional judgment and site knowledge.

Site Closeout Documentation (LTM):

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 10
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

SEAD-23 Open Burning Grounds

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2006 data call.

Site: SEAD-23, Open Burning Grounds

Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the costs for the groundwater monitoring, the five-year review periods, site closeout costs, and land use controls. The draft Long Term Monitoring plan for SEAD-23 contains information on the need to install groundwater monitoring wells and analysis requirements but no cost information. The information from the report was used for the RACER estimate.

Source:

1. Final Record of Decision Former Open Burning Grounds Site, January 1999
2. Draft Long Term Monitoring Plan for Open Burning Grounds, December 2005
3. Professional judgment based on site knowledge.

RACER Assumptions:

Monitoring Groundwater (LTM)

1. Install 6 groundwater wells

Estimate Documentation Report

2. Monitor 6 groundwater wells for 30 years for metals
3. Annual analysis (begins October 2006), QC level 4, standard turnaround time
4. Annual analysis of groundwater with 5 year reviews for 30 years
5. Data management includes reports, data evaluation/validation, and submits analysis electronically (monitoring plan not included, currently draft document)

Five-Year Review (LTM)

1. 6 review cycles
2. Review period begins October 2006 with the first review in 2011
3. Moderate complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters.

Site Closeout Documentation (LTM)

1. Site Closeout is moderate complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 10
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (second LTM phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually
4. Modification/Termination parameters used are Document Evaluation, Modify LUCIP, Amend Decision Documents, and Termination Letters (all with Low complexity)

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-006-R-01
Site Name: OB/OD Grounds combined
Site Type: None

Media/Waste Type

Primary: Groundwater
Secondary: Sediment/Sludge

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: RCRA Closure of OB/OD Grounds and OB Grounds (SEAD-23) are combined.
Support Team: Stephen M. Absolom - SEDA BEC
Randy Battaglia - US Army Corps of Engineers, Project Engineer
References: 1. Concept Plan, Ordnance and Explosives for A RCRA Closure of the OB/OD Grounds at Seneca Army Depot Activity, Sept. 2002
2. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, January 2004.
3. Draft RCRA Closure Plan Open Burn Tray in SWMU Unit -23 (SEAD-23, OB Grounds), December 2004
4. Professional judgment based on site knowledge.

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/13/2008

Estimate Documentation Report

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ Date: _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1 SEAD 23	\$588,984	\$1,371,522
LTM #2 (LUCs) SEAD 23	\$104,653	\$285,172
LTM #2 OB/OD	\$117,509	\$311,233
LTM #1 OB/OD	\$1,202,014	\$2,662,954
LTM #3 SEAD 23	\$15,817	\$40,669
Total Cost:	\$2,028,977	\$4,671,551

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1 SEAD 23
Description: Monitor site per ROD for metals in groundwater, and conduct Five-Year Reviews SEAD 23.

Start Date: October, 2006
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

<u>Technology Markups</u>	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
MONITORING	Yes	100	0
Five-Year Review	Yes	100	0

Total Marked-up Cost: \$1,371,522

Technologies:

Estimate Documentation Report

Technology Name: Monitoring (# 1)

User Name: MONITORING

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Model Name		MONITORING	n/a
Groundwater		Yes	n/a
Surface Soil		No	n/a
Surface Water		No	n/a
Subsurface Soil		No	n/a
Sediment		No	n/a
Soil Gas		No	n/a
Air		No	n/a
Site Distance (One-way)		60	MI
Safety Level		D	n/a
Groundwater			
<u>Required Parameters</u>			
Average Sample Depth		15	FT
Samples per Event (First Year)		6	n/a
Samples per Event (Out Years)		6	n/a
Number of Events (First Year)		4	n/a
Number of Events (Out Years)		1	n/a
Number of Years (Out Years)		28	n/a
<u>Secondary Parameters</u>			
Primary Analytical Template	None	System Water - Metals	n/a
Secondary Analytical Template	None	None	n/a
Turnaround Time	Standard (21 Days)	Standard (21 Days)	n/a
Data Package/QC	Stage 1	Stage 4	n/a
Sampling Method	Existing Wells - Low Flow Pump	Existing Wells - Low Flow Pump	n/a
Number of Wells/Day	8	8	EA
Contain Purge Water	Yes	Yes	n/a
QA/QC			
<u>Secondary Parameters</u>			
Split Samples	1: 10	1: 10	EA
Field Duplicate Samples	1: 10	1: 10	EA

Estimate Documentation Report

Technology Name: **Monitoring (# 1)**

User Name: **MONITORING**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
QA/QC			
<u>Secondary Parameters</u>			
Rinse Blanks (per Round)	1	1	EA
Trip Blanks (per Day)	0	0	EA
Matrix Spikes/Matrix Spike Duplicates	1: 20	1: 20	EA
Data Management			
<u>Secondary Parameters</u>			
Monitoring Plan	Standard	Standard	n/a
Lab Data Review	Stage 4	Stage 4	n/a
Submit Data Electronically	Yes	Yes	n/a
Monitoring Reports	Comprehensive	Comprehensive	n/a

Comments: A Longterm Monitoring Plan exists and is not included in this estimate. The plan calls for quarterly sampling for the first year of monitoring and semi annual after the first year.

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Moderate	n/a
Document Review		Yes	n/a
Interviews		Yes	n/a
Site Inspection		Yes	n/a
Report		Yes	n/a
Travel		Yes	n/a
Rebound Study		No	n/a
Start Date		October-2011	n/a
No. Reviews		6	EA
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		Yes	n/a
Record of Decision		Yes	n/a
Remedial Action Design & Construction		Yes	n/a
Close-Out Report		Yes	n/a
Operations & Maintenance Manuals & Reports		Yes	n/a
Consent Decree or Settlement Records		Yes	n/a
Groundwater Monitoring & Reports		Yes	n/a
Remedial Action Required		Yes	n/a
Previous 5-Year Review Reports		Yes	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		Yes	n/a
Community Groups		Yes	n/a
State Contacts		Yes	n/a
Local Government Contacts		Yes	n/a
Operations & Maintenance Contractors		Yes	n/a
PRPs		Yes	n/a
Remedial Design Consultant		Yes	n/a
Site Inspection			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		Yes	n/a
Containment System Inspection		Yes	n/a
Monitoring Systems Inspection		Yes	n/a
Treatment Systems Inspection		Yes	n/a
Regulatory Compliance		Yes	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		Yes	n/a
Report			
<u>Required Parameters</u>			
Introduction		Yes	n/a
Remedial Objectives		Yes	n/a
ARARs Review		Yes	n/a
Summary of Site Visit		Yes	n/a
Areas of Non Compliance		Yes	n/a
Technology Recommendations		Yes	n/a
Statement of Protectiveness		Yes	n/a
Next Review		Yes	n/a
Implementation Requirements		Yes	n/a
Travel			
<u>Required Parameters</u>			
Number of Travelers		2	EA
Number of Days		5	EA
Air Fare Ticket Price		0	\$
Need a rental car?		Yes	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #2 (LUCs) SEAD 23
Description: Administrative Land Use Controls SEAD 23.

Start Date: October, 2006
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
ADMINISTRATIVE LAND USE CONTROLS	Yes	100	0

Total Marked-up Cost: \$285,172

Technologies:

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)
User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2006	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2006	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2035	n/a
Type of Site	Transferring Government Installation		n/a

Implementation

Required Parameters

Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitability to Transfer (FOST)		No	n/a

Monitoring & Enforcement

Required Parameters

Duration of Monitoring/Enforcement		30	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)

User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #2 OB/OD
Description: Site closeout documentation OB/OD.

Start Date: December, 2012
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate

Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0
Five-Year Review	Yes	100	0

Total Marked-up Cost: \$311,233

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		4	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		10	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Moderate	n/a
Document Review		Yes	n/a
Interviews		Yes	n/a
Site Inspection		Yes	n/a
Report		Yes	n/a
Travel		No	n/a
Rebound Study		No	n/a
Start Date		December-2017	n/a
No. Reviews		6	EA
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		Yes	n/a
Record of Decision		Yes	n/a
Remedial Action Design & Construction		Yes	n/a
Close-Out Report		Yes	n/a
Operations & Maintenance Manuals & Reports		Yes	n/a
Consent Decree or Settlement Records		Yes	n/a
Groundwater Monitoring & Reports		Yes	n/a
Remedial Action Required		Yes	n/a
Previous 5-Year Review Reports		Yes	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		Yes	n/a
Community Groups		Yes	n/a
State Contacts		Yes	n/a
Local Government Contacts		Yes	n/a
Operations & Maintenance Contractors		Yes	n/a
PRPs		Yes	n/a
Remedial Design Consultant		Yes	n/a
Site Inspection			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		Yes	n/a
Containment System Inspection		Yes	n/a
Monitoring Systems Inspection		Yes	n/a
Treatment Systems Inspection		Yes	n/a
Regulatory Compliance		Yes	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		Yes	n/a
Report			
<u>Required Parameters</u>			
Introduction		Yes	n/a
Remedial Objectives		Yes	n/a
ARARs Review		Yes	n/a
Summary of Site Visit		Yes	n/a
Areas of Non Compliance		Yes	n/a
Technology Recommendations		Yes	n/a
Statement of Protectiveness		Yes	n/a
Next Review		Yes	n/a
Implementation Requirements		Yes	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1 OB/OD
Description: RCRA moitoring required at this permitted site in addition to site closeout documentation OB/OD.

Start Date: December, 2017
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

MONITORING

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$2,662,954

Technologies:

Estimate Documentation Report

Technology Name: Monitoring (# 1)

User Name: MONITORING

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Model Name		MONITORING	n/a
Groundwater		Yes	n/a
Surface Soil		No	n/a
Surface Water		No	n/a
Subsurface Soil		No	n/a
Sediment		Yes	n/a
Soil Gas		No	n/a
Air		No	n/a
Site Distance (One-way)		60	MI
Safety Level		D	n/a
Groundwater			
<u>Required Parameters</u>			
Average Sample Depth		15	FT
Samples per Event (First Year)		6	n/a
Samples per Event (Out Years)		6	n/a
Number of Events (First Year)		4	n/a
Number of Events (Out Years)		2	n/a
Number of Years (Out Years)		29	n/a
<u>Secondary Parameters</u>			
Primary Analytical Template	System Water - Metals	System Water - Metals	n/a
Secondary Analytical Template	None	None	n/a
Turnaround Time	Standard (21 Days)	Standard (21 Days)	n/a
Data Package/QC	Stage 1	Stage 4	n/a
Sampling Method	Existing Wells - Low Flow Pump	Existing Wells - Low Flow Pump	n/a
Number of Wells/Day	8	8	EA
Contain Purge Water	Yes	Yes	n/a
Sediment			
<u>Required Parameters</u>			
Average Sample Depth		1	FT
Average Water Depth		1	FT

Estimate Documentation Report

Technology Name: Monitoring (# 1)

User Name: MONITORING

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Sediment			
<u>Required Parameters</u>			
Samples per Event (First Year)		4	n/a
Samples per Event (Out Years)		4	n/a
Number of Events (First Year)		1	n/a
Number of Events (Out Years)		1	n/a
Number of Years (Out Years)		29	n/a
<u>Secondary Parameters</u>			
Primary Analytical Template	System Soil - Metals	System Soil - Metals	n/a
Secondary Analytical Template	None	None	n/a
Turnaround Time	Standard (21 Days)	Standard (21 Days)	n/a
Data Package/QC	Stage 1	Stage 4	n/a
Number of Samples/Day	12	12	EA
QA/QC			
<u>Secondary Parameters</u>			
Split Samples	1: 10	1: 10	EA
Field Duplicate Samples	1: 10	1: 10	EA
Rinse Blanks (per Round)	1	1	EA
Trip Blanks (per Day)	0	0	EA
Matrix Spikes/Matrix Spike Duplicates	1: 20	1: 20	EA
Data Management			
<u>Secondary Parameters</u>			
Monitoring Plan	Standard	Standard	n/a
Lab Data Review	Stage 4	Stage 4	n/a
Submit Data Electronically	Yes	Yes	n/a
Monitoring Reports	Comprehensive	Comprehensive	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #3 SEAD 23
Description: Site Close-Out Documentation SEAD 23.

Start Date: September, 2037
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

Site Close-Out Documentation

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$40,669

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		5	EA
Duration of Storage		30	Yrs

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 5 March 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. There is not regulatory agreement at this time for the monitoring plan. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of monitoring, 5-year reviews, site close out, and LUCs.

Site: SEAD-13 Inhibited Red Fuming Nitric Acid Site (IRFNA)

Source:

1. Final ROD For Seventeen SWMUs Requiring Institutional Controls, SEADs-13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007
2. Professional judgment based on site knowledge
3. Work authorization directive dated 10 Jan 2008; first year funded, 19 yrs to program

RACER Assumptions:

Five-Year Review (RA-O):

1. 4 review cycles
2. Review cycle begins Sept 2007, first review in 2012
3. Low complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters

Site Closeout Documentation (RA-O):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (RA-O):

1. Number of wells: 14
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Land Use Controls (second RA-O phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually

Cost Summary SEAD-13

GW Monitoring for 19 yrs (ROD cost x FY07 escalation)

2,012,000 x 1.0240 = 2,060,288

2,060,288 – 95,000 (first yr funded)

1,965,288

5-Year Reviews (RACER)

4 events over 20 years

88,590

Site Closeout (RACER)

28,985

Well Abandonment (RACER)

25,362

Land Use Controls (RACER)

for 19 years

192,848


Total Site Cost

\$2,301,073


Cost Difference > 10% from 2007 Report? Yes

Reason: Updated RACER estimate.

Prepared by: Janet R. Fallo

 3/5/08
Signature Date

Reviewed by: Stephen M. Absolom

 3/5/08
Signature Date

WORK AUTHORIZATION DIRECTIVE (WAD)
 BASE REALIGNMENT AND CLOSURE (BRAC) ENVIRONMENTAL RESTORATION
 AND FUNDS RELEASE DOCUMENT

CEMP-NAD

10 January 2008

DIRECTIVE NO. BR-SEN-08-11

ISSUED THRU: CENAD-PD-IIS-S (TUMMINELLO)
 TO: CENAN-PP-E (BATTAGLIA)

ISSUED FOR: BRAC ER at Seneca AD, NY.

1. Reference DA FAD, 10 January 2008, advice number # 08-0002-01855.
2. You are authorized Base Closure Account (BCA) environmental restoration funds to execute the following project(s).

BRAC ROUND: 97	increase X /decrease__ reprog__
APPRN: 97 X/2013 0510.40N1 2008 BCA	DIV/DIST: <u>NAN</u> ASN: 8011
<u>PROJECT</u>	<u>AMSCO</u> +/- <u>ALLOCATION</u>
Long Term Monitoring - IRFNA Site	61366R39 + \$95,000.00
POC at CENAN-PP-E is Randy Battaglia, 607-869-1523. POC at CEMP-NAD is Dave Koran, 202-761-0076.	

Funds
 Received

3. These funds are for the above specified projects only. The funds may not be transferred to other projects without approval and authorization of this office.
4. These funds must be obligated within 30 days of receipt. If these funds cannot be obligated in 30 days this office is to be notified immediately.
5. Accounting and Reporting Instructions:
 - a. Report all financial data on a monthly basis via the Integrated Command Accounting and Reporting (ICAR) System.
 - b. Report excess funds to CEMP-NAD as soon as they are identified.
 - c. Provide a copy of this WAD to your Resource Management Office.

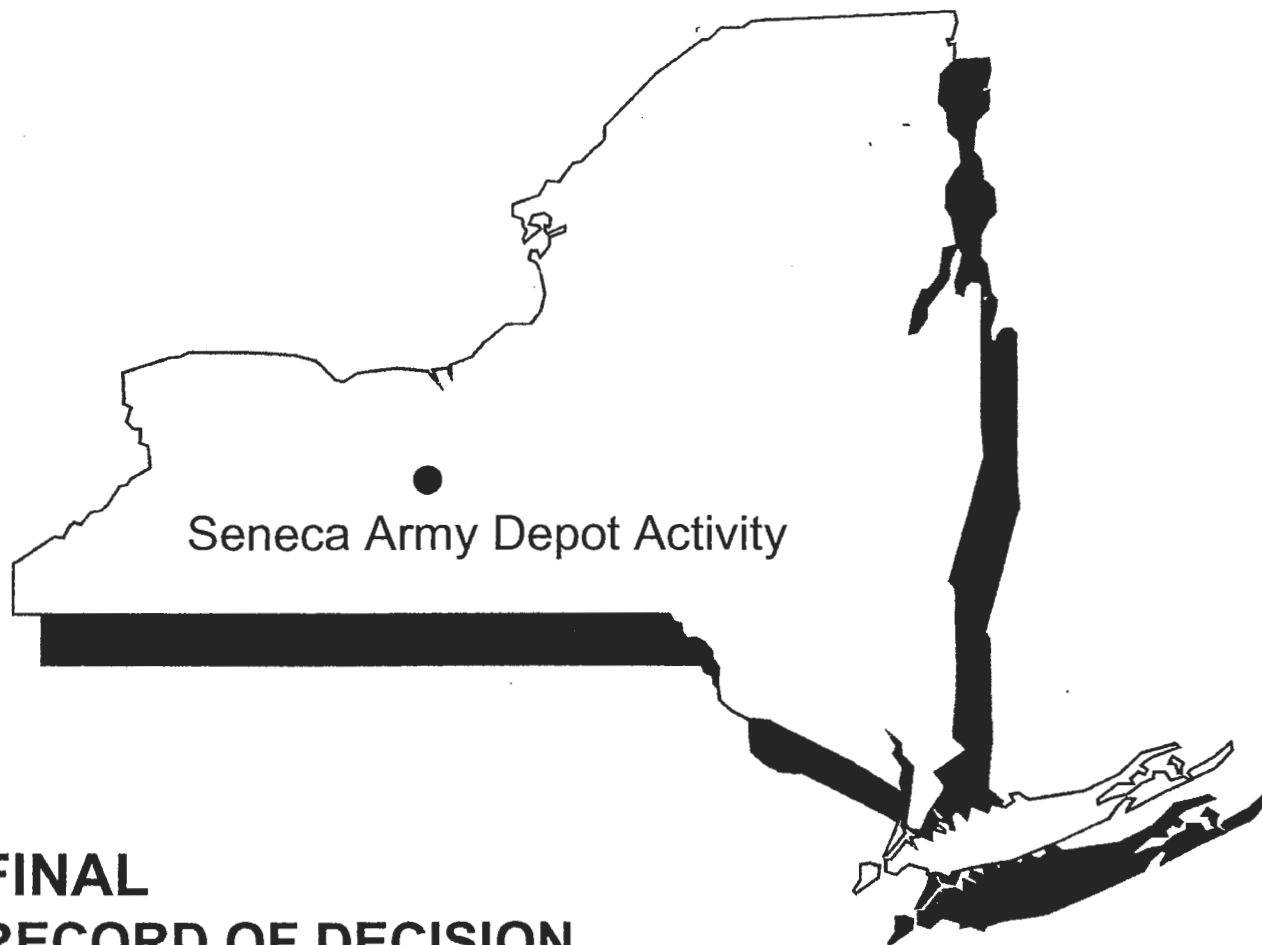
CF: TUMMINELLO



US Army, Engineering & Support Center
Huntsville, AL



Seneca Army Depot Activity
Romulus, NY



FINAL
RECORD OF DECISION
FOR SEVENTEEN SWMUs REQUIRING LAND USE
CONTROLS (SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52,
62, 64B, 64C, 64D, 67, 122B, and 122E)
SENECA ARMY DEPOT ACTIVITY (SEDA)

EPA Site ID# NY0213820830
NY Site ID# 8-50-006
CONTRACT NO. DACA87-02-D-0005
DELIVERY ORDER NO. 0026

PARSONS
March 2007

1.0 DECLARATION OF THE RECORD OF DECISION

Site Names and Location

Seneca Army Depot Activity
CERCLIS ID# NY0213820830
New York Site ID# 8-50-0006
Romulus, Seneca County, New York

This Record of Decision (ROD) formalizes and documents the U.S Army's (Army's) and U.S Environmental Protection Agency's (USEPA's) selected remedy for 17 historic solid waste management units (SWMUs) at the former Seneca Army Depot Activity (SEDA). Each of the Army's selected remedies for the 17 former SWMUs requires the definition and use of Land Use Controls (LUCs). The 17 former SWMUs discussed in this ROD include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64C, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4;
- SEAD-122B, Small Arms Range, Airfield Parcel; and
- SEAD-122E, Plane Deicing Area.

These SWMUs are also referred to below as “Areas of Concern” or “AOCs” or individually as an “Area of Concern” or “AOC.”

Statement of Basis and Purpose

This decision document presents the Army's and the USEPA's selected remedy for SEADs 13, 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 67, 122B, and 122E (or the AOCs), located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Romulus and Varick, Seneca County, New York. The decisions were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP),

40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Alpha Branch, Army BRAC Division, and the USEPA Region 2 have been delegated the authority to approve this Record of Decision (ROD).

This ROD is based on the Administrative Record that has been developed by the Army in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial action. This index is included in **Appendix A**.

The New York State Department of Environmental Conservation (NYSDEC) has concurred with the selected remedy. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

Site Assessment

The response action selected for each SWMU identified in this ROD is necessary to protect human health or the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from these SWMUs, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The selected remedy for each of the 17 AOCs discussed in this ROD is either No Action (NA) or No Further Action (NFA) combined with the establishment, maintenance, and monitoring of Land Use Controls (LUCs). AOCs where the selected remedy is NA with LUCs include:

- SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site;
- SEADs-43/56/69, Building 606 – Old Missile Propellant Test Laboratory/Herbicide and Pesticide Storage/Disposal Area;
- SEAD-44B, Quality Assurance Test Laboratory;
- SEAD-52, Buildings 608 and 612 – Ammunition Breakdown Area;
- SEAD-62, Nicotine Sulfate Disposal Area near Buildings 606 and 612;
- SEAD-64C, Garbage Disposal Area; and
- SEAD-122E, Plane Deicing Area.

AOCs where the Army's selected remedy is NFA with LUCs include:

- SEAD-39, Building 121 Boiler Blowdown Leach Pit;
- SEAD-40, Building 319 Boiler Blowdown Leach Pit;
- SEAD-41, Building 718 Boiler Blowdown Leaching Pit;
- SEAD-44A, Quality Assurance Test Laboratory;
- SEAD-64B, Garbage Disposal Area;
- SEAD-64D, Garbage Disposal Area;
- SEAD-67, Dump Site East of Sewage Treatment Plant No. 4; and,
- SEAD-122B, Small Arms Range, Airfield Parcel.

At 12 of the AOCs (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67), LUCs previously documented by the Army will be imposed, monitored, and maintained until the concentrations of hazardous substances remaining at the site allow for the unlimited exposure and unrestricted use. It is also recommended that other LUCs previously not documented be imposed at five AOCs (i.e., SEADs 13, 64B, 64C, 122B and 122E) that are subject of this ROD.

The Army has previously documented and imposed LUCs within three portions of the former Depot: in the southeastern corner of the Depot where the Five Points Correctional Facility ("Prison Area") currently is located; in the east central portion of the Depot where the Planned Industrial/Office Development (PID Area) and Warehousing Area is located; and in the north-central portion (i.e., "North End Barracks" Area) of the Depot where the Hillside Children's Center is currently located. One or more of the 12 AOCs defined above (i.e., SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64C, and 67) are located within land covered by existing LUCs within these three parcels of the former Depot. Within this ROD, the Army formalizes and documents its intention to impose the existing LUCs on the AOCs located within each of these parcels under CERCLA. Land within the "Prison Area" and the area currently occupied by the Hillside Children's Center have been transferred to the community [i.e., to the people of the State of New York and Seneca County Industrial Development Agency (SCIDA), respectively] under deeds that have been recorded by the Seneca County Clerk. Land within the PID and Warehousing Area of the Depot has not yet been transferred to the community, but LUCs including a residential activity use restriction and a groundwater use/access restriction have been identified and documented within the "Final Record of Decision for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Area, Seneca Army Depot Activity" (September 2004).

New LUCs are proposed for the remaining five AOCs (SEADs 13, 64B, 64D, 122B, and 122E) discussed within this ROD. The groundwater use/access restriction proposed for SEAD-13 and SEAD-64D, and the residential use/activity restriction proposed for SEAD-122E result from the Army's determination that potential risks to human health or the environment exist due to the presence of hazardous substances at the historic SWMUs. The Army further recommends that the residential use/activity restriction proposed for SEAD-122E be imposed throughout the area occupied by the former Sampson / Seneca Army Depot Airfield to facilitate its transfer to the SCIDA; this LUC would encompass the entire parcel known as the Airfield. The LUC proposed for implementation at SEAD-64B (no unauthorized excavation and maintenance of cover) results from historic requirements of New York State Solid Waste Management Regulations; this LUC will also be applied along with the groundwater access/use restriction at SEAD-64D.

The specific LUCs selected for each AOC are summarized in **Table 1-1** and described more completely as follows:

State Concurrence

NYSDEC forwarded a letter of concurrence to the USEPA regarding the selection of a remedial action in the future. This letter of concurrence has been placed in **Appendix B**.

Declaration

CERCLA and the NCP require each selected remedy to be protective of human health, public welfare, and the environment; be cost-effective; comply with other statutory laws; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent practicable. CERCLA and the NCP also state a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The selected remedies described above are consistent with CERCLA and the NCP and are protective of human health and the environment, comply with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, and are cost-effective. These remedies have been evaluated against toxicity, mobility, or volume of hazardous substances and pollutants or contaminants.

The remedies identified may result in hazardous substances and pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure for an indeterminate period. A review will be conducted within five years after initiation of the remedial action at each AOC to ensure that the remedy is, or will be, protective of human health and the environment, with consideration given to each AOC's continuing and planned future use.

The estimated cost for implementing the groundwater monitoring of the nitrate plume at SEAD-13, the Inhibited Red Fuming Nitric Acid Disposal Site, is \$2,012,000 over a 20-year period. The estimated cost associated with implementing, monitoring, assessing and reporting on the continued suitability of the recommended actions at SEADs 39, 40, 41, 43/56/69, 44A, 44B, 52, 62, 64B, 64C, 64D, 122B, and 122E is \$311,000 in aggregate. The total combined estimated cost of the recommended remedial actions for all sites included in this ROD is \$2,323,000.

FUNDS
Required

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:



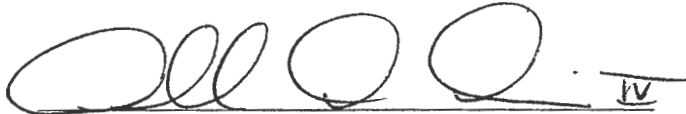
STEPHEN M. ABSOLOM
BRAC Environmental Coordinator

3/12/07

Date

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:

Handwritten signature of Addison D. Davis, IV, consisting of three large loops followed by a horizontal line and the Roman numeral 'IV'.

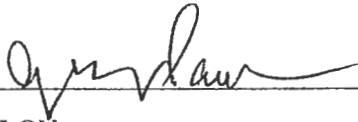
ADDISON D. DAVIS, IV
Deputy Assistant Secretary of the Army
Environment, Safety and Occupational Health

1 MAY 07

Date

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:



GEORGE PAVLOU
Director, Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II

7/3/07

Date

SEAD

Phase	2009	2010	2011	2012	2013	2014	2015	Outyears
GW	103	103	103	103	103	103	103	120 1305
syn					22			67
PD								29
LUC	10	10	10	10	10	10	10	123
Will AB								25

$$\begin{array}{r}
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 \hline
 2012,000 \\
 \hline
 20 \\
 \hline
 120
 \end{array}$$

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 707 \\
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 1305 \\
 93 \\
 \hline
 1210 \\
 223 \\
 \hline
 66
 \end{array}$$

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 94 \\
 \underline{70} \\
 188 \\
 \underline{171}
 \end{array}$$

$$\begin{array}{r}
 193 \\
 70 \\
 \hline
 123
 \end{array}$$

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-13
Project Name: SEAD-13
Project Category: Residential/Resort

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

SEAD-13 Inhibited Red Fuming Nitric Acid (IRFNA) disposal site.

The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost of monitoring, site close out, and LUCs.

Site: SEAD-13 Inhibited Red Fuming Nitric Acid Site (IRFNA)

Source:

1. Final Decision Document/Mini Risk Assessment for SEAD-13 IFRNA Disposal Site (July 2004)
2. Draft Proposed Plan No Action/No Further Action for SWMU's SEAD-13, 39, 40, 43, 44A, 44B, 56, 67, and 122B at the Seneca Army Depot Activity, March 2005
3. Draft PRAP For Seventeen SWMUs Requiring Institutional Controls,

Estimate Documentation Report

SEADs- 13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E;
October 2005

4. Professional judgment based on site knowledge

RACER Assumptions:

Monitoring Groundwater (RA-O)

1. Monitor groundwater for 20 years for nitrate/nitrite
2. Monitor 5 wells (4 wells with elevated concentrations plus 1 up-gradient well)
3. Annual analysis (begins Sept 2006), QC level 4, standard turnaround times
4. Annual analysis of groundwater with 5-Year Reviews for 20 years or until contaminants are within acceptable levels
5. Data management includes full plans, reports, data evaluation/validation, and submits analysis electronically

Five-Year Review (RA-O):

1. 4 review cycles
2. Review cycle begins Sept 2006, first review in 2011
3. Low complexity
4. Tasks include Document Review, Interviews and Site Inspections
5. Report for Five Year Review to include all default parameters

Site Closeout Documentation (RA-O):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years
5. Well abandonment includes sub-contractor costs for fieldwork

Land Use Controls (second RA-O phase)

1. Tasks include Implementation, Monitoring & Enforcement, and Modification/Termination
2. Implementation parameters used are Deed Notification and Restrictive Covenants (all with Low complexity)
3. Monitoring & Enforcement parameters used are Report & Certifications annually

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-13
Site Name: IRFNA Disposal Site
Site Type: None

Media/Waste Type

Primary: Groundwater
Secondary: N/A

Contaminant

Primary: Other
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: Inhibited Red Fuming Nitric Acid Disposal Site- the location where the limestone lined pits were used for the neutralization process to dispose of the IRFNA. Process left a high nitrate/nitrite plume in the groundwater.
Support Team: Stephen M. Absolom - BEC, Seneca Army Depot
References: Final ROD For Seventeen SWMUs Requiring Institutional Controls, SEADs-13,39,40,43/56/69,44A,44B,52,62,64B,64C,64D,67,122B,122E; July 2007

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/14/2008

Estimator Signature: _____

Date: _____

Estimate Documentation Report

Reviewer Information

Reviewer Name: Steve Absolom
Reviewer Title: Installation Manager
Agency/Org./Office: Seneca Army Depot Activity
Business Address: .
Telephone Number: (607) 869-1309
Email Address: stephen.m.absolom@us.army.mil
Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
RA(O)- LUCs	\$71,080	\$192,848
RA(O)	\$58,873	\$142,936
Total Cost:	\$129,952	\$335,785

Estimate Documentation Report

Phase Documentation:

Phase Type: Operations & Maintenance
Phase Name: RA(O)- LUCs
Description: Administrative Land Use Controls.

Start Date: September, 2006
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

ADMINISTRATIVE LAND USE CONTROLS

<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Yes	100	0

Total Marked-up Cost: \$192,848

Technologies:

Estimate Documentation Report

Technology Name: Administrative Land Use Controls (# 1)
User Name: ADMINISTRATIVE LAND USE CONTROLS

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Rename Model	ADMINISTRATIVE LAND USE CONTROLS		n/a
Planning Documents		No	n/a
Implementation		Yes	n/a
Implementation: Start Date		2006	n/a
Monitoring & Enforcement		Yes	n/a
Monitoring & Enforcement: Start Date		2006	n/a
Modification/Termination		Yes	n/a
Modification/Termination: Start Date		2026	n/a
Type of Site	Transferring Government Installation		n/a
Implementation			
<u>Required Parameters</u>			
Modify Installation (or City) Master Plan		No	n/a
Deed Notification		Yes	n/a
Deed Notification: Number		1	EA
Deed Notification: Task Complexity		Low	n/a
Negotiating Easements		No	n/a
Restrictive Covenants		Yes	n/a
Restrictive Covenants: Number		1	EA
Restrictive Covenants: Task Complexity		Low	n/a
Equitable Servitudes		No	n/a
Access Control Signs		No	n/a
Utility Notification Service		No	n/a
Geographic Information Systems (GIS)/Overlay Maps		No	n/a
Develop Finding of Suitability to Transfer (FOST)		No	n/a
Monitoring & Enforcement			
<u>Required Parameters</u>			
Duration of Monitoring/Enforcement		19	Years
Notice Letters		No	n/a
Guard Service/Security		No	n/a
Reports & Certifications		Yes	n/a

Estimate Documentation Report

Technology Name: **Administrative Land Use Controls (# 1)**

User Name: **ADMINISTRATIVE LAND USE CONTROLS**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Monitoring & Enforcement			
<u>Required Parameters</u>			
Reports & Certifications: Frequency		Annually	n/a
Site Visits/Inspections		No	n/a
Modify/Termination			
<u>Required Parameters</u>			
Document Evaluation		Yes	n/a
Document Evaluation: Number		1	EA
Document Evaluation: Plan Complexity		Low	n/a
Modify LUC Documents		Yes	n/a
Modify LUC Documents: Number		1	EA
Modify LUC Documents: Plan Complexity		Low	n/a
Amend Decision Documents		Yes	n/a
Amend Decision Documents: Number		1	EA
Amend Decision Documents: Plan Complexity		Low	n/a
Termination Letters		Yes	n/a
Termination Letters: Number		1	EA
Termination Letters: Plan Complexity		Low	n/a

Comments:

Estimate Documentation Report

Phase Documentation:

Phase Type: Operations & Maintenance
Phase Name: RA(O)
Description: Site Close-out
Land Use Controls .

Start Date: March, 2026
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Five-Year Review	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$142,936

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		1	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		4	EA
Duration of Storage		30	Yrs

Comments:

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Low	n/a
Document Review		Yes	n/a
Interviews		Yes	n/a
Site Inspection		Yes	n/a
Report		Yes	n/a
Travel		No	n/a
Rebound Study		No	n/a
Start Date		September-2007	n/a
No. Reviews		4	EA
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		Yes	n/a
Record of Decision		Yes	n/a
Remedial Action Design & Construction		Yes	n/a
Close-Out Report		Yes	n/a
Operations & Maintenance Manuals & Reports		Yes	n/a
Consent Decree or Settlement Records		Yes	n/a
Groundwater Monitoring & Reports		Yes	n/a
Remedial Action Required		Yes	n/a
Previous 5-Year Review Reports		Yes	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		Yes	n/a
Community Groups		Yes	n/a
State Contacts		Yes	n/a
Local Government Contacts		Yes	n/a
Operations & Maintenance Contractors		Yes	n/a
PRPs		Yes	n/a
Remedial Design Consultant		Yes	n/a
Site Inspection			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Five-Year Review (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		Yes	n/a
Containment System Inspection		Yes	n/a
Monitoring Systems Inspection		Yes	n/a
Treatment Systems Inspection		Yes	n/a
Regulatory Compliance		Yes	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		Yes	n/a
Report			
<u>Required Parameters</u>			
Introduction		Yes	n/a
Remedial Objectives		Yes	n/a
ARARs Review		Yes	n/a
Summary of Site Visit		Yes	n/a
Areas of Non Compliance		Yes	n/a
Technology Recommendations		Yes	n/a
Statement of Protectiveness		Yes	n/a
Next Review		Yes	n/a
Implementation Requirements		Yes	n/a

Comments:

Estimate Documentation Report

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		14	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments:

MEMORANDUM FOR RECORD

SUBJECT: Environmental Liabilities

Date: 5 March 08

This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for the 2008 data call. A Draft RI indicates that the site will not require remedial action. The Remedial Action Cost Engineering and Requirements (RACER) system was used to estimate the cost for site close-out. This site is included in a Performance Based Contract. The first 5 years of monitoring and the five year review is included in the contract.

Site: SEAD-121 Environmental Baseline Sites- Industrial Area (SEAD-121c - DRMO Yard)

Source:

1. Final Proposed Plan Two Areas of Concern Requiring Land Use Controls SWMUs SEAD-121C and 121I January 2008
2. Professional judgment based on site knowledge
3. PBC Contract # FA8903-04-D-8675, June 2006

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 6
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Cost Summary SEAD-121c

LTM

Site Closeout (RACER)	\$28,903
Well Abandonment (RACER)	13,858
Land Use Control (annual monitoring) Based on actual contract cost of the first 5 yrs \$2,777 x 1.0496 (escalation) x 25 years	72,868
5-year review Based on actual contract cost of the first review \$3,333 x 1.0496 (escalation) x 5 reviews	17,492
Total Site Cost	\$133,121

Cost Difference > 10% from 2006 Report? No

Prepared by: Janet R. Fallo

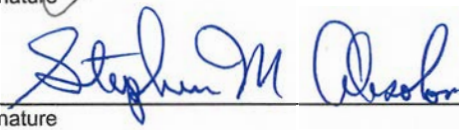
Signature



3/5/08
Date

Reviewed by: Stephen M. Absolom

Signature

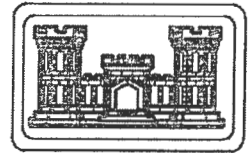


3/5/08
Date

Proposed Plan



Two Areas of Concern (AOCs) Requiring Land Use Controls (LUCs), SWMUs SEAD-121C, the Defense Reutilization and Marketing Office (DRMO) Yard, and SEAD-121I, the Rumored Cosmoline Oil Disposal Area at the SENECA ARMY DEPOT ACTIVITY (SEDA) Romulus, New York



January 2008

PURPOSE OF THE PROPOSED PLAN

This Proposed Plan describes the remedial alternative selected for two areas of concern (AOCs), SEAD-121C (the former Defense Reutilization and Marketing Office [DRMO] Yard) and SEAD-121I (the Rumored Cosmoline Oil Disposal Area) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, located in Seneca County, New York. This Proposed Plan was developed by the U.S. Army (Army) in consultation with the U.S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). The Army is issuing this Proposed Plan as part of their public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the contamination at the two AOCs is described in the April 2006 Remedial Investigation (RI) Report and the November 2007 Construction Completion Report (CCR). The Army, EPA, and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the AOCs, the site and the Superfund activities that have been completed.

This Proposed Plan is being provided as a supplement to the RI and CCR Reports to inform the public of the Army's preferred remedies for the AOCs and to solicit public comments pertinent to the selected remedies. The preferred remedy for both AOCs includes provisions to formally impose and implement Land Use Controls (LUCs) that prohibit the use of the designated land for residential activities, and to prohibit access to and use of groundwater.

The identified LUCs were previously established for three other AOCs (i.e., SEADs 27, 64A, and 66) that are located in proximity to SEADs 121C and 121I. At the time of the final determination for the other three SEADs, all parties agreed that the identified LUCs should be imposed on all land within the Planned Industrial / Office-Development and Warehousing (PID) Area at the former Depot due to the anticipated future use of the land and the similarity of its known past uses by the Army.

The remedies described in this Proposed Plan are the preferred remedy for each of the AOCs. Changes to the preferred remedy, or a change from the preferred remedy to another remedy, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedies will be made after the Army and the EPA have taken all public comments into consideration. The Army is soliciting comments because the Army and EPA may select a remedy other than the preferred remedy for either or both of the AOCs.

to be implemented and monitored during the excavation, loading, and hauling activities. Lesser levels of controls would also need to be implemented, maintained and monitored during the work associated with Alternative 3.

Implementability

Alternative 1, the no-action alternative, would be the easiest alternative to implement, since there are no actions to undertake.

Alternative 4 will be slightly more difficult to implement than Alternative 1 because it requires the implementation, maintenance, oversight and annual reporting of the continuing effectiveness of land use controls and the preparation, submittal and approval of a land use control implementation plan.

The excavation; stabilization, as necessary; characterization; transport; and disposal of soil and debris excavated under either Alternatives 2 or 3 at both AOCs are readily available and mature technologies and can be accomplished. The increased volume of soil/debris requiring excavation under Alternative 2 at both AOCs would increase the difficulty of completing this alternative above those anticipated for Alternative 3.

Cost

The present-worth cost associated with Alternatives 1, 2, 3, and 4 is calculated using a discount rate of seven percent (7%) and a 30-year time interval. The estimated capital, operation, maintenance, and monitoring, and the present-worth costs are presented in **Table 12** below.

TABLE 12

Remedial Alternative Comparative Cost Summary

Alternative	Capital Cost	Annual OM&M Costs	Total Present-Worth Costs
SEAD-121C, the DRMO Yard			
1	\$0	\$6,000	\$74,460
2	\$17,600,000	\$3,000	\$17,637,230
3	\$1,490,000	\$6,000	\$1,564,460
4	\$350,000	\$6,000	\$424,460
SEAD-121I, the Rumored Cosmoline Oil Disposal Area			
1	\$0	\$6,000	\$74,460
2	\$4,542,500	\$3,000	\$4,579,730
3	\$2,163,000	\$6,000	\$2,237,460
4	\$375,000	\$6,000	\$449,460

Alternative 1 is the least expensive remedial action alternative at an estimated cost of \$74,460. Alternative 2 is the most expensive remedial action alternative with respective AOC costs of \$17,637,230 for SEAD-121C and \$4,579,730 for SEAD-121I.

State Acceptance

NYSDEC has provided a letter that indicates that it concurs with the preferred remedial soil and groundwater alternatives.

Community Acceptance

Community acceptance of the preferred alternative for SEAD-121C and SEAD-121I will be assessed in the ROD following review of the public comments received on the Proposed Plan.

SELECTED REMEDY

The selected remedy for any site should, at a minimum, eliminate or mitigate all significant threats to the public health or the environment presented by the hazardous substances or waste present at the site. Based on the data presented and summarized earlier within this Proposed Plan, the Army and EPA have selected Soil

Alternatives 4 and Groundwater Alternative 1 for SEAD-121C and SEAD-121I.

At SEAD-121C, the Army has excavated soil that contained concentrations of lead in excess of 1,500 mg/Kg to reduce potential human health risks that may be associated with the identified contamination. The successful completion of the SEAD-121C removal action is based on a determination that the 95th upper confidence limit (95th UCL) of the mean for soil in the immediate area of the excavation achieves a post-excavation level of 1,250 mg/Kg or less. Confirmatory sampling and analysis results substantiating the level of cleanup achieved are provided in **Table 2**. This remedy does not include the excavation of the anomalous levels of cPAH compounds found at SEAD-121C because they have been determined to reflect background contamination from the greater industrialized area of the former Depot, broken up pieces of asphalt, and an anomalous result that does not result in unacceptable risks for the planned future industrial occupant.

At SEAD-121I, the Army cleaned up the areas where the former strategic stockpiles were located and demonstrated that residual levels of manganese were below cleanup goals that were established for the action. The residual level of iron (reported as the 95th UCL of the excavation dataset only) in the vicinity of the excavations was 22,116 mg/Kg versus a cleanup objective of 100,000 mg/Kg; while the residual level of manganese was 3,550 mg/Kg as opposed to a cleanup goal of 10,000 mg/Kg. The AOC-wide residual levels for these two metals are even lower (see **Table 6**).

The Army will impose LUCs on land that is designated as SEAD-121C, the DRMO Yard, and SEAD-121I, the Rumored Cosmoline Oil Disposal Area. The Army's recommended LUCs will:

- Prohibit use of the land for residential activities including residential housing, elementary or secondary schools, child care facilities, playgrounds, etc.; and,
- Prohibit access to, and use of groundwater at the AOCs.

Results of the site investigations and risk assessment performed using data developed from SEAD-121C and SEAD-121I indicate that hazardous substances have been identified to exist at, or in the vicinity of, the AOCs. Levels found are higher than New York reference values for Unrestricted Use, and it is likely that the identified concentrations would pose a threat to residential populations. Thus, the levels measured do not allow for unlimited exposure and unrestricted use of the land.

At SEAD-121C (DRMO Yard) levels of residual hazardous substances, including cPAH compounds, found in the soil do not pose a potential risk to the human receptors that are considered most likely to use the land (i.e., industrial worker, construction worker, adolescent trespasser) for the foreseeable future. Further, while hazardous substances were identified in the groundwater at concentrations above New York AWQSSs, an alternative potable water distribution supply exists throughout the PID Area, which minimizes the potential risks represented by contact or ingestion with this media.

At SEAD-121I (Rumored Cosmoline Oil Disposal Area) levels of residual manganese found in the soil in proximity to the former strategic stockpiles have been reduced to levels that are consistent with Federal and State cleanup objectives for soil at industrial sites. Further, the quality of the groundwater at SEAD-121I, while not found during the investigations completed, is unknown and thus suspect. Groundwater found at other locations within the PID Area suggests that there is a regional poor quality of groundwater and the potential to have hazardous substances at concentrations in excess of New York AWQSSs could be present. Therefore, the Army believes it prudent to limit or restrict potential contact with, or ingestion of, this media until such time as sufficient data is available to clarify if possible risk exists. The presence of a potable water supply in the PID Area again minimizes the potential impact of this decision.

Finally, since the area surrounding these sites has a land use control all ready existing on it, the sites should stay consistent with the surrounding land uses.

LUC.

Contract

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH ORDER/AGREEMENT NO. FA8903-04-D-8675	2. DELIVERY ORDER/ CALL NO. 0031	3. DATE OF ORDER/CALL (YYYYMMDD) 20 JUN 2006	4. REQUISITION/PURCH REQUEST NO. SEE SCHEDULE	5. PRIORITY DO-C9
--	-------------------------------------	--	--	----------------------

6. ISSUED BY HSW/PKV-W AIR FORCE MATERIEL COMMAND 311TH HUMAN SYSTEMS WING/PKV-W 3300 SIDNEY BROOKS BROOKS CITY BASE TX 78235-5112 EDWIN CUSTODIO (210)536-4493 Edwin.Custodio@hqafcee.brooks.af.mil	CODE FA8903	7 ADMINISTERED BY (If Other than 6) DCMA LOS ANGELES P.O. BOX 9608 MISSION HILLS CA 91346-9608 DCMALOSANGELES@DCMA.MIL	CODE S0512A	8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)
--	----------------	--	----------------	---

9. CONTRACTOR NAME AND ADDRESS PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC 100 W WALNUT ST PASADENA CA 91124-0001 (626) 440-2000	CODE 1BVK6	FACILITY	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. X IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED
			12. DISCOUNT ITEMS N	
			13. MAIL INVOICES TO ADDRESS IN BLOCK SEE BLOCK 15 (PAYMENT OFFICE)	

14. SHIP TO SEE SCHEDULE	CODE	15. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPS P.O. BOX 182381 COLUMBUS OH 43218-2381	CODE HQ0339	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.
-----------------------------	------	--	----------------	---

16. TYPE OF ORDER DELIVERY/ CALL <input checked="" type="checkbox"/> PURCHASE <input type="checkbox"/>	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.			
	Reference your _____ furnish the following on items specified herein.			
	ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.			

NAME OF CONTRACTOR _____ SIGNATURE _____ TYPED NAME AND TITLE _____ DATE SIGNED (YYYYMMDD) _____

If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
SEE SCHEDULE

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT

*If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle	24. UNITED STATES OF AMERICA //signed// EDWIN CUSTODIO BY	25. TOTAL \$10,820,000.00
	20 JUN 2006 CONTRACTING/ORDERING OFFICER	29. DIFFERENCES

26. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED	27. SHIP NO.	28. D.O. VOUCHER NO.	30. INITIALS
DATE SIGNATURE AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	32 PAID BY	33 AMOUNT VERIFIED CORRECT FOR
36 I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT	32 PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		34 CHECK NUMBER
DATE SIGNATURE AND TITLE OF CERTIFYING OFFICER			35 BILL OF LADING

37. RECEIVED AT	38. RECEIVED BY (Print)	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.
-----------------	-------------------------	------------------------------	----------------------	---------------------	---------------------

PARSONS

INVOICE

Parsons Infrastructure & Technology Group, Inc.

Remittance Address: PO Box 88954 • Chicago, IL 60695-1954 • www.parsons.com
 Wire transfer: Account 323289711 • ABA 021000021

Billed to:
 DFAS-Columbus Center
 West Entitlement Operations
 P.O. Box 182381
 Columbus, OH 43218-2381

Invoice date: 2006/10/10
Shipment number: SER0004
Invoice number: 06100626
Client number: 72483
Job number: 745172

Project name: Seneca Army Depot
 Remedial Actions

Invoice amount: \$ 10,980

Authorization: Contract FA8903-04-D-8675 order 0031

	ACRN	Contract amount	Previously billed	Current billing	Cumulative billed
<i>CLIN 0001</i>					
<i>SUMMARY BY ACRN</i>					
	AA	\$ 39,614	\$ 39,614	\$ -	\$ 39,614
	AB	\$ 600,000	\$ 160,320	\$ 10,980	\$ 171,300
	AC	\$ 548,386	\$ -	\$ -	\$ -
	AD	\$ 601,000	\$ 107,304	\$ -	\$ 107,304
	AE	\$ 4,870,000	\$ 1,017,093	\$ -	\$ 1,017,093
	AF	\$ 4,161,000	\$ 397,813	\$ -	\$ 397,813
		\$ 10,820,000	\$ 1,722,144	\$ 10,980	\$ 1,733,124

LTM → AD

SEE MILESTONE DETAIL BEGINNING ON NEXT PAGE.

Jesse Perez

Shipment number SER0004, invoice number 06100626, continued

Milestone	ACRN	Milestone payment	Previously billed	Current billing	Cumulative billed
SEAD 11 Mobilization (5%)	AE	\$ 243,500	\$ 243,500	\$ -	\$ 243,500
SEAD 11 Insurance/Bonds	AE	\$ 542,479	\$ 542,479	\$ -	\$ 542,479
SEAD 11 Submittal of WBS and Schedule	AE	\$ 56,105	\$ 56,105	\$ -	\$ 56,105
SEAD 11 Approval of QPP/Work Plan	AE	\$ 75,009	\$ 75,009	\$ -	\$ 75,009
SEAD 11 RA WP Submittal	AE	\$ 100,000	\$ 100,000	\$ -	\$ 100,000
SEAD 11 RA WP Approval	AE	\$ 50,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 25% Complete	AE	\$ 1,100,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 50% Complete	AE	\$ 1,050,000	\$ -	\$ -	\$ -
SEAD 11 Excavation 75% Complete	AE	\$ 705,871	\$ -	\$ -	\$ -
SEAD 11 Excavation 100% Complete	AE	\$ 685,000	\$ -	\$ -	\$ -
SEAD 11 RA Report Approval	AE	\$ 40,000	\$ -	\$ -	\$ -
SEAD 11 PRAP Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 ROD Approval	AE	\$ 25,000	\$ -	\$ -	\$ -
SEAD 11 LTM Plan Approval	AE	\$ 10,000	\$ -	\$ -	\$ -
Submit SEAD 11 Year 1 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 2 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 3 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 4 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Submit SEAD 11 Year 5 LTM Report	AE	\$ 22,505	\$ -	\$ -	\$ -
Approval of SEAD 11 5-Year Report	AE	\$ 27,006	\$ -	\$ -	\$ -
Response Complete SEAD 11	AE	\$ 22,505	\$ -	\$ -	\$ -
SEAD 121C Mobilization (5%)	AD	\$ 30,050	\$ 30,050	\$ -	\$ 30,050
SEAD 121C Insurance/Bonds	AD	\$ 68,477	\$ 68,477	\$ -	\$ 68,477
SEAD 121C Submittal of WBS and Schedule	AD	\$ 3,222	\$ 3,222	\$ -	\$ 3,222
SEAD 121C Approval of QPP/Work Plan	AD	\$ 5,555	\$ 5,555	\$ -	\$ 5,555
SEAD 121C RA WP Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C Excavation 50% Complete	AD	\$ 174,100	\$ -	\$ -	\$ -
SEAD 121C Excavation 100% Complete	AD	\$ 139,601	\$ -	\$ -	\$ -
SEAD 121C RA Report Approval	AD	\$ 40,000	\$ -	\$ -	\$ -
SEAD 121C PRAP Submittal	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C ROD Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
SEAD 121C LTM Plan Approval	AD	\$ 30,000	\$ -	\$ -	\$ -
Submit SEAD 121C Year 1 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 2 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 3 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 4 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Submit SEAD 121C Year 5 LTM Report	AD	\$ 2,777	\$ -	\$ -	\$ -
Approval of SEAD 121C 5-Year Report	AD	\$ 3,333	\$ -	\$ -	\$ -
Response Complete 121C	AD	\$ 2,777	\$ -	\$ -	\$ -
		<u>\$ 10,820,000</u>	<u>\$ 1,722,144</u>	<u>\$ 10,980</u>	<u>\$ 1,733,124</u>

LTM
3
Syn
Review

Estimate Documentation Report

System:

RACER Version: 10.0.2
Database Location: C:\Documents and Settings\le3ppmjrf\Application Data\Earth Tech\RACER
10.0\Racer.mdb

Folder:

Folder Name: Seneca 2008

Project:

Project ID: SEAD-121
Project Name: SEAD-121
Project Category: Planned Industrial Area

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>
	1.055	1.055

Options

Database: System Costs
Cost Database Date: 2007
Report Option: Fiscal

Description

DRMO Yard - SEAD-121C

This site is included in a Performance Based Contract. The first 5 years of monitoring and the five year review is included in the contract.

Site: SEAD-121 Environmental Baseline Sites- Industrial Area
(SEAD-121c -DRMO Yard)

Source:

1. Final Proposed Plan Two Areas of Concern Requiring Land Use Controls
SWMUs SEAD-121C and 121I January 2008
2. Professional judgment based on site knowledge
3. PBC Contract # FA8903-04-D-8675, June 2006

Estimate Documentation Report

RACER Assumptions:

Site Closeout Documentation (LTM):

1. Site Closeout is low complexity
2. Kick-off, review and regulatory meetings
3. Work Plans and reports- all default values
4. Documents will be stored for 30 years

Well abandonment (LTM):

1. Number of wells: 6
2. Depth of wells: 15 ft
3. Diameter of wells: 2"
4. Unconsolidated
5. Overdrill/removal

Estimate Documentation Report

Site Documentation:

Site ID: SEAD-121C
Site Name: DRMO Yard
Site Type: None

Media/Waste Type

Primary: Groundwater
Secondary: N/A

Contaminant

Primary: Metals
Secondary: None

Phase Names

SI:
RI/FS:
RD:
IRA:
RA(C):
RA(O):
LTM:
Site Closeout:

Documentation

Description: SEAD-121c Industrial Area (DRMO yard).
Support Team: Stephen M. Absolom - SEDA BEC
References: 1. Final Proposed Plan Two Areas of Concern Requiring Land Use Controls
SWMUs SEAD-121C and 121I January 2008
2. Professional judgment based on site knowledge
3. PBC Contract # FA8903-04-D-8675, June 2006

Estimator Information

Estimator Name: Janet Fallo
Estimator Title: Project Manager
Agency/Org./Office: U.S. Army Corps of Engineers
Business Address: 5786 State Rt 96
Bldg 125
PO Box 9
Romulus, NY 14541-0009
Telephone Number: 607-869-1248
Email Address: janet.r.fallo@usace.army.mil
Estimate Prepared Date: 02/20/2008

Estimator Signature: _____

Date: _____

Estimate Documentation Report

Reviewer Information

Reviewer Name: Steve Absolom

Reviewer Title: Installation Manager

Agency/Org./Office: Seneca Army Depot Activity

Business Address: .

Telephone Number: (607) 869-1309

Email Address: stephen.m.absolom@us.army.mil

Date Reviewed: 02/09/2007

Reviewer Signature: _____ **Date:** _____

Estimated Costs:

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-up Cost</u>
LTM #1	\$19,676	\$42,762
Total Cost:	\$19,676	\$42,762

Estimate Documentation Report

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: LTM #1
Description: Site Close Out for SEAD-121c.

Start Date: October, 2037
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Phase Markups: System Defaults

Technology Markups

	<u>Markup</u>	<u>% Prime</u>	<u>% Sub.</u>
Site Close-Out Documentation	Yes	100	0
Well Abandonment	Yes	100	0

Total Marked-up Cost: \$42,762

Technologies:

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Meetings		Yes	n/a
Work Plans and Reports		Yes	n/a
Documents		Yes	n/a
Site Close-Out Complexity		Low	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		Yes	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		Yes	n/a
Kick Off/Scoping Meetings: Travelers		2	EA
Kick Off/Scoping Meetings: Days		5	Days
Kick Off/Scoping Meetings: Air Fare		0	\$
Review Meetings		Yes	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		No	n/a
Regulatory Review Meetings		Yes	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		No	n/a
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		Yes	n/a
Draft Work Plan		Yes	n/a
Final Work Plan		Yes	n/a
Reports		Yes	n/a
Draft Close-Out Report		Yes	n/a
Draft Final Close-Out Report		Yes	n/a
Final Close-Out Report		Yes	n/a
Progress Reports		Yes	n/a
Project Duration	8	8	months
Documents			
<u>Required Parameters</u>			

Estimate Documentation Report

Technology Name: **Site Close-Out Documentation (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
Documents			
<u>Required Parameters</u>			
Draft Decision Document		Yes	n/a
Draft Final Decision Document		Yes	n/a
Final Decision Document		Yes	n/a
Long Term Document Storage		Yes	n/a
Number of Boxes		2	EA
Duration of Storage		30	Yrs

Comments:

Technology Name: **Well Abandonment (# 1)**

<i>Description</i>	<i>Default</i>	<i>Value</i>	<i>UOM</i>
System Definition			
<u>Required Parameters</u>			
Safety Level		D	n/a
Abandon Wells			
<u>Required Parameters</u>			
Technology/Group Name		Well Group	n/a
Number of Wells		6	EA
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a

Comments: