

452-2φ

DEPARTMENT OF THE ARMY
Office of the Assistant Chief of Staff for Installation Management
BRAC Division
Seneca Army Depot, Seneca, NY

MEMORANDUM FOR RECORD

04 May 2016

SUBJECT: Environmental Liabilities for site SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115) at Seneca Army Depot

1. This memorandum serves as formal documentation of the information used to develop the Cost-To-Complete (CTC) estimate for site SEAD-006-R-01 during the 2016 data call. Estimators experience is documented on the Estimator Experience Form, enclosure 7, per the Federal Accounting Standards Advisory Board (FASAB) Handbook Technical Release 2. This site also encompasses SEAD-023 (OB Grounds). The Remedial Action Cost Engineering and Requirements (RACER) 11.2 system was used to estimate the cost of Site Closeout, Well Abandonment, and Land Use controls and is updated with the 2015 escalation factor per 29 March 2016 Data Call Memorandum. The SEAD-23 monitoring program, which was initiated in 2007 under this project, will be carried under the RI/FS phase until completion of the IRA. It is assumed six additional wells will be installed at SEAD 006-R-01 for additional GW monitoring at the site as part of a LTM plan. Monitoring for SEAD 006-R-01 will start in 2017. Contract W912DY-10-D-0014 Delivery Order 5, (Source 5) provides the cost of the Long Term Monitoring Plan, well installation, first year monitoring cost, and out year monitoring cost. The cost for the GW monitoring during the RI/FS phase for SEAD 23 is provided by contract W912DY-08-D-0003 Delivery Order 0015 task 0001b. (Encl 6) and the requirement for testing is established in the ROD for the OB Grounds (Encl 2). It is assumed that after the completion of the IRA, monitoring GW for SEAD-006-R-01 will require sampling at a quarterly interval for the first year and then semi-annually in subsequent years for cap inspection and effectiveness. It is further assumed that the monitoring efforts at SEAD 23 will continue as part of the overall project (Source 6). After the IRA is completed the monitoring will be carried out under the LTM phase. In FY 2021, the first 5-year review will occur.
2. **Site History:** The Army destroyed ammunition by detonation and open burning at this site, which was in operation from 1948 through 1998. The OB ground consists of elevated burning tray. The site is in the northwest portion of the installation and covers 364 acres. The investigation of this site revealed contamination consisting of ordnance and explosives (OE) and heavy metals. This is a RCRA interim permitted site. This site also encompasses SEAD-023, OB Grounds, where a CERCLA remediation was completed in 2003.

Environmental Liabilities for site SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115) at Seneca Army Depot

3. Current Site Status:

- a. The cleanup strategy includes the ongoing removal of all munitions potentially posing an explosive hazard from the outer perimeter of the site at approximately 2500 feet, inwardly to the proposed 8 acre landfill cap. The work from 2500 feet to 1000 feet is underway through a Removal Action. The preferred FS Alternative has been to consolidate all soil that contains HTRW contamination will be placed under the cap. The cap will comply with State Regulatory standards. Soil under the cap will not have ordnance removed prior to the capping.
- b. Groundwater will require annual testing until results demonstrate cleanup criteria.
- c. EPA raised numerous concerns on MPPEH and disagrees with the cap alternative. A large amount of the <1000 feet radius was geophysically mapped and MPPEH removed. To continue progress, a contract modification and new technology evaluation is being pursued to remove MPPEH concerns, and with the goal to shrink the site to the OD hill footprint. This will eliminate MPPEH consolidation issues. To address EPA's concerns, final remediation alternatives are to be evaluated using MMR LUCs, the Open Burning Grounds ROD as a precedent for HTRW soils (only), stabilization and off-site disposal as non-hazardous.

4. Exit Strategy:

LTM includes Cap Maintenance, GW monitoring, LUCs, Five-Year reviews, and site closeout effort. MMR LUCs will be critical to final agreement on remediation.

For cost estimating purposes, the LTM duration as indicated in the phase schedule extends only to the end of the second five-year review; however, LTM is anticipated to continue in perpetuity.

5. Enclosures:

1. Draft Final Feasibility Study Report for Open Detonation Grounds Munitions Response Action, Parsons, April 2013
2. Final Record of Decision Former Open Burning Grounds Site, January 1999
3. Final Long Term Monitoring Plan for Open Burning Grounds, January 2007
4. RACER Guidance for Cost to Owner
5. Contract W912DY-10-D-0014, Delivery Order #0005, DTD Nov 24, 2011
6. Final 2011 Long Term Monitoring Annual Report for the Open Burning Grounds, May 2013.
7. Estimator's Experience Sheet
8. Estimate Summary Table

Environmental Liabilities for site SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115) at Seneca Army Depot

6. 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: 12
2. Well depth: 15 feet
3. Well diameter: 2 inches
4. Formation type: Unconsolidated
5. Method: Overdrill/excavation

Five year MPPEH & CERCLA review

1. Review cycles (SEAD 006-R-01 and SEAD 23 combined)
2. Five year review cycle starts 2016 for SEAD 23
3. Five year review cycle starts 2021 for SEAD 006-R-01 and SEAD 23 combined
4. Site is moderate complexity
5. Reports, reviews, interviews and site inspections include all default parameters
6. MEC review included

**7. Cost Summary SEAD-006-R-01
 (SEAD-115)**

Long Term Monitoring Plan preparation (source 5) \$23,333.12 (rounded to \$23,334)	\$ 23,334
Install 6 and Monitor 12 GW wells quarterly 1 st year, 2016 (source 5) \$160,509.05 (rounded to \$160,510)	\$160,510
For years 2017-2045, Monitor 12 GW wells, semiannually x 29 years (source 5) \$49,663.35X29= \$1,440,237.15 (rounded to \$1,440,237)	\$1,440,237
Subtotal RA(O) =	\$1,624,081

Assumption:

Owner Support for GW Monitoring (Source 4)
11% of total LTM Cost
(\$23,334+\$160,510+\$1,440,237) x 11%=
\$1,624,081 x 0.11= \$178,648.91

Environmental Liabilities for site SEAD-006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD-115) at Seneca Army Depot

(rounded to \$178,649) \$178,649

2015 Escalation Factor = 1.0157
Revised Cost = \$178,649 x 1.0157= \$181,453.79
(Rounded, \$181,454)

\$181,454

Six five-year reviews for SEAD-23 and SEAD-006-R-01
(Starting in FY17) and Well Abandonment
& Site Closeout (RACER)
Cost \$283,870.04 (rounded to \$283,870)

2015 Escalation Factor = 1.0157
Revised Cost = \$ x 1.0157= \$288,326.80
(Rounded, \$288,327)

\$288,327

Total Cost **\$2,093,862 (\$2,094K)**

The cost to complete sum in the EST rounded to \$2,093K.

Material Change: The CTC for FY15 was \$2,087K the CTC for FY16 is \$2,094K. The calculated percentage change was 1%. There was no Material Change.

Material Change = absolute value of (indexed prior year CTC – current CTC – current obligations)/indexed prior year CTC

$$MC = ((\$2,087K * 1.0157) - \$2,094K - 0) / (\$2,087K * 1.0157) = 1\%$$

Prepared by: Randall Battaglia
Cost Estimator

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Date

Reviewed by: Bill Millar
Cost Estimate Reviewer

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Date: 2016.05.05 09:41:50 -04'00'

05 May 2016

Signature

Date

DRAFT FINAL

FEASIBILITY STUDY REPORT

for

OPEN DETONATION GROUNDS MUNITIONS RESPONSE ACTION

SENECA ARMY DEPOT ACTIVITY
ROMULUS, SENECA COUNTY, NEW YORK

Site

Prepared for:

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



and

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared by:

PARSONS
100 High Street
Boston, MA 02110

Contract Number W912DY-08-D-0003

Task Order No. 0013

EPA Site ID# NY0213820830

NY Site ID# 8-50-006

APRIL 2013

ENCL 1

3.0 DEVELOPMENT AND SCREENING OF ALTERNATIVES

3.1 INTRODUCTION

This section summarizes the remedial action alternatives that were developed from the technologies screened in **Section 2.0**. Prior to the development of alternatives, an evaluation of general response actions and a technology screening was performed for inclusion into proposed remedial action alternatives for the OD Grounds. Technologies were combined into alternatives considering potential waste-limiting and site-limiting factors unique to the OD Grounds and the level of technical development for each technology. This information was used to differentiate alternatives with respect to effectiveness and implementability. This FS focuses on identifying and evaluating alternatives for the OD Grounds.

3.2 DESCRIPTION OF ALTERNATIVES

The following remedial action alternatives were developed for the OD Grounds:

- Alternative 1: NEA
- Alternative 2: Geophysical mapping, intrusive investigation, capping, LUCs; and
- Alternative 3: Geophysical mapping, intrusive investigation, excavation, off-site disposal, and LUCs.

Remedy

Technologies and processes associated with these actions were assembled into remedial action alternatives.

3.2.1 Alternative 1, No-Further Action

Alternative 1 is the no further action alternative. CERCLA and NYSDEC guidance for conducting feasibility studies recommends that the no-action alternative be considered against all other alternatives.

The no further action alternative would leave the OD Grounds undisturbed with the continuation of existing site security measures, such as locked gates, to prevent civilian access and direct contact with contaminated soil and possible exposure to potential MPPEH.

3.2.2 Alternative 2, Geophysical Mapping/Intrusive Investigation/Capping/LUCs

This alternative would complete the MPPEH clearance in areas that were not previously cleared by previous investigations. In the open and accessible areas, previously identified anomalies will be reacquired and removed. In areas that are wooded or inaccessible and were not previously cleared, mag and dig operations will be completed using a handheld magnetometer, such as a Schonstedt. In accessible areas that were not previously mapped (0 – 1,000 foot radius), DGM surveys will be conducted using EM61s over approximately 60 acres in the area surrounding the OD Hill. The newly mapped areas will be designated in two different categories:

1. metals saturated areas where the high density prohibits individual anomalies from being identified and manually removed (0 – 500 foot radius)
2. lower metals density areas where individual anomalies can be identified and manually removed (500 – 1,000 foot radius)

It is anticipated that metallic saturation (or a high density of potential MPPEH) will be encountered in areas located closer to the OD Hill (0 – 500 foot radius). At locations where the DGM survey indicates that there is metallic saturation, the top 6 inches of soil will be excavated. The soil will be screened to remove potential MPPEH, and the overburden will be staged on-site for potential reuse and/or incorporation into the site cap. The excavated area will then be resurveyed and the results of the DGM survey will be used to generate a dig list of target anomalies to be investigated. In the event that the results of the DGM survey indicate that areas are still saturated with metal an additional 6 inches of soil may be excavated, screened, and staged, as previously described, followed by a subsequent DGM survey of that area.

For the lower density metals areas, the anomalies on the generated dig list from the DGM surveys will be reacquired and intrusively investigated by a geophysicist and UXO dig team, in the same manner as the intrusive investigation in the Kickout area. A two-person UXO technician/ demolition team will perform any required MPPEH demolition procedures. The demolition team will dispose of any MPPEH suspected of containing explosives/spotting charges or inaccessible voids by detonation. All MD will be certified and disposed of as MDAS in accordance with current regulations.

The excavated soil that passed through the screen will be placed on the OD Hill and the resulting surface will be compacted and graded. An engineered cap, covering approximately 10 acres in aerial extent and approximately 75,000 cy (+/- 35%) of material, will be installed over the OD Hill and the surrounding area. The cap will comply with NYS Part 360 requirements. A geomembrane layer will be selected, and the total thickness of the cap will be at least 18 inches. Any identified soil with contaminant levels exceeding the selected soil cleanup goals would be incorporated under the cap. A design work plan will be prepared and the exact limits of the cap will be determined during the design phase of the project.

LTM would include maintenance of the cap and LUC inspections. Potential LTM of site groundwater conditions may be appropriate subsequent to the remedial alternative selected in this FS.

LUCs will be placed on the site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a daycare or a residential facility.

Implementation of this alternative would be highly effective in achieving the RAOs, long-term effectiveness, preventing exposure, and implementability. The costs for this alternative are moderate.

3.2.3 Alternative 3, Geophysical Mapping/Intrusive Investigation/Excavation/Off-Site Disposal/LUCs

Alternative 3 is similar to Alternative 2, but this alternative would involve the excavation and off-site disposal of all soil containing MPPEH or contaminant concentrations that exceed cleanup goals in lieu of capping these soils. Similar to Alternative 2, reacquisition would be completed in the Kickout area. In areas outside of the OD Hill that are wooded or inaccessible and were not previously surveyed, mag and dig operations will be completed using a handheld magnetometer, such as a Schonstedt. In accessible areas that were not previously mapped (0 – 1,000 foot radius), DGM surveys will be conducted using EM61s over approximately 60 acres in the area surrounding the OD Hill. At locations where the DGM survey indicates that there is metallic saturation, the top 6 inches of soil will be excavated (estimate

Alternative 1 must be ruled out because it is ineffective in long-term permanence and does not achieve the RAOs. Overall, Alternatives 2 and 3 have similar levels of protectiveness, permanence, long-term effectiveness, and short-term effectiveness. They will both limit exposure to potential MPPEH or contaminated soil. Alternative 3 ranks slightly higher for reduction of toxicity, mobility, or volume due to the volume reduction of off-site disposal. Alternative 2 rates more favorably for implementability. Alternative 2 ranks better in terms of cost.

4.5 RECOMMENDED ALTERNATIVE

Based on a comparison of the criteria, the most effective remedy for the OD Grounds is Alternative 2, DGM Mapping, intrusive investigation, cap, and LUCs. Alternative 2 limits human exposure to potential MPPEH or soil contamination, is implementable using known techniques, and is cost effective. The capital cost for the alternative is \$8.0M. The TPV is \$8.9M. The total costs include \$31,500 per year for LUC inspections and cap maintenance, plus \$40,300 per five-year review over the 30 year period.

Recommended

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 001

ENCL 2

The selected remedy outlined in this ROD addresses potential exposure to elevated metals, such as lead, in the on-site soils and sediment in Reeder Creek. The following describe the significant aspects of the remedy:

- The OB Grounds was used for surface burning of explosive trash and propellants. 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 of geophysics, excavation, soil 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 in 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) 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

will be implemented to eliminate the threat posed by the exceedance. For groundwater action may include metals removal via filtering. A similar process will apply for a sed. 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, 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 NCF 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 effective. The remedy uses a permanent solution for soil contamination. This remedy will result in hazardous substances, above cleanup goals, remaining at SEDA. Because the 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.

*Contract
Delivery Order*

ORDER FOR SUPPLIES OR SERVICES PAGE 1 OF 40

1. CONTRACT/PURCH ORDER/INSTRUMENT NO. W912DY-10-D-0014	2. DELIVERY ORDER/ CALL NO. 0005	3. DATE OF ORDER/ CALL (YYYYMMDD) 2011 Nov 23	4. REQ. PURCH REQUEST NO. W31R Y013254857	5. PRIORITY
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6. ISSUED BY US ARMY ENGINEERING & SUPPORT CENTER CEHNC-CT 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822	CODE: W912DY	7. ADMINISTERED BY (if other than 6) SEE ITEM 6	CODE
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9. CONTRACTOR SHAW ENVIRONMENTAL & INFRASTRUCTURE, INC NAME: WILLIAM WINKLER AND 312 DIRECTORS DR ADDRESS: KNOXVILLE TN 37923-4705	CODE: BX202	FACILITY: BX202	10. DELIVER TO POB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. MARK IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED
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12. SHIP TO US ARMY ENGINEERING & SUPPORT CENTER NO CONTACT SPECIFIED CEHNC-CT 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822	CODE: W912DY	15. PAYMENT WILL BE MADE BY US ARMY ENG & SUP CENTER - FINANCE OFFIC US ARMY CORPS OF ENGRS FINANCE CTR 5722 INTEGRITY DRIVE MILINGTON TN 38064-5005	CODE: 964145	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 is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
	PURCHASE		Reference your quote dated Furnish the following on terms specified herein. REF:
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 <i>Shaw E & I, Inc</i>		SIGNATURE <i>Stephen G Moran</i>	TYPED NAME AND TITLE <i>Stephen G Moran PG/IMP Program Manager</i>
<input type="checkbox"/> If this box is marked, supplier must sign Acceptance and return the following number of copies:			DATE SIGNED (YYYYMMDD) <i>2011 Nov 24</i>

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
SEE SCHEDULE					

* 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.	14. UNITED STATES OF AMERICA TOL: EMAIL: BY: <i>Janice A. Demore</i>	25. TOTAL \$5,400,010.54	26. DIFFERENCES
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27. QUANTITY IN COLUMN 20 HAS BEEN
 INSPECTED RECEIVED ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

18. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	c. DATE (YYYYMMDD)	j. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE
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k. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE	28. SHIP NO.	29. DO VOUCHER NO.	30. INITIALS
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l. TELEPHONE NUMBER	g. E-MAIL ADDRESS	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	32. PAID BY
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31. CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT.		31. PAYMENT	33. AMOUNT VERIFIED CORRECT FOR
a. DATE (YYYYMMDD)	b. SIGNATURE AND TITLE OF CERTIFYING OFFICER	<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	34. CHECK NUMBER

37. RECEIVED AT	38. RECEIVED BY	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.
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ENCL 5

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT PURCH ORDER/ AGREEMENT NO W912DY-10-D-0014	2. DELIVERY ORDER/ CALL NO. 0005	3. DATE OF ORDER/ CALL (YYYYMMDD) 2011 Nov 23	4. REQ / PURCH. REQUEST NO. W31RYO13254857	5. PRIORITY
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6. ISSUED BY US ARMY ENGINEERING & SUPPORT CENTER CEHNC-CI 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822	CODE: W912DY	7. ADMINISTERED BY (if other than 6) SEE ITEM 6	CODE	8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)
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9. CONTRACTOR SHAW ENVIRONMENTAL & INFRASTRUCTURE, INC WILLIAM WINKLER AND 312 DIRECTORS DR ADDRESS KNOXVILLE TN 37923-4705	CODE 8X202	FACILITY 8X202	10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE	11. MARK IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED
			12. DISCOUNT TERMS Net 30 Days	
13. MAIL INVOICES TO THE ADDRESS IN BLOCK See Item 15				

14. SHIP TO US ARMY ENGINEERING & SUPPORT CENTER NO CONTACT SPECIFIED CEHNC-CI 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822	CODE W912DY	15. PAYMENT WILL BE MADE BY US ARMY ENG & SUP CENTER - FINANCE OFFIC US ARMY CORPS OF ENGRS FINANCE CTR 5722 INTEGRITY DRIVE MILLINGTON TN 38054-5005	CODE 964145	MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS I AND 2.
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16. DELIVERY/ CALL TYPE OF ORDER	<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.
<input type="checkbox"/>		Reference your quote dated
		Furnish the following on terms specified herein. REF:

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)
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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
SEE SCHEDULE					

* If quantity ordered by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity ordered below quantity ordered and enclose.	24. UNITED STATES OF AMERICA TEL: EMAIL: FY:	25. TOTAL \$5,460,010.54
		26. DIFFERENCES

27a. QUANTITY IN COLUMN 20 HAS BEEN
 INSPECTED RECEIVED ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	c. DATE (YYYYMMDD)	d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE
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e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE	28. SHIP NO.	29. DO VOUCHER NO.	30. INITIALS
f. TELEPHONE NUMBER	g. E-MAIL ADDRESS	<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	32. PAID BY

36. I certify this account is correct and proper for payment.	31. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	33. AMOUNT VERIFIED CORRECT FOR
a. DATE (YYYYMMDD)	b. SIGNATURE AND TITLE OF CERTIFYING OFFICER	34. CHECK NUMBER
		35. BILL OF LADING NO.

37. RECEIVED AT	38. RECEIVED BY	39. DATE RECEIVED (YYYYMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO	42. S/R VOUCHER NO.
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Section A - Solicitation/Contract Form

AWARD NARRATIVE

Task Order 0005, which contains Firm Fixed Price (FFP) and Fixed Unit Price (FUP) tasks, is being issued to Shaw Environmental & Infrastructure, Inc. for the Remedial Action at Seneca Army Depot Activity (SEDA) Open Detonation Ground in Romulus, New York in accordance with the Performance Work Statement entitled Remedial Action Seneca Army Depot Activity (SEDA) Open Detonation Ground in Romulus, New York, dated 11 August 2011.

The Period of Performance for this Task Order is 24 months from the NTP or Date of Award.

The terms and conditions of the basic contract, W912DY-10-D-0014, takes precedence in the case of any ambiguity or conflict.

US Department of Labor Wage Determination Number 2005-2381, Revision 11 dated June 17, 2011 shall be used with project task order.

The following Task Listing reflects funding allocation:

Seneca ADA OB/OD Grounds Remedial Action				
Task, Title, Type	Qty	Unit	Price	Funded
BASIC TASKS				
Task 1. Preparation of Work Plans and Designs (FFP)	1.0	LS	\$360,199.55	\$360,199.55
Task 2. Field Sampling Activities (FFP/FUP).				
<u>Task 2a.1 (Formerly Task 2a.1 and 2a.3).</u> The Contractor shall geophysically map the 500-1000 foot radius area (40.6 acres). The Contractor shall delineate all areas which exhibit metallic saturation, whereby individual anomalies >50mV are not distinguishable. The Contractor's work shall include construction support while this work is on-going.	58.6	Acres	\$3,568.98	\$209,142.44
<u>Task 2a.2 (Formerly Task 2a.4).</u> The Contractor shall excavate those areas exhibiting metallic saturation to a depth of 6 inches, pushing or transporting the excavated soils to within the 0-500 foot radius area and regrading these with the existing OD hill material. The regraded material shall be maintained within the 0-500 foot radius area as necessary. The Contractor's work shall include construction support while earth work is on-going. For the purposes of estimation, the Contractor shall assume that 20 acres of this overall area will exhibit saturation.	20	Acres	\$24,336.56	\$486,731.20
<u>Task 2a.3 (Formerly Task 2b.1 and 2b.2).</u> The Contractor shall perform a surface sweep of the existing OD hill material for potential MPPEH. The Contractor shall remove all MPPEH in the regraded OD hill material. For the purposes of estimation, the Contractor shall assume that this will amount to 50 anomalies per acre or 900 anomalies.	900	Anomalies	\$76.60	\$68,938.31
<u>Task 2a.4 (Formerly Task 2a.5).</u> The Contractor shall geophysically re-map the portions of the 500-1000 foot radius area which were considered saturated and which were excavated to a depth of 6 inches. For the purposes of estimation, the Contractor shall assume that 20 acres of this overall area will require re-mapping. The Contractor's work shall include construction support while this work is on-going.	20	Acres	\$911.82	\$18,236.46
<u>Task 2a.5 (Formerly Task 2a.2).</u> The Contractor shall reacquire and delineate all identified, mapped targets in the area of the 500-1000 foot radius which exceed the 50mV threshold (15,240).	15,240	Anomalies	\$43.07	\$656,460.82

Seneca ADA OB/OD Grounds Remedial Action				
Task, Title, Type	Qty	Unit	Price	Funded
Task 2a. Area of 0-1000 foot radius for the existing OD Hill. The Contractor shall mag, flag and prosecute identified targets in wooded or severely overgrown or sloped terrain in this area. For purposes of estimation, the cost for this task shall be based upon 700 anomalies per acre and an FUP cost per additional anomaly given as well	9,800	Anomalies	\$28.42	\$278,564.32
Task 2g. Open Burning Tray. The Contractor shall close the Open Burning Tray IAW the approved work plan	1.0	LS	\$82,556.23	\$82,556.23
Task 3. Environmental Sampling & Analysis (Optional): (FFP/FUP)	2	EA/SDG	\$57,740.48	\$115,480.96
Task 4. Remedial Action Report (FFP)	1.0	LS	\$54,324.63	\$54,324.63
Task 5. Installation of an Engineered Cap (FFP)	1.0	LS	\$2,655,220.43	\$2,655,220.43
Task 6. Preparation of a Long Term Monitoring Plan	1.0	LS	\$23,333.12	\$23,333.12
Task 7. Performance of Long Term Monitoring	1.0	LS	\$160,509.05	\$160,509.05
Task 10. Project Management	1.0	LS	\$290,313.02	\$290,313.02
OPTIONAL TASKS				
Task 8. Performance of Additional Long Term Monitoring (Optional)				
Task 8.1. Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (1 st overall) year on a quarterly basis.	1.0	LS	\$99,875.46	
Task 8.2. Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (2 nd overall) year on a quarterly basis.	1.0	LS	\$98,282.29	
Task 8.3. Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (3 rd overall) year on a semi-annual basis.	1.0	LS	\$49,663.35	
Task 9. Performance of Five Year Review (Optional).	1.0	LS	\$76,255.29	
			Total Funded	\$5,460,010.54

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The following Payment Milestone Schedule is acceptable for use on this project task order:

Payment Milestone Schedule	
Final Submittals	Upon government acceptance
Field Work	For defined units and activities completed and QA review and acceptance
Meetings	After completion of meetings with government acceptance of meeting minutes

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001	Seneca RA at OD Grounds FFP	1	Lump Sum	\$5,460,010.54	\$5,460,010.54
	The objective of this task order is to design and complete the installation of a NYS Part 360 landfill cap to inter hazardous soils at the Seneca Army Depot Activity (SEDA) in Romulus, New York. Additionally, the Contractor shall perform other activities in support of the landfill construction to include additional investigation and Long Term Monitoring at the site. All activities shall be performed in compliance with CERCLA and Department of Defense, Army, and USACE Regulations and Guidance to include Interim Guidance and Data Item Descriptions (DID's). The subject site is considered a Munitions Response (MRS) and Hazardous, Toxic and Radiological Waste (HTRW) site.				
	FOB: Destination				
	MILSTRIP: W31RYO13254857				
	PURCHASE REQUEST NUMBER: W31RYO13254857				
				MAX NET AMT	\$5,460,010.54
	ACRN AA CIN: W31RYO132548570001				\$5,460,010.54

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0002	Contractor Manpower Reporting FFP	2	Each	\$0.00	\$0.00 NC

This CLIN is used for the pricing of the collection and reporting of Contractor Manpower Reporting data as described in Section C. Reporting period will be the period of performance not to exceed twelve months ending 30 September of each Government Fiscal Year and must be reported by 31 October of each calendar year.

FOB: Destination

MILSTRIP: W31RYO13254857

PURCHASE REQUEST NUMBER: W31RYO13254857

MAX
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\$0.00

Section C - Descriptions and Specifications

Performance Work Statement

Remedial Action

Seneca Army Depot Activity (SEDA)

Open Detonation Ground

Romulus, New York

22 Nov 2011

Project Site

1.0 OBJECTIVE: The objective of this task order is to design and complete the installation of a NYS Part 360 landfill cap to inter hazardous soils at the Seneca Army Depot Activity (SEDA) in Romulus, New York. Additionally, the Contractor shall perform other activities in support of the landfill construction to include additional investigation and Long Term Monitoring at the site. All activities shall be performed in compliance with CERCLA and Department of Defense, Army, and USACE Regulations and Guidance to include Interim Guidance and Data Item Descriptions (DID's). The subject site is considered a Munitions Response (MRS) and Hazardous, Toxic and Radiological Waste (HTRW) site.

This task order shall be conducted pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and National Oil and Hazardous Substances Contingency Plan (NCP) requirements, with regulatory coordination, as appropriate, of the New York Department of Environmental Conservation (NYSDEC) and the United States Environmental Protection Agency (USEPA) Region II.

2.0 BACKGROUND

2.1 Work under this Performance Work Statement (PWS) falls within the Military Munitions Response Program (MMRP) for the Open Burn/Open Detonation Ground Area of Concern (AOC) at Seneca Army Depot located in Seneca County, NY. The AOC consists of 365 acres and was used to perform open detonation and open burning of munitions.

Of particular concern for this effort is an area of approximately 18 acres with potential ancillary needs over a wider area than the actual landfill cap construction. The contractor will complete all actions necessary to meet CERCLA requirements and achieve acceptance of the required designs and construction so the parcel can be closed out.

This requirement involves a legacy BRAC-funded, Military Munitions Response Program (MMRP) site (Munitions Response Site or MRS). The Department of Defense (DoD) established the MMRP under the Defense Environmental Restoration Program (DERP) to address unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC) located on current and former military installations. The Contractor shall perform all work in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP), 40 CFR Part 300. Any activities involving work in areas potentially containing explosive hazards shall be conducted in full compliance with United States Army Corps of Engineers (USACE), Department of the Army (DA), and Department of Defense (DOD) regulations.

3.0 GENERAL REQUIREMENTS:

3.0.1 Contractor Methods: This is a performance based task order. The performance objectives and standards included herein are the basis of the task order requirements. The technical approach and level of effort expended to achieve task order objectives and standards are solely up to the contractor to select and adjust as necessary through the life of the task order. Government recognizes the contractor's right to change the technical approach and level of effort from that proposed with the understanding that the contractor shall still meet all project objectives and gain government Quality Assurance acceptance in order to receive payment. Given the short time available during the pre-award phase to evaluate the site it is possible that after award and refinement of the conceptual site model and data needs that the contractor will wish to adjust the investigation strategy. If before the field work begins, an adjustment in the quantities or types of field investigations are required to achieve the performance standard or the Government determines that the performance standard must be adjusted the Government at its discretion may choose to modify the contract with the price adjustment based upon the prorated unit prices proposed in the original proposal. Once these adjustments are complete the contractor shall be obligated to deliver the required

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- All UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store,

and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

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3.6 Task 6, Preparation of A Long Term Monitoring Plan. This is a Firm Fixed Price task.
Objective: The Contractor shall prepare, submit and gain acceptance of a Long Term Monitoring (LTM) Plan for the monitoring of groundwater and the management of the installed cap. Groundwater monitoring shall be based upon the six existing wells and the installation of another six wells. The Contractor shall assume an average depth of 15 feet per well.

Performance Standard: Prepare the plan in accordance with DID WERS-001 and EM 1110-1-4009, EM 385-1-1 and EM 385-1-97. Prepare the sampling and analysis plan, field sampling, and UFP-QAPP in accordance with EM 1110-1-4009, DID WERS-009.01, and UFP-QAPP, as appropriate. UFP-QAPP content shall also meet the requirements of DoD Quality Systems Manual for Environmental Laboratories (current version). Draft QASP includes requirements in regulations, guidance, DIDs and the Quality Control Plan in the WP.

ACC: Acceptance of LTM Plan and UFP-QAPP with two revisions. Draft QASP reflects requirements and QCP with one revision required.

Measurement / Monitoring: Review of LTM Plan, UFP-QAPP and QASP per guidance to verify that the minimum acceptable content has been provided and acceptance by the project team and regulatory agencies.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements: The sampling and analysis plan (SAP) shall include the Contractor's phased approach and address contaminants of interest and sample media (soil/groundwater/sediment/surface water). The Contractor shall provide a discussion on data evaluation.

3.7 Task 7, Performance of Long Term Monitoring. This is a Firm Fixed Price task.
Objective: Following regulatory approval of the Long Term Monitoring Plan prepared under Task 6, the Contractor shall implement the LTM plan and perform monitoring of the ground water and management of the installed cap. The Contractor shall provide all the labor, material and equipment required to install ground water monitoring wells required in the approved plan. As part of this task, the contractor shall perform one year of Long Term Monitoring on a quarterly basis. The effort will also include submission and approval of Long Term Monitoring reports presenting a description of the effort performed, the results achieved and recommendations for the next period of monitoring.

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Performance Standard: Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.

- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance documents;

- Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)/ LTM

Plan.

- Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved Work Plans).
- Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
- Meet the project DQOs.

AC: Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work. <1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

Measurement / Monitoring: Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.
- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.8 Task 8. Performance of Additional Long Term Monitoring (Optional). These are Firm Fixed Price tasks. Objective: If awarded, the Contractor shall provide additional LTM for the site and perform monitoring of the ground water and management of the installed cap. As part of this task, the contractor shall perform Long Term Monitoring on the basis requested as part of the individual options. The effort will also include submission and approval of Long Term Monitoring reports presenting a description of the effort performed, the results achieved and recommendations for the next period of monitoring.

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Performance Standard: Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.

- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance
- Documents:
 - Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)/ LTM

- Plan:
 - Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved Work Plans).

- Plan(s):
 - Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
 - Meet the project DQOs.

Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work. <1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

Measurement / Monitoring: Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.8.1 Task 8.1, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (2nd overall) year on a quarterly basis.

3.8.2 Task 8.2, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (3rd overall) year on a quarterly basis.

3.8.3 Task 8.3, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (4th overall) year on a semi-annual basis.

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3.9 Task 9, Performance of the Five Year Review (Optional). This is a Firm Fixed Price task.

Objective:

- If awarded, the Contractor shall provide an additional (5th overall) year of LTM for the site and perform monitoring of the ground water and management of the installed cap on a semi-annual basis.
- If awarded, the Contractor shall perform the regulatory-required Five Year Review. This review shall include presentation and analysis of the five years of annual monitoring and maintenance activities and will include meetings, presentations, report preparation/ revision/ response to comments and recommendations for the future of the site.
- The Contractor shall prepare, submit and gain acceptance of the Five Year Review report which shall certify that all items identified in the Work Plans and the LTM Plan have been completed.

Performance Standard:

- Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.
- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance

Deliverables:

- Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)

LTM Plan.

- Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved

Work Plan(s).

- Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
- Meet the project DQOs.
- Prepare report documents in accordance with the DIDS, the WP/LTM Plan and all applicable Federal, State and local regulations.

ACQ:

- Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets

LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work. 1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

- Acceptance of all report documents (with two revisions) by the Project Team and regulators.

Measurement / Monitoring:

- Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

- Review of reports per guidance to verify that the minimum acceptable content has been provided.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.10 (Task 10) Project Management. The Contractor shall manage the task order in accordance with the basic contract statement of work. All project management associated with the task order, with the exception of the direct technical oversight of the work described in the preceding tasks, shall be accounted for in this task.

4.2 SUBMITTALS.

Even though draft and draft final submittals are requested, the term "draft" shall not reflect upon the quality of the material being provided by the Contractor. Submittals shall include all supporting materials including supporting data whether electronic or hardcopy. Submittals not meeting the requirements of referenced guidance or Data Item Descriptions or missing supporting data may be rejected and revised by the contractor at the contractor's own expense.

4.1 The Contractor shall deliver the specified number of copies shown in Table 4.2 of each report listed in Table 4-1 to the following addressees (addresses to be verified by Contractor):

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- All UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.6 Task 6, Preparation of A Long Term Monitoring Plan. This is a Firm Fixed Price task.

Objective: The Contractor shall prepare, submit and gain acceptance of a Long Term Monitoring (LTM) Plan for the monitoring of groundwater and the management of the installed cap. Groundwater monitoring shall be based upon the six existing wells and the installation of another six wells. The Contractor shall assume an average depth of 15 feet per well.

Performance Standard: Prepare the plan in accordance with DID WERS-001 and EM 1110-1-4009, EM 385-1-1 and EM 385-1-97. Prepare the sampling and analysis plan, field sampling, and UFP-QAPP in accordance with EM 1110-1-4009, DID WERS-009.01, and UFP-QAPP, as appropriate. UFP-QAPP content shall also meet the requirements of DoD Quality Systems Manual for Environmental Laboratories (current version). Draft QASP includes requirements in regulations, guidance, DIDs and the Quality Control Plan in the WP.

AC: Acceptance of LTM Plan and UFP-QAPP with two revisions. Draft QASP reflects requirements and QCP with one revision required.

Measurement / Monitoring: Review of LTM Plan, UFP-QAPP and QASP per guidance to verify that the minimum acceptable content has been provided and acceptance by the project team and regulatory agencies.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements: The sampling and analysis plan (SAP) shall include the Contractor's phased approach and address contaminants of interest and sample media (soil/groundwater/sediment/surface water). The Contractor shall provide a discussion on data evaluation.

3.7 Task 7, Performance of Long Term Monitoring. This is a Firm Fixed Price task.

Objective: Following regulatory approval of the Long Term Monitoring Plan prepared under Task 6, the Contractor shall implement the LTM plan and perform monitoring of the ground water and management of the installed cap. The Contractor shall provide all the labor, material and equipment required to install ground water monitoring wells required in the approved plan. As part of this task, the contractor shall perform one year of Long Term Monitoring on a quarterly basis. The effort will also include submission and approval of Long Term Monitoring reports presenting a description of the effort performed, the results achieved and recommendations for the next period of monitoring.

Performance Standard: Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.

- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance documents;

- Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)/ LTM

Plan.

- Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved Work

Plan(s).

- Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
- Meet the project DQOs.

AC: Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work. 1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

Measurement / Monitoring: Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.
- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.8 Task 8. Performance of Additional Long Term Monitoring (Optional). These are Firm Fixed Price tasks. **Objective:** If awarded, the Contractor shall provide additional LTM for the site and perform monitoring of the ground water and management of the installed cap. As part of this task, the contractor shall perform Long Term Monitoring on the basis requested as part of the individual options. The effort will also include submission and approval of Long Term Monitoring reports presenting a description of the effort performed, the results achieved and recommendations for the next period of monitoring.

Performance Standard: Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.

- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance documents;
- Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)/ LTM

Plan.

- Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved Work

Plan(s).

- Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
- Meet the project DQOs.

AC: Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work. 1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

Measurement / Monitoring: Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store, and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.8.1 Task 8.1, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (2nd overall) year on a quarterly basis.

3.8.2 Task 8.2, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (3rd overall) year on a quarterly basis.

3.8.3 Task 8.3, Performance of An Additional Year of Long Term Monitoring (Optional). If awarded, the Contractor shall provide LTM for an additional (4th overall) year on a semi-annual basis.

3.9 Task 9, Performance of the Five Year Review (Optional). This is a Firm Fixed Price task.

Objective:

- If awarded, the Contractor shall provide an additional (5th overall) year of LTM for the site and perform monitoring of the ground water and management of the installed cap on a semi-annual basis.

- If awarded, the Contractor shall perform the regulatory-required Five Year Review. This review shall include presentation and analysis of the five years of annual monitoring and maintenance activities and will include meetings, presentations, report preparation/ revision/ response to comments and recommendations for the future of the site.

- The Contractor shall prepare, submit and gain acceptance of the Five Year Review report which shall certify that all items identified in the Work Plans and the LTM Plan have been completed.

Performance Standard:

- Field work, data quantity and quality, and analysis of said data provides the results required to meet approved plans and be acceptable to the regulators.

- Demonstrate that the work was performed in accordance with the applicable laws, regulations, and guidance

documents;

- Perform the field sampling activities in accordance with the accepted Work Plans (prepared previously)/

LTM Plan.

- Proper processing and disposition of any UXO, DMM and MC encountered in accordance with approved

Work Plan(s).

- Any Material Potentially Presenting an Explosive Hazard (MPPEH) and munitions debris processed in accordance with Chapter 14, EM 1110-1-4009 and Errata Sheet No. 2.
- Meet the project DQOs.
- Prepare report documents in accordance with the DIDS, the WP/LTM Plan and all applicable Federal, State and local regulations.

AC:

- Conduct the field activities in accordance with the accepted/approved LTM Plan. QC data submitted meets

LTM Plan requirements. No more than 3 CARs for non-critical violations and/or 1 CAR for critical violations. No unresolved Corrective Action Requests. All final data and QC tests/documentation submitted. Government QA acceptance QC tests/documentation gained. No Class "A" Safety, contractor at fault, violations during execution of work, <1 non-explosive related Class D, accidents, or <2 non-explosive Class C accidents IAW AR 385-40. Major safety violations, 1 non-explosive related safety violation. Minor safety violations, 2 safety violations. Zero letters of reprimand, grievances, or formal complaints.

- Acceptance of all report documents (with two revisions) by the Project Team and regulators.

Measurement / Monitoring:

- Period inspection/review of field work. Verify compliance with accepted LTM Plan and other Plans as required. Quality control tests/documentation submitted per the QASP for government review. Boundary precision will be determined by evaluation of the sampling footprint as it relates to the reported contaminated/ uncontaminated areas in question.

- Review of reports per guidance to verify that the minimum acceptable content has been provided.

Task specific Incentives/Disincentives: Satisfactory or greater CPARS rating/poor CPARS rating and/or re-performance of work at contractor's expense.

Specific Task Requirements:

- Any UXO, DMM and MC encountered during this effort shall be processed in accordance with the approved work and safety plans.

- **Hazardous, Toxic and Radiological Waste (HTRW) Disposal:** The Contractor shall collect, secure, store,

and arrange for disposal of any HTRW generated as a result of field activities. The HW containers shall be staged, secured, labeled, sampled and analyzed (if required) IAW the approved work plan. The Contractor shall recommend appropriate disposal actions for all waste items. The Contractor shall perform the HW disposal in a timely manner.

3.10 (Task 10) Project Management. The Contractor shall manage the task order in accordance with the basic contract statement of work. All project management associated with the task order, with the exception of the direct technical oversight of the work described in the preceding tasks, shall be accounted for in this task.

4.0 SUBMITTALS.

Even though draft and draft final submittals are requested, the term "draft" shall not reflect upon the quality of the submittal being provided by the Contractor. Submittals shall include all supporting materials including supporting data whether electronic or hardcopy. Submittals not meeting the requirements of referenced guidance or Data Item Descriptions or missing supporting data may be rejected and revised by the contractor at the contractor's own expense.

4.1 The Contractor shall deliver the specified number of copies shown in Table 4.2 of each report listed in Table 4-1 to the following addressees (addresses to be verified by Contractor):

FINAL
2011 LONG-TERM MONITORING ANNUAL REPORT
FOR THE OPEN BURNING GROUNDS
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Prepared for:

U.S. ARMY, CORPS OF ENGINEERS, ENGINEERING AND SUPPORT CENTER,
HUNTSVILLE, ALABAMA

and

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared by:

PARSONS
100 High Street
Boston, MA 02110

Contract Number W912DY-08-D-0003

Task Order No. 0008

EPA Site ID# NY0213820830

NY Site ID# 8-50-006

May 2013

ENCL 6

6.0 LONG-TERM MONITORING CONCLUSIONS AND RECOMMENDATIONS

The following conclusions can be made based on the results of the sixth round of LTM at the OB Grounds:

- Residual lead and copper concentrations remaining in the soils have not impacted groundwater at, or in the immediate vicinity of, the Site above the applicable action levels.
- The integrity of the vegetated soil cover overlying interred contaminated soils at the Site was intact and there was no evidence that terrestrial wildlife are exposed or will be exposed to the lead-contaminated soils interred below the 9-inch soil cover.
- The washout area noted during in Grid Cell L7 in (identified as L8 in 2008 Report) during the February and May 2008 inspections and in the August 2010 inspection was observed again during the 2011 soil cover inspection. As discussed in Section 4.2 the washout area is outside of the areas where contaminated soils were interred beneath clean soil; this area therefore will not be repaired by the Army at this time. If subsequent inspections suggest that this area is becoming larger, the Army will evaluate the need for a permanent repair.
- An approximately 21-ft long area of minor erosion was observed in Grid Cell K6, outside of the area where lead-contaminated soil is interred beneath clean soil. Grid Cell K6 is located adjacent to Grid Cell J6, which is part of the soil cover, and therefore the condition of this location will be reassessed during the next inspection event to determine if corrective measures are needed.
- The Army will continue to monitor soil cover erosion, and will note any instance of cover erosion or exposed native or interred soil.
- Based on evaluation of the groundwater data and the results of the cover inspection, there is no evidence to suggest that the OB Grounds may be contributing to the degradation of sediment quality in Reeder Creek.
- The Army will continue to inspect Reeder Creek for evidence of sediment deposition and if it is observed, a sediment sampling and analysis program plan will be prepared, submitted for approval, and implemented for Reeder Creek at locations adjacent to the OB Grounds.

*Continue
to
monitor*

Based on the result of the LTM events conducted at the OB Grounds, the Army recommends continuing the monitoring frequency of once per year. As presented and summarized above, available monitoring data shows no evidence of lead or copper in the groundwater above the cleanup goals subsequent to the completion of the remedial action for the Site. These findings are consistent with the groundwater analytical results obtained during the remedial investigation stage (1990s) of work at the Site, indicating that there is no evidence of groundwater quality deterioration over approximately 15 years. Further, the annual inspections of the soil cover have shown minimal evidence of erosion or animal breaching of the

FINAL

**LONG-TERM MONITORING PLAN FOR
OPEN BURNING (OB) GROUNDS
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Site
SEAL
OBG

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

ENCL 3

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

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.

1st
year
freq
year
2-30
freq

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.

Owner Cost

In RACER, Owner Cost is the owner's workforce cost to initiate, contract, oversee, direct, implement and closeout the project. Owner costs may include the following categories or items:

- Supervision, Inspection, and Overhead (SIOH);
- Construction management and "Owner's Representative" services;
- Laboratory quality assurance;
- Operations and maintenance manual; and
- Other costs (e.g. technical, real estate, administrative, contracting, accounting, etc.).

The system default percentage for Owner Cost is 11 %. The valid range for the Owner Cost markup factor is 0% to 20%.

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT PURCH. ORDER/ AGREEMENT NO. W912DY-09-D-0062				2. DELIVERY ORDER/ CALL NO. 0023		3. DATE OF ORDER CALL (YYYYMMDD), 2016 Mar 30		4. REQ. PURCH REQUEST NO. W31RYO00838003		5. PRIORITY					
6. ISSUED BY US ARMY ENGINEERING & SUPPORT CENTER CEHNC-CT 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822				CODE W912DY		7. ADMINISTERED BY (if other than 6) DIRECTORATE OF CONTRACTING - HNC ATTN: MICHELLE BLACKMON 256-895-2531 HUNTSVILLE AL 35816				CODE W912DY					
9. CONTRACTOR PARSONS GOVERNMENT SERVICES INC. NAME MICHELLE SMITH AND 100 W WALNUT ST ADDRESS PASADENA CA 91124-0001				CODE 1BVK6		FACILITY		10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE		11. MARK IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED					
14. SHIP TO SEE SCHEDULE SEE SCHEDULE SEE SCHEDULE SEE SCHEDULE AA				CODE W912DY		15. PAYMENT WILL BE MADE BY CODE 984145 US ARMY ENG & SUP CENTER - FINANCE OFFIC US ARMY CORPS OF ENGRS FINANCE CTR 5722 INTEGRITY DRIVE MILLINGTON TN 38054-5005				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 quote dated Furnish the following on terms specified herein. REF:												
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.															
PARSONS GOV SERVICES				[Signature]				CONR SULLADY, VP				3/30/16			
NAME OF CONTRACTOR				SIGNATURE				TYPED NAME AND TITLE				DATE SIGNED (YYYYMMDD)			
<input checked="" type="checkbox"/> If this box is marked, supplier must sign Acceptance and return the following number of copies: 3/30/16															
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				
SEE SCHEDULE															
* 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 TEL: MULLADY.RICHARD.J.1090040282 EMAIL: BY:		Digitally signed by MULLADY RICHARD.J.1090040282 DN: cn=US, ou=5 Government, ou=DoD, ou=PD, ou=USA, cn=MULLADY RICHARD.J.1090040282 Date: 2016.03.30 15:39:53 -0500		25. TOTAL \$637,951.85					
27a. 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															
b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE						c. DATE (YYYYMMDD)		d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE							
e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE						28 SHIP NO.		29. DO VOUCHER NO.		30. INITIALS					
f. TELEPHONE NUMBER				g. E-MAIL ADDRESS		<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.						31. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		34. CHECK NUMBER							
a. DATE (YYYYMMDD)		b. SIGNATURE AND TITLE OF CERTIFYING OFFICER				35. BILL OF LADING NO.									
37. RECEIVED AT		38. RECEIVED BY		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS		41. S/R ACCOUNT NO		42. S/R VOUCHER NO.					

Section A - Solicitation/Contract Form

AWARD NARRATIVE

Task Order 0023, which contains Firm Fixed-Price (FFP) tasks, is being issued to Parsons Government Services, Inc for Remedial Action at Seneca Army Depot Activity, Romulus, NY, EPA Site ID# NY0213820830, NY Site ID# 8-50-006 in accordance with Performance Work Statement Revision 2, dated March 24, 2016.

The period of performance is date of award through March 30, 2018.

US Department of Labor Wage Determination Number 15-2381, Revision 1, dated March 1, 2016 shall be used with project task order.

The Terms and Conditions of the basic contract, W912DY-09-D-0062 takes precedence in the case of any ambiguity or conflict.

This task order is awarded in the amount of \$1,211,190.20 of which \$637,951.83 is being funded at the time of award.

Task	Description	Type	Amount	Total
1	UFP-QAPP and QASP	FFP	7,063.20	7,063.20
2	GIS	FFP	3,908.96	3,908.96
2a	Optional, Additional GIS per FY	FFP	1,525.90	
3	Long Term Monitoring of The OB Grounds	FFP		
3a	(FY17) First Annual Groundwater Monitoring	FFP	21,453.84	21,453.84
3b	Optional, (FY18) Second Annual Groundwater Monitoring	FFP	21,457.76	
3c	Optional, (FY19) Third Annual Groundwater Monitoring	FFP	21,461.68	
3d	Optional, (FY20) Fourth Annual Groundwater Monitoring	FFP	21,465.59	
3e	Optional, (FY21) Fifth Annual Groundwater Monitoring	FFP	21,469.51	
4	Long Term Monitoring of the Fire Training and Demonstration Pad Area	FFP		
4a	(FY17) First Annual Groundwater Monitoring	FFP	26,049.47	26,049.47
4b	Optional, (FY18) Second Annual Groundwater Monitoring	FFP	26,080.17	
4c	Optional, (FY19) Third Annual Groundwater Monitoring	FFP	26,110.87	
4d	Optional, (FY20) Fourth Annual Groundwater Monitoring	FFP	26,141.57	
4e	Optional, (FY21) Fifth Annual Groundwater Monitoring	FFP	26,172.27	
5	Long Term Monitoring of the Ash Landfill Operable Unit	FFP		
5a	(FY17) First Annual Groundwater Monitoring	FFP	51,594.03	51,594.03
5b	Optional, (FY18) Second Annual Groundwater Monitoring	FFP	51,686.28	
5c	Optional, (FY19) Third Annual Groundwater Monitoring	FFP	51,778.54	
5d	Optional, (FY20) Fourth Annual Groundwater Monitoring	FFP	51,870.79	
5e	Optional, (FY21) Fifth Annual Groundwater Monitoring	FFP	51,963.04	
6	Ash Landfill Operable Unit Biowall Recharge	FFP	440,038.65	440,038.65
7	Long Term Monitoring of the Deactivation Furnaces Operable Unit	FFP		
7a	(FY17) First Annual Groundwater Monitoring	FFP	23,146.49	23,146.49
7b	Optional, (FY18) Second Annual Groundwater Monitoring	FFP	23,178.47	
7c	Optional, (FY19) Third Annual Groundwater Monitoring	FFP	23,210.46	
7d	Optional, (FY20) Fourth Annual Groundwater Monitoring	FFP	23,242.44	
7e	Optional, (FY21) Fifth Annual Groundwater Monitoring	FFP	23,274.43	
8	Monitoring of LUCs at Various Sites	FFP		
8a	(FY17) First Annual Monitoring Event	FFP	17,934.42	17,934.42

8b	Optional, (FY18) Second Annual Monitoring Event	FFP	17,934.42	
8c	Optional, (FY19) Third Annual Monitoring Event	FFP	17,934.42	
8d	Optional, (FY20) Fourth Annual Monitoring Event	FFP	17,934.42	
9	Monitoring of LUCs at Various Munition Sites	FFP		
9a	(FY17) First Annual Monitoring Event	FFP	5,895.00	5,895.00
9b	Optional, (FY18) Second Annual Monitoring Event	FFP	5,895.28	
9c	Optional, (FY19) Third Annual Monitoring Event	FFP	5,895.28	
9d	Optional, (FY20) Fourth Annual Monitoring Event	FFP	5,895.28	
10	Five-year Review	FFP	27,488.41	27,488.41
11	Community Relations Support	FFP	13,379.36	13,379.36
11a	Optional, Additional Meetings	FUP	8,646.02	
12	Optional, Administrative Record	FFP	1,013.48	
	Totals		\$1,211,190.20	\$637,951.83

ESCALATION RATES

Constant Year (FY16) Dollars

The CTC estimates shall be reported on a current cost basis (unadjusted for inflation). The following factors should be used to bring previous year costs to the current year.

Base Fiscal Year	Escalation Rate
FY11	1.0666
FY12	1.0568
FY13	1.0421
FY14	1.0288
FY15	1.0157

Estimate Summary Table

Site # SEAD-006-R-01

Site Number	Phase	CTC Subtotal (\$K)	Estimate Type	Assumption	Basis of Assumption	Basis of Assumption Document Name	Location of Basis of Assumption Document
SEAD 006-R-01	RA(O)	1,624	Contract	Optional Task 6,7,8.1,8.3	Contract Costs	Contract #: W912DY-10-D-0014-0005	HNC 1600 University Square Huntsville Al
				30 years for remediation	\$49,663.35 x 29 events = \$1,440,237 rounded to (\$1,440K) DoD guidance is 30 years.	The DoDM 4715.20, DERP Management, March 9, 2012 required CTC estimates for RA(O) or LTM phases that are expected to continue indefinitely should include a finite period of 30 years.	
	LTM	181	IGE	RACER	RACER Escalation factor 2015	RACER SEAD 006-R-01	USACE, NY 5786 State Route 96 Romulus, NY 14541
				Escalation from 2015	\$178,649 x 1.0157 = \$181,453 rounded to \$181K	USAEC ACSIM FY16 Data Call Memo, 29 March 2016	
	LTM	288	IGE	COE Oversight of Contract	RACER Cost to Owner 11% of Contract cost	RACER	USACE NY 5786 State Route 96 Romulus, NY 14541
				30 years for remediation	\$47,312 x 6 5YRs = \$283,870	The DoDM 4715.20, DERP Management, March 9, 2012 required CTC estimates for RA(O) or LTM phases that are expected to continue indefinitely should include a finite period of 30 years.	
				Escalation from 2015	\$283,870 x 1.0157 = \$288,327 rounded to \$288K.	USAEC ACSIM FY16 Data Call Memo, 29 March 2016	
	Total cost to complete		2,093				
Does the CTC estimate include work through site closure? (Yes/No)		yes					

SEAD 006-R-01

Phase	2016	2017	2018	2019	2020	2021	2022	2023	Out Years
LTM		184	50	50	50	50	50	50	1140
5YR REV						48			133
LTM RAD		22	22	22	22	22	22	22	134

2093

Estimate Summary Table

Site # SEAD-006-R-01

Site Number	Phase	CTC Subtotal (\$K)	Estimate Type	Assumption	Basis of Assumption	Basis of Assumption Document Name	Location of Basis of Assumption Document	
SEAD 006-R-01	RA(O)	1,624	Contract	Optional Task 6,7,8.1,8.3	Contract Costs	Contract #: W912DY-10-D-0014-0005	HNC 1600 University Square Huntsville Al	
				30 years for remediation	\$49,663.35 x 29 events = \$1,440,237 rounded to (\$1,440K) DoD guidance is 30 years.	The DoDM 4715.20, DERP Management, March 9, 2012 required CTC estimates for RA(O) or LTM phases that are expected to continue indefinitely should include a finite period of 30 years.		
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				Escalation from 2015	\$178,649 x 1.0157 = \$181,453 rounded to \$181K	USAEC ACSIM FY16 Data Call Memo, 29 March 2016		
	LTM	288	IGE	COE Oversight of Contract	RACER Cost to Owner 11% of Contract cost	RACER	USACE NY 5786 State Route 96 Romulus, NY 14541	
				30 years for remediation	\$47,312 x 6 5YRs = \$283,870	The DoDM 4715.20, DERP Management, March 9, 2012 required CTC estimates for RA(O) or LTM phases that are expected to continue indefinitely should include a finite period of 30 years.		
				Escalation from 2015	\$283,870 x 1.0157 = \$288,327 rounded to \$288K.	USAEC ACSIM FY16 Data Call Memo, 29 March 2016		
	Total cost to complete		2,093					
	Does the CTC estimate include work through site closure? (Yes/No)		yes					

1624
 180
 288

 2092

13500 14399

ENCLOSURE 8

Estimate Documentation Report

System:

RACER Version: RACER® Version 11.2.16.0
Database Location: C:\Users\le3pperwb\Documents\RACER 11.2\Racer.mdb

Folder:

Folder Name: Seneca Army Depot

Project:

ID: SEAD 006-R-01
Name: Open Burning/Open Detonation Grounds
Category: None

Location

State / Country: NEW YORK
City: SENECA ARMY DEPOT

<u>Location Modifier</u>	<u>Default</u>	<u>User</u>	<u>Reason for changes</u>
	1.100	1.100	

Options

Database: System Costs
Cost Database Date: 2015
Report Option: Fiscal

Description

SEAD 006-R-01 RCRA Closure of the OB/OD Grounds (alias SEAD 115)
The RACER system was used to estimate the cost of the Groundwater monitoring and Site Closeout Documentation costs

Source:

1. Final OE EECA, January 2004
2. Final ROD Former Open Burning Grounds Site, Jan 1999
3. Professional judgement based on site knowledge

RACER Assumptions:

Site Closeout Documentation:

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 12
2. Depth of wells 125 feet
3. Diameter of wells: 2 inches
4. Unconsolidated
5. Overdrill/Removal

Five Year Review

1. 6 review cycles
2. Review period continues starting in 2016
3. Moderate complexity
4. Tasks include Document Review, Interviews, and Site Inspections

Estimate Documentation Report

5. Report for Five Year Review to include all default parameters

6. Included is an MMR review

RCRA Closure of OBOD Grounds and OB Grounds (SEAD 23) are combined.

The OBOD Grounds is an AOC that the Army used to demilitarize old, obsolete or off spec ammunition and explosives. This was a rCRA permitted facility. The cleanup strategy included the removal of all munitions potentially posing and explosive hazard. Groundwater will require annual testing until it meets cleanup criteria.

Site Closeout documentation OBOD -includes MMR Site visits. Five Year Reviews included one for SEAD 23 in 2011, and six Five Year Reviews in outyears starting in 2016 for combined SEAD 23 and SEAD 006-R-01.

Estimate Documentation Report

Site:

ID: SEAD 006-R-01
Name: OB OD Grounds
Type: None

Media/Waste Type

Primary: Groundwater
Secondary: Soil

Contaminant

Primary: Metals
Secondary: None

Phase Names

- Pre-Study
Study
Design
Removal/Interim Action
Remedial Action
Operations & Maintenance
Long Term Monitoring
Site Closeout

Documentation

Description: See MFR3. Professional judgement based on site knowledge

RACER Assumptions:

Site Closeout Documentation:

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 12
2. Depth of wells 125 feet
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Five Year Review

1. 6 review cycles
2. Review period continues starting in 2016
3. Moderate complexity
4. Tasks include Document Review, Interviews, and Site Inspections
5. Report for Five Year Review to include all default parameters
6. Included is an MMR review

RCRA Closure of OBOD Grounds and OB Grounds (SEAD 23) are combined. The OBOD Grounds is an AOC that the Army used to demilitarize old, obsolete or off spec ammunition and explosives. This was a rCRA permitted facility. The cleanup strategy included the removal of all munitions potentially posign and explosive hazard. Groundwater will require annual testing until it meets cleanup criteria.

Site Closeout documentation OBOD -includes MMR Site visits. Five Year Reviews included one for SEAD 23 in 2011, and six Five Year Reviews in

Estimate Documentation Report

outyears starting in 2016 for combined SEAD 23 and SEAD 006-R-01.

Support Team: Estimator Experience: Project Manager, USACE, 1995-Present: Prepare and manage Life-Cycle Cost for HTRW projects; executes the COE project management business process & establishing a project management plan with a project development team consisting of interdisciplinary, regional or other agencies teams to execute & ensure all projects meet customer, budgetary, safety, scope and schedule requirements during the life cycle of the project, under changing management parameters. Represents the Army as an Alternate for the installation manager in all customer/sponsor, congressional, public contacts, including public meetings, organizations, property transfers with the state, EPA, county, & independent organizations interested in the projects.

Environmental Coordinator, Seneca Army Depot, 1985-1995; performed all program management, cost estimation, budget regulatory, permitting, and other management for the environmental program at the active Seneca Army Depot for hazardous waste, TSDF, air, wetlands, CERCLA, RCRA, engineering projects, etc.

- References:**
1. Concept Plan, Ordnance and explosives for a RCRA Closure of the OBOD Grounds at Seneca Army Depot Activity, Sept 2002
 2. Final OE EECA, Jan 2004
 3. Draft RCRA Closure Plan Open Burn Tray in SWMU 23, (SEAD 23, OB Grounds) December 2004
 4. Professional judgement based on site knowledge.

Estimator Information

Estimator Name: Randall W. Battaglia

Estimator Title: Project Manager

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Estimate Prepared Date: 03/23/2015

Estimator Signature: _____

Date: _____

Reviewer Information

Reviewer Name: Stephen M. Absolom

Reviewer Title: Installation Manager

Agency/Org./Office: BRACD

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Date Reviewed: 03/23/2015

Reviewer Signature: _____

Date: _____

Estimate Costs:

Estimate Documentation Report

<u>Phase Names</u>	<u>Direct Cost</u>	<u>Marked-Up Cost</u>
Long Term Monitoring	\$114,078	\$283,431
<hr/>		
Total Cost:	\$114,078	\$283,431
Total Project Cost:	\$114,078	\$283,431

Phase Documentation:

Phase Type: Long Term Monitoring
Phase Name: Long Term Monitoring
Description: Long Term groundwater monitoring
Approach: Ex Situ
Start Date: March, 2015
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate

Phase Markup Template: System Defaults

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

Total Marked-up Cost: \$283,430.96

Technologies:

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

User Name: **Five-Year Review**

<u>Description</u>	<u>Default</u>	<u>Value</u>	<u>UOM</u>
System Definition			
<u>Required Parameters</u>			
Site Complexity		Low	n/a
Document Review		True	n/a
Interviews		True	n/a
Site Inspection		True	n/a
Report		True	n/a
Travel		True	n/a
Rebound Study		False	n/a

Estimate Documentation Report

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

User Name: **Five-Year Review**

Description	Default	Value	UOM
System Definition			
<u>Secondary Parameters</u>			
No. Reviews		6	EA
Safety Level		D	n/a
Document Review			
<u>Required Parameters</u>			
5-Year Review Check List		True	n/a
Record of Decision		True	n/a
Remedial Action Design & Construction		True	n/a
Close-Out Report		True	n/a
Operations & Maintenance Manuals & Reports		True	n/a
Consent Decree or Settlement Records		True	n/a
Groundwater Monitoring & Reports		True	n/a
Remedial Action Required		True	n/a
Previous 5-Year Review Reports		True	n/a
Interviews			
<u>Required Parameters</u>			
Current and Previous Staff Management		True	n/a
Community Groups		True	n/a
State Contacts		True	n/a
Local Government Contacts		True	n/a
Operations & Maintenance Contractors		True	n/a
PRPs		True	n/a
Remedial Design Consultant		True	n/a
Site Inspection			
<u>Required Parameters</u>			
General Site Inspection		True	n/a
Containment System Inspection		True	n/a
Monitoring Systems Inspection		True	n/a
Treatment Systems Inspection		True	n/a
Regulatory Compliance		True	n/a
Site Visit Documentation (Photos, Diagrams, etc.)		True	n/a
Report			
<u>Required Parameters</u>			
Introduction		True	n/a
Remedial Objectives		True	n/a
ARARs Review		True	n/a
Summary of Site Visit		True	n/a
Areas of Non Compliance		True	n/a
Technology Recommendations		True	n/a
Statement of Protectiveness		True	n/a
Next Review		True	n/a
Implementation Requirements		True	n/a

Estimate Documentation Report

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

User Name: **Five-Year Review**

Description	Default	Value	UOM
Travel			
<u>Required Parameters</u>			
Number of Travelers		1	EA
Number of Days		2	EA
Air Fare Ticket Price		1500.00	\$
Need a rental car?		True	n/a

Comments:

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

User Name: **Site Close-Out Documentation**

Description	Default	Value	UOM
System Definition			
<u>Required Parameters</u>			
Meetings		True	n/a
Work Plans and Reports		True	n/a
Documents		True	n/a
Site Close-Out Complexity		Moderate	n/a
Meetings			
<u>Required Parameters</u>			
Kick Off/Scoping Meetings		True	n/a
Kick Off/Scoping Meetings: Number of Meetings	1	1	EA
Kick Off/Scoping Meetings: Travel		False	n/a
Kick Off/Scoping Meetings: Travelers		0	EA
Kick Off/Scoping Meetings: Days		0	Days
Kick Off/Scoping Meetings: Air Fare		0.00	\$
Review Meetings		True	n/a
Review Meetings: Number of Meetings	1	1	EA
Review Meetings: Travel		False	n/a
Review Meetings: Travelers		0	EA
Review Meetings: Days		0	Days
Review Meetings: Air Fare		0.00	\$
Regulatory Review Meetings		True	n/a
Regulatory Review Meetings: Number of Meetings	1	1	EA
Regulatory Review Meetings: Travel		False	n/a
Regulatory Review Meetings: Travelers		0	EA
Regulatory Review Meetings: Days		0	Days
Regulatory Review Meetings: Air Fare		0.00	\$
Work Plans & Reports			
<u>Required Parameters</u>			
Work Plans		True	n/a
Draft Work Plan		True	n/a
Final Work Plan		True	n/a

Estimate Documentation Report

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

User Name: **Site Close-Out Documentation**

Description	Default	Value	UOM
Work Plans & Reports			
<u>Secondary Parameters</u>			
Reports		True	n/a
Draft Close-Out Report		True	n/a
Draft Final Close-Out Report		True	n/a
Final Close-Out Report		True	n/a
Progress Reports		True	n/a
Project Duration	10	10	months
Documents			
<u>Required Parameters</u>			
Draft Decision Document		True	n/a
Draft Final Decision Document		True	n/a
Final Decision Document		True	n/a
Long Term Document Storage		True	n/a
Number of Boxes		6	EA
Duration of Storage		30	Yrs

Comments:

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

User Name: **Well Abandonment**

Description	Default	Value	UOM
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	6	n/a
Well Depth		15	FT
Well Diameter		2	IN
Well Abandonment Method		Overdrill / Removal	n/a
Formation Type		Unconsolidated	n/a
Karst Formation Type		False	n/a

Comments: