

1.12 COMMERCIAL VEHICLE ACCESS TO FORT LEWIS - REGISTERED AND PREVIOUSLY ID'D (RAPID) GATE PROGRAM

Procedures for commercial vehicle access to Fort Lewis are subject to change without prior notice. Current access information may be obtained by calling (253) 967-1733. As of 1 May 2004, the following requirements apply:

a) Unless the contractor voluntarily participates in the RAPID Gate Program, commercial vehicle access to Fort Lewis will be allowed only at the Logistics Center Gate (Exit 123 from I-5) and through the D Street Commercial Vehicle Inspection Point on North Fort. Both gates are open Monday through Friday, excluding federal holidays. These gates will be open for inbound commercial vehicle access and inspection between 0530 hours and 2100 hours. These gates are closed on weekends (Saturdays and Sundays) and federal holidays. On Saturdays, Sundays and federal holidays, commercial vehicles must use the Main Gate (Exit 120 from I-5). Main Gate is open 24 hours per day everyday. A visitor pass must be obtained. All commercial vehicles will be searched. The Contractor should anticipate delays in getting commercial vehicles on post. The Contractor must also allow additional time for commercial vehicles to reach their destination by driving through Fort Lewis.

If the commercial vehicle is carrying a load of cement concrete or hot asphalt concrete for delivery, the driver shall notify the gate guard as soon as possible and request that the vehicle be given priority for being searched; however, the Government does not guarantee that the vehicle will be given priority.

On weekends large vehicles (needing greater than 12'-5" clearance) will require a time stamped "searched" label to gain access to North Fort Lewis. "Searched" labels will be issued at the Main Gate, as appropriate. Drivers needing access to North Fort Lewis must inform the gate guard that their vehicle is over 12'-5" in height and that they will require access to North Fort Lewis. The driver will receive a briefing on proper procedures and a "searched" label. The Contractor shall ensure that its drivers, including drivers of subcontractors at any tier, comply with the procedures as explained to them for access to North Fort Lewis.

b) If the contractor participates in the RAPID Gate Program, contractor vehicles may enter the installation through any RAPID gate lane except at Force Protection Level Charlie or Delta. During Force Protection Level Charlie or Delta, all contractor vehicles must enter through the Logistics Center gate or, if the Logistics Center Gate is closed, through the Main Gate. All passengers in the contractor vehicle must have a RAPID identification card; otherwise, the contractor vehicle must enter through the Logistics Center Gate or the Main Gate, as appropriate and obtain visitor passes. Once the RAPID Gate Program is fully implemented, RAPID gate lanes will be at the Main (Liberty) Gate, the East Gate, the DuPont Gate, the D Street Gate, the Logistics Center Gate, the Madigan Army Medical Center Gate, and the North Fort Gate. The contractor shall use only those lanes specifically marked as RAPID lanes.

c) NOTE: The RAPID Gate Program is a test program which is scheduled to end on 30 April 2005 but may be terminated by the Government or by Eid Passports, Inc., at any time. If the program is terminated, the contractor will be allowed access only through the Logistics Center Gate or the D Street Gate or, when they are closed, the Main Gate unless the contractor is otherwise notified by the Contracting Officer.

1.13 IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

1.13.1 Compliance with Regulations

The Contractor shall be responsible for compliance with all regulations and orders of the Commanding Officer of the Military Installation, respecting identification of employees, movements on installation, parking, truck entry, and all other military regulations which may affect the work.

1.13.2 Specific Requirement for Vehicle Registration

The Commanding Officer of Fort Lewis, Washington, has initiated the following specific requirement regarding vehicle registration for this contract:

a) Contractors performing work on Fort Lewis shall, after award, register all vehicles to be used on the installation with the Vehicle Registration Section of the Law Enforcement Command. Contractor employees entering the installation in privately owned vehicles (POVs) shall also register their vehicles. A copy of contract award, proof of liability insurance, current driver's license and state vehicle registration shall be required to register Contractor, subcontractor, and employee vehicles.

b) Upon completion of the contract, it shall be the prime Contractor's responsibility to collect all vehicle decals issued under the contract including those issued to employees and subcontractors. Decals are to be carefully removed from the vehicle, placed in an envelope and attached to the original documentation (i.e., post vehicle registration document) received with the decal. Decals, with documentation, must be returned to Vehicle Registration, Building 2140. Proof of decal clearance for all vehicles registered under this contract will be issued to the prime Contractor and shall be returned to the Contracting Officer prior to final payment.

c) In the event of contract extension, it shall be the prime Contractor's responsibility to report time extension to Vehicle Registration, with evidence of same. For further information, contact Vehicle Registration at Waller Hall, Building 2140 (Telephone: (253) 967-5065), Fort Lewis, Washington 98433-9500.

1.13.3 Employee Access and Identification

a) Each employee who requires access to Fort Lewis to perform work under any contract, at any tier, must obtain either a RAPID identification badge or a visitor's pass to obtain access to Fort Lewis. A RAPID identification badge will only be

issued to an employee, at any tier, if the employee requires access to Fort Lewis more than twice per week. Contractor employees, at any tier, who require access to Fort Lewis twice per week or less often or who do not participate in the RAPID Gate Program shall obtain a visitor's pass at the Main (Liberty) Gate, the Logistics Center Gate or the D Street Gate. The visitor's pass will be issued for a maximum of 30 days at a time. A RAPID identification badge will only be issued to contractor employees if the contractor participates in the RAPID Gate Program. The RAPID Gate Program is a voluntary program. The production of RAPID badges has been contracted out and the cost of the identification card shall be borne by the contractor. Current established costs are: \$99.00 for company start-up and \$99.00 per individual.

b) If an employee no longer needs an identification badge for any reason (e.g., quits his/her job or no longer performs work under the contract), the contractor shall return the identification badge to Eid within two (2) calendar days of such change. If the identification badge cannot be returned within the required time frame for any reason, the contractor shall immediately notify both Eid and the Contracting Officer verbally, followed up in writing the next work day. An employee's inability to obtain entrance to a Government installation because he/she does not have the required identification badge or visitor's pass shall not excuse timely performance of the requirements of this contract. Eid or the Government may change the location at which identification badges are issued or returned, with or without advance notice to the contractor. Any such changes shall not be a basis for adjusting the contract price under any clause of this contract.

c) RAPID identification badges shall not be reproduced or copied by the contractor, its subcontractors, or their employees. If an employee's identification badge is lost, stolen, or reproduced, the contractor shall verbally report the loss, theft, or reproduction to both Eid and the Contracting Officer on the day such loss, theft, or reproduction is discovered, followed by a written report of the circumstances to both Eid and the Contracting Officer within one (1) calendar day after the loss, theft, or reproduction is discovered.

d) Each contractor employee shall wear the RAPID identification badge while performing work under the contract. The identification badge shall be worn on the upper front of the outer garment unless precluded by OSHA regulation(s). The identification badge shall not be used for access to any Government installation except for performance of work under the contract for which it was issued.

e) The contractor shall, upon expiration or termination of the contract, collect all identification badges and turn them in to Eid. The final invoice will not be considered proper for purposes of the Prompt Payment Act (FAR 52.232-25 or FAR 52.212-4(i)) until all identification badges have been accounted for.

1.13.4.1 Issuance of RAPID Identification Badge

The contractor shall provide information as required by Eid Passport, Inc. (Eid), to enable Eid to conduct a criminal history background check (CHBC) on contractor employees who are to have access to Fort Lewis. The contractor is responsible for paying Eid the fee per employee for conducting the CHBC and issuing the RAPID identification card. If the CHBC is not adverse, a RAPID identification badge will be issued by Eid to the contractor employee. If the CHBC is adverse, Eid is prohibited from issuing a RAPID identification badge to the contractor employee. If a RAPID identification badge is denied for any reason, the contractor employee may only enter the installation by obtaining a visitor's pass; however, if the contractor employee does not meet the criteria for being issued a RAPID identification badge, the Government may, in its sole discretion, decide not to issue a visitor's pass to the contractor employee.

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AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1 2</div>	
2. AMENDMENT/MODIFICATION NO. 0003		3. EFFECTIVE DATE 07-Sep-2004		4. REQUISITION/PURCHASE REQ. NO. W68MD9-4201-7566		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center; font-weight: bold;">See Item 6</div>		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. W912DW-04-T-0005	
				X		9B. DATED (SEE ITEM 11) 18-Aug-2004	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) W912DW-04-T-0005, Remedial Action, Evergreen Former Infiltration Range, Ft. Lewis, Washington 1. This amendment three (0003) provides for the following changes:							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 07-Sep-2004	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

R0003

(a) Revision to Section 01110 Summary of Work.

2. The attached revised section(s) is/are to be replaced in their entirety. Specifications changes are generally identified, for convenience, either by strikeout for deletions, and double underlining of text for additions or a single dark line in the right hand margin. All portions of the revised or new pages shall apply whether or not changes have been indicated.

3. The proposal submittal time and date of 8 September 2004, 2003 at 2:00 p.m. LOCAL TIME remains the same.

4. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on offer or by telegram. Please mark outside of envelope in which your offer is enclosed to show amendment received.

Encl:

Section 01110 (revised)

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1 2</div>	
2. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">0002</div>		3. EFFECTIVE DATE <div style="text-align: center;">01-Sep-2004</div>		4. REQUISITION/PURCHASE REQ. NO. W68MD9-4201-7566		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center;">See Item 6</div>			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X 9A. AMENDMENT OF SOLICITATION NO. W912DW-04-T-0005			
				X 9B. DATED (SEE ITEM 11) 18-Aug-2004			
				10A. MOD. OF CONTRACT/ORDER NO.			
				10B. DATED (SEE ITEM 13)			
CODE		FACILITY CODE					
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Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
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C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) W912DW-04-T-0005, REMEDIAL ACTION, EVERGREEN FORMER INFILTRATION RANGE, FT. LEWIS, WA This amendment provides for the following: 1. Establish a completion date. All site work will be completed by 30 May 2005. 2. The proposal due date and time is extended as follows: 8 September 2004, 2:00 p.m., Local Time							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
(Signature of person authorized to sign)				BY _____		01-Sep-2004	
				(Signature of Contracting Officer)			

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

3. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on offer or by telegram. Please mark on outside of the envelope in which the offer is enclosed to show amendment received.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J		PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 25-Aug-2004		4. REQUISITION/PURCHASE REQ. NO. W68MD9-4201-7566		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW		7. ADMINISTERED BY (If other than item 6) See Item 6			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. W912DW-04-T-0005	
				X		9B. DATED (SEE ITEM 11) 18-Aug-2004	
						10A. MOD. OF CONTRACT/ORDER NO.	
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E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Amendment 0001 Solicitation: W912DW-04-T-0005 Evergreen Former Infiltration Range Remedial Action, Fort Lewis, WA Any questions regarding the technical aspects of this project should be addressed to Matthew Allen, Project Manager at telephone (206)764-3697.							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 26-Aug-2004	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

The following items are applicable to this modification:

1. Incorporate, **Report on Treatment of Fort Lewis Soil: Baseline Soil Characteristics, Treatment Effectiveness, and Geotechnical Properties.**
2. Proposal due date remains the same 2:00 p.m. local time on September 03, 2004.
3. **Notice to Offerors:** Offerors must acknowledge receipt of this amendment by number and date on offer or by telegram. Please mark outside of envelope in which offer is enclosed to show amendment received.

Encl:

Report

WAGE DETERMINATION NO: 94-2567 REV (25) AREA: WA,TACOMA

WAGE DETERMINATION NO: 94-2567 REV (25) AREA: WA,TACOMA
REGISTER OF WAGE DETERMINATIONS UNDER | U.S. DEPARTMENT OF LABOR
FOR OFFICIAL USE ONLY BY FEDERAL AGENCIES PARTICIPATING IN MOU WITH DOL
WASHINGTON D.C. 20210

William W.Gross	Division of	Wage Determination No.: 1994-2567
Director	Wage Determinations	Revision No.: 25
		Date Of Last Revision: 08/02/2004

State: Washington
Area: Washington Counties of Lewis, Pierce, Thurston

— **Fringe Benefits Required Follow the Occupational Listing**

OCCUPATION CODE - TITLE	MINIMUM WAGE
01000 - Administrative Support and Clerical Occupations	
01011 - Accounting Clerk I	11.92
01012 - Accounting Clerk II	13.23
01013 - Accounting Clerk III	15.44
01014 - Accounting Clerk IV	17.28
01030 - Court Reporter	15.54
01050 - Dispatcher, Motor Vehicle	17.77
01060 - Document Preparation Clerk	12.70
01070 - Messenger (Courier)	10.96
01090 - Duplicating Machine Operator	12.70
01110 - Film/Tape Librarian	13.94
01115 - General Clerk I	10.21
01116 - General Clerk II	11.53
01117 - General Clerk III	14.80
01118 - General Clerk IV	16.24
01120 - Housing Referral Assistant	17.89
01131 - Key Entry Operator I	12.57
01132 - Key Entry Operator II	14.56

01191 - Order Clerk I
 12.86
 01192 - Order Clerk II
 14.04
 01261 - Personnel Assistant (Employment) I
 13.21
 01262 - Personnel Assistant (Employment) II
 14.66
 01263 - Personnel Assistant (Employment) III
 16.20
 01264 - Personnel Assistant (Employment) IV
 18.61
 01270 - Production Control Clerk
 18.66
 01290 - Rental Clerk
 12.63
 01300 - Scheduler, Maintenance
 14.37
 01311 - Secretary I
 14.37
 01312 - Secretary II
 15.54
 01313 - Secretary III
 17.35
 01314 - Secretary IV
 21.44
 01315 - Secretary V
 24.91
 01320 - Service Order Dispatcher
 16.27
 01341 - Stenographer I
 14.10
 01342 - Stenographer II
 16.02
 01400 - Supply Technician
 18.49
 01420 - Survey Worker (Interviewer)
 13.39
 01460 - Switchboard Operator-Receptionist
 12.38
 01510 - Test Examiner
 15.54
 01520 - Test Proctor
 15.54
 01531 - Travel Clerk I
 11.23
 01532 - Travel Clerk II
 12.22
 01533 - Travel Clerk III
 13.16
 01611 - Word Processor I
 13.46
 01612 - Word Processor II
 15.07
 01613 - Word Processor III
 16.24
 03000 - Automatic Data Processing Occupations

03010 - Computer Data Librarian
 15.08
 03041 - Computer Operator I
 15.08
 03042 - Computer Operator II
 16.73
 03043 - Computer Operator III
 18.66
 03044 - Computer Operator IV
 21.87
 03045 - Computer Operator V
 24.27
 03071 - Computer Programmer I (1)
 16.36
 03072 - Computer Programmer II (1)
 20.71
 03073 - Computer Programmer III (1)
 27.62
 03074 - Computer Programmer IV (1)
 27.62
 03101 - Computer Systems Analyst I (1)
 27.62
 03102 - Computer Systems Analyst II (1)
 27.62
 03103 - Computer Systems Analyst III (1)
 27.62
 03160 - Peripheral Equipment Operator
 15.08
 05000 - Automotive Service Occupations
 05005 - Automotive Body Repairer, Fiberglass
 19.80
 05010 - Automotive Glass Installer
 20.46
 05040 - Automotive Worker
 20.46
 05070 - Electrician, Automotive
 21.78
 05100 - Mobile Equipment Servicer
 18.55
 05130 - Motor Equipment Metal Mechanic
 21.78
 05160 - Motor Equipment Metal Worker
 20.46
 05190 - Motor Vehicle Mechanic
 21.69
 05220 - Motor Vehicle Mechanic Helper
 18.55
 05250 - Motor Vehicle Upholstery Worker
 20.46
 05280 - Motor Vehicle Wrecker
 20.46
 05310 - Painter, Automotive
 21.12
 05340 - Radiator Repair Specialist
 20.46
 05370 - Tire Repairer
 14.81

05400 - Transmission Repair Specialist
 21.78
 07000 - Food Preparation and Service Occupations
 (not set) - Food Service Worker
 9.24
 07010 - Baker
 12.63
 07041 - Cook I
 11.04
 07042 - Cook II
 12.14
 07070 - Dishwasher
 9.55
 07130 - Meat Cutter
 18.28
 07250 - Waiter/Waitress
 9.27
 09000 - Furniture Maintenance and Repair Occupations
 09010 - Electrostatic Spray Painter
 17.45
 09040 - Furniture Handler
 15.33
 09070 - Furniture Refinisher
 17.45
 09100 - Furniture Refinisher Helper
 15.33
 09110 - Furniture Repairer, Minor
 16.37
 09130 - Upholsterer
 17.92
 11030 - General Services and Support Occupations
 11030 - Cleaner, Vehicles
 11.31
 11060 - Elevator Operator
 10.66
 11090 - Gardener
 13.31
 11121 - House Keeping Aid I
 9.34
 11122 - House Keeping Aid II
 10.66
 11150 - Janitor
 11.19
 11210 - Laborer, Grounds Maintenance
 13.16
 11240 - Maid or Houseman
 9.34
 11270 - Pest Controller
 16.54
 11300 - Refuse Collector
 13.61
 11330 - Tractor Operator
 14.41
 11360 - Window Cleaner
 11.78
 12000 - Health Occupations

12020 - Dental Assistant
 14.32
 12040 - Emergency Medical Technician (EMT)/Paramedic/Ambulance Driver
 17.57
 12071 - Licensed Practical Nurse I
 14.97
 12072 - Licensed Practical Nurse II
 16.78
 12073 - Licensed Practical Nurse III
 18.77
 12100 - Medical Assistant
 13.46
 12130 - Medical Laboratory Technician
 15.77
 12160 - Medical Record Clerk
 15.77
 12190 - Medical Record Technician
 16.03
 12221 - Nursing Assistant I
 9.66
 12222 - Nursing Assistant II
 10.72
 12223 - Nursing Assistant III
 11.85
 12224 - Nursing Assistant IV
 14.10
 12250 - Pharmacy Technician
 14.43
 12280 - Phlebotomist
 14.53
 12311 - Registered Nurse I
 20.46
 12312 - Registered Nurse II
 25.01
 12313 - Registered Nurse II, Specialist
 25.01
 12314 - Registered Nurse III
 30.21
 12315 - Registered Nurse III, Anesthetist
 30.21
 12316 - Registered Nurse IV
 36.29
 13000 - Information and Arts Occupations
 13002 - Audiovisual Librarian
 19.80
 13011 - Exhibits Specialist I
 16.95
 13012 - Exhibits Specialist II
 20.94
 13013 - Exhibits Specialist III
 25.64
 13041 - Illustrator I
 16.95
 13042 - Illustrator II
 20.94
 13043 - Illustrator III
 25.64

13047 - Librarian
 22.93
 13050 - Library Technician
 13.73
 13071 - Photographer I
 17.23
 13072 - Photographer II
 19.32
 13073 - Photographer III
 23.83
 13074 - Photographer IV
 29.15
 13075 - Photographer V
 35.39
 15000 - Laundry, Dry Cleaning, Pressing and Related Occupations
 15010 - Assembler
 8.38
 15030 - Counter Attendant
 8.38
 15040 - Dry Cleaner
 10.54
 15070 - Finisher, Flatwork, Machine
 8.38
 15090 - Presser, Hand
 8.38
 15100 - Presser, Machine, Drycleaning
 8.38
 15130 - Presser, Machine, Shirts
 8.38
 15160 - Presser, Machine, Wearing Apparel, Laundry
 8.38
 15190 - Sewing Machine Operator
 11.23
 15220 - Tailor
 11.91
 15250 - Washer, Machine
 9.10
 19000 - Machine Tool Operation and Repair Occupations
 19010 - Machine-Tool Operator (Toolroom)
 21.05
 19040 - Tool and Die Maker
 24.23
 21000 - Material Handling and Packing Occupations
 21010 - Fuel Distribution System Operator
 22.09
 21020 - Material Coordinator
 15.99
 21030 - Material Expediter
 15.99
 21040 - Material Handling Laborer
 14.40
 21050 - Order Filler
 12.87
 21071 - Forklift Operator
 18.06
 21080 - Production Line Worker (Food Processing)
 16.32

21100 - Shipping/Receiving Clerk
 15.17
 21130 - Shipping Packer
 15.17
 21140 - Store Worker I
 12.99
 21150 - Stock Clerk (Shelf Stocker; Store Worker II)
 16.39
 21210 - Tools and Parts Attendant
 18.06
 21400 - Warehouse Specialist
 16.32
 23000 - Mechanics and Maintenance and Repair Occupations
 23010 - Aircraft Mechanic
 22.24
 23040 - Aircraft Mechanic Helper
 17.67
 23050 - Aircraft Quality Control Inspector
 22.94
 23060 - Aircraft Servicer
 19.96
 23070 - Aircraft Worker
 20.89
 23100 - Appliance Mechanic
 19.42
 23120 - Bicycle Repairer
 14.81
 23125 - Cable Splicer
 25.05
 23130 - Carpenter, Maintenance
 21.23
 23140 - Carpet Layer
 20.46
 23160 - Electrician, Maintenance
 25.67
 23181 - Electronics Technician, Maintenance I
 20.74
 23182 - Electronics Technician, Maintenance II
 23.58
 23183 - Electronics Technician, Maintenance III
 25.30
 23260 - Fabric Worker
 18.55
 23290 - Fire Alarm System Mechanic
 19.80
 23310 - Fire Extinguisher Repairer
 18.43
 23340 - Fuel Distribution System Mechanic
 21.78
 23370 - General Maintenance Worker
 16.91
 23400 - Heating, Refrigeration and Air Conditioning Mechanic
 18.98
 23430 - Heavy Equipment Mechanic
 22.62
 23440 - Heavy Equipment Operator
 24.07

23460 - Instrument Mechanic
 22.62
 23470 - Laborer
 11.17
 23500 - Locksmith
 19.24
 23530 - Machinery Maintenance Mechanic
 21.61
 23550 - Machinist, Maintenance
 19.43
 23580 - Maintenance Trades Helper
 12.47
 23640 - Millwright
 21.74
 23700 - Office Appliance Repairer
 21.16
 23740 - Painter, Aircraft
 18.88
 23760 - Painter, Maintenance
 17.45
 23790 - Pipefitter, Maintenance
 24.16
 23800 - Plumber, Maintenance
 21.88
 23820 - Pneudraulic Systems Mechanic
 21.90
 23850 - Rigger
 20.32
 23870 - Scale Mechanic
 20.30
 23890 - Sheet-Metal Worker, Maintenance
 21.53
 23910 - Small Engine Mechanic
 17.99
 23930 - Telecommunication Mechanic I
 19.80
 23931 - Telecommunication Mechanic II
 22.45
 23950 - Telephone Lineman
 19.80
 23960 - Welder, Combination, Maintenance
 18.00
 23965 - Well Driller
 21.78
 23970 - Woodcraft Worker
 21.90
 23980 - Woodworker
 16.91
 24000 - Personal Needs Occupations
 24570 - Child Care Attendant
 10.33
 24580 - Child Care Center Clerk
 13.41
 24600 - Chore Aid
 10.08
 24630 - Homemaker
 14.91

25000 - Plant and System Operation Occupations
 25010 - Boiler Tender
 20.49
 25040 - Sewage Plant Operator
 23.68
 25070 - Stationary Engineer
 20.49
 25190 - Ventilation Equipment Tender
 15.89
 25210 - Water Treatment Plant Operator
 23.68
 27000 - Protective Service Occupations
 (not set) - Police Officer
 24.27
 27004 - Alarm Monitor
 17.34
 27006 - Corrections Officer
 20.71
 27010 - Court Security Officer
 23.51
 27040 - Detention Officer
 23.51
 27070 - Firefighter
 25.24
 27101 - Guard I
 9.35
 27102 - Guard II
 13.68
 28000 - Stevedoring/Longshoremen Occupations
 28010 - Blocker and Bracer
 20.66
 28020 - Hatch Tender
 20.66
 28030 - Line Handler
 20.66
 28040 - Stevedore I
 20.19
 28050 - Stevedore II
 21.57
 29000 - Technical Occupations
 21150 - Graphic Artist
 21.29
 29010 - Air Traffic Control Specialist, Center (2)
 31.66
 29011 - Air Traffic Control Specialist, Station (2)
 21.83
 29012 - Air Traffic Control Specialist, Terminal (2)
 24.05
 29023 - Archeological Technician I
 18.88
 29024 - Archeological Technician II
 21.10
 29025 - Archeological Technician III
 26.14
 29030 - Cartographic Technician
 24.74

29035 - Computer Based Training (CBT) Specialist/ Instructor
 27.62
 29040 - Civil Engineering Technician
 23.08
 29061 - Drafter I
 15.03
 29062 - Drafter II
 16.87
 29063 - Drafter III
 19.04
 29064 - Drafter IV
 23.59
 29081 - Engineering Technician I
 15.93
 29082 - Engineering Technician II
 17.87
 29083 - Engineering Technician III
 20.17
 29084 - Engineering Technician IV
 24.99
 29085 - Engineering Technician V
 30.56
 29086 - Engineering Technician VI
 36.96
 29090 - Environmental Technician
 20.86
 29100 - Flight Simulator/Instructor (Pilot)
 30.58
 29160 - Instructor
 26.63
 29210 - Laboratory Technician
 18.55
 29240 - Mathematical Technician
 21.90
 29361 - Paralegal/Legal Assistant I
 18.10
 29362 - Paralegal/Legal Assistant II
 20.39
 29363 - Paralegal/Legal Assistant III
 22.62
 29364 - Paralegal/Legal Assistant IV
 24.43
 29390 - Photooptics Technician
 21.52
 29480 - Technical Writer
 23.90
 29491 - Unexploded Ordnance (UXO) Technician I
 20.12
 29492 - Unexploded Ordnance (UXO) Technician II
 24.35
 29493 - Unexploded Ordnance (UXO) Technician III
 29.18
 29494 - Unexploded (UXO) Safety Escort
 20.12
 29495 - Unexploded (UXO) Sweep Personnel
 20.12

29620 - Weather Observer, Senior (3)
 20.86
 29621 - Weather Observer, Combined Upper Air and Surface Programs (3)
 17.84
 29622 - Weather Observer, Upper Air (3)
 17.84
 31000 - Transportation/ Mobile Equipment Operation Occupations
 31030 - Bus Driver
 16.85
 31260 - Parking and Lot Attendant
 8.95
 31290 - Shuttle Bus Driver
 13.28
 31300 - Taxi Driver
 10.57
 31361 - Truckdriver, Light Truck
 12.07
 31362 - Truckdriver, Medium Truck
 19.01
 31363 - Truckdriver, Heavy Truck
 18.69
 31364 - Truckdriver, Tractor-Trailer
 18.69
 99000 - Miscellaneous Occupations
 99020 - Animal Caretaker
 11.73
 99030 - Cashier
 10.13
 99041 - Carnival Equipment Operator
 11.56
 99042 - Carnival Equipment Repairer
 11.98
 99043 - Carnival Worker
 8.83
 99050 - Desk Clerk
 10.80
 99095 - Embalmer
 22.36
 99300 - Lifeguard
 10.57
 99310 - Mortician
 22.36
 99350 - Park Attendant (Aide)
 13.28
 99400 - Photofinishing Worker (Photo Lab Tech., Darkroom Tech)
 11.06
 99500 - Recreation Specialist
 14.11
 99510 - Recycling Worker
 16.94
 99610 - Sales Clerk
 12.84
 99620 - School Crossing Guard (Crosswalk Attendant)
 15.02
 99630 - Sport Official
 10.57

99658 - Survey Party Chief (Chief of Party)
27.75
99659 - Surveying Technician (Instr. Person/Surveyor Asst./Instr.)
22.18
99660 - Surveying Aide
16.19
99690 - Swimming Pool Operator
12.62
99720 - Vending Machine Attendant
13.20
99730 - Vending Machine Repairer
16.85
99740 - Vending Machine Repairer Helper
14.41

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: \$2.59 an hour or \$103.60 a week or \$448.93 a month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service

includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther

King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A

contractor may substitute for any of the named holidays another day off with pay in

accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M.

at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek,

you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on

Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees

employed in a position that represents a high degree of hazard when working with or

in close proximity to ordnance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive

ordnance, explosives, and pyrotechnic compositions such as lead azide, black powder

and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance

operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that

represents a low degree of hazard when working with, or in close proximity to ordnance, (or employees possibly adjacent to) explosives and incendiary materials

which involves potential injury such as laceration of hands, face, or arms of the

employee engaged in the operation, irritation of the skin, minor burns and the

like; minimal damage to immediate or adjacent work area or equipment being used. All

operations involving, unloading, storage, and hauling of ordnance, explosive, and

incendiary ordnance material other than small arms ammunition. These differentials

are only applicable to work that has been specifically designated by the agency for

ordnance, explosives, and incendiary material differential pay.

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract

(either by the terms of the Government contract, by the employer, by the state or

local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an

employee where such cost reduces the hourly rate below that required by the wage

determination. The Department of Labor will accept payment in accordance with the

following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual

cost of the uniforms. In addition, where uniform cleaning and maintenance is made

the responsibility of the employee, all contractors and subcontractors subject to

this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

**** NOTES APPLYING TO THIS WAGE DETERMINATION ****

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Third Supplement, dated March 1997, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE

{Standard Form

1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)}

When multiple wage determinations are included in a contract, a separate SF 1444

should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation) and computes a proposed rate).

2) After contract award, the contractor prepares a written report listing in order

proposed classification title), a Federal grade equivalency (FGE) for each proposed classification), job description), and rationale for proposed wage rate), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized

representative, the employees themselves. This report should be submitted to the

contracting officer no later than 30 days after such unlisted class(es) of employees

performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report

of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage

and Hour Division, Employment Standards Administration, U.S. Department of Labor,

for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or

disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure

that duties requested are not performed by a classification already listed in the

wage determination. Remember, it is not the job title, but the required tasks that

determine whether a class is included in an established wage determination.

Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

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SECTION 01005

SITE SPECIFIC SUPPLEMENTARY REQUIREMENTS

1. CONDUCT OF WORK:

1.1 COORDINATION AND ACCESS TO SITE

1.1.1 Coordination with using agencies shall be made through the Contracting Officer to assist the Contractor in completing the work with a minimum of interference and inconvenience.

1.1.2 All vehicles and drivers entering Fort Lewis installation shall have valid current licenses, proof of registration, and proof of insurance. Those entering in privately-owned vehicles or unmarked Contractor vehicles shall obtain a visitor's pass each time they enter unless that vehicle will be repeatedly used; then responsible for obtaining vehicle permits from the Security Police.

1.1.3 Work hours in the construction area are usually from 7:00 a.m. to 5:00 p.m. daily, Monday through Friday, excluding holidays. Work hours other than as specified above shall be coordinated with and approved by the Contracting Officer.

1.2 UTILITY OUTAGES

Contractor shall coordinate utility outages with the Contracting Officer at least 7 days in advance. Outages shall be kept to a minimum and any one outage shall not last more than 2 hours.

1.3 PROTECTION OF GOVERNMENT PROPERTY

In addition to requirements of the CONTRACT CLAUSES, Contractor shall protect all Government property within the buildings in which he is working, except for such property as is required to be demolished. Property which is to be demolished shall be protected until its scheduled demolition time. Protection shall include, but not be limited to, protection from construction generated dust, debris, water, and vibration.

1.4 COORDINATION, SAFETY AND REGULATORY REQUIREMENTS

1.4.1 Traffic Control

Whenever contract activities obstruct traffic, the Contractor shall arrange for safe and efficient direction of traffic around the obstruction. All situations requiring traffic control shall be coordinated in advance

through the on-site representative of the Contracting Officer as required under Section 01500A
TEMPORARY REMEDIATION FACILITIES.

1.4.2.2 Hauling Materials On and Off Base

1.4.2.21 Delivery of equipment and material will only be allowed over base roads between 0730 and 1600, Monday through Friday. The Contractor shall use the designated haul route as identified on the C-5 drawing. All Contractors must use exit 123 Logistics Gate to enter and leave Fort Lewis at all times. ~~[sketch attached at the end of this specification section] [drawings]~~

1.4.2.2.2 All trucks hauling loose material shall be tarped or enclosed.

1.4.2.2.3 The Contractor shall maintain a clean, safe, operable site at all times.

1.4.2.2.4 Use of alternate haul routes must be coordinated through the on-site representative of the Contracting Officer prior to changes.

1.4.2.2.5 The Contractor may use the North Gate for construction access to the base as an alternative haul route if the following conditions are met:

a. Provide a security guard at the gate when used for construction access. All guards shall attend a half hour indoctrination with base security forces, and abide by the instructions from that training. Guard shall not allow non-construction vehicles to enter or exit, unless otherwise instructed by the Contracting Officer or base security forces.

b. Upon direction of the Contracting Officer, furnish and install a painted 36-inch by 48-inch brown sign with white lettering: Construction Vehicles Only; remove sign on direction of the Contracting Officer.

c. Submit a plan for identifying construction vehicles (decal, windshield sign, etc).

d. Notify the Contracting Officer 48 hours in advance of using the North Gate, and obtain Contracting Officer approval of proposed alternate haul route.

1.4.2.3 Temporary Signs and Barricades

1.4.2.3.1 Temporary Signs:

a. Temporary signs are those indicating detours, flagmen, temporary construction, and like items. When the temporary warning is no longer needed, the Contractor shall remove the signs from the site.

- b. Cones shall be used only for temporary detours.
- c. At no time shall temporary signs be left lying in the area, nor shall they be left in place when not required.

1.4.2.3.2 Barricades and Safety Fencing

- a. Barricades shall be used when overnight and long-term warning devices are required, and shall be lighted where required.
- b. The Contractor shall provide temporary orange safety fencing around trenches and other open excavations.
- c. The Contractor shall barricade all trenches and detours per applicable state and Federal standards.

1.4.2.3.3 Maintenance

All barricades and temporary signs shall be maintained in a good state of repair with all stripes and colors readily visible. The on-site representative of the Contracting Officer is the sole judge as to what barricades and cones are acceptable. When the contract is complete or the cones/signs/barricades are no longer required, they shall be removed from the base and the area returned to as-found conditions.

1.4.45 Pavements, drives or turf areas utilized by the Contractor for access roads or storage areas shall be maintained and restored by the Contractor to the original condition, to the satisfaction of the Contracting Officer and airfield management. Costs associated with the above work shall be incidental to the contract. ~~1.4.5.1 Temporary access roads shall be crushed stone on geotech cloth at a minimum, and shall be well maintained at all times.~~

1.4.5 The Contractor shall be responsible for any repair necessary to stabilize permanent roadways transversed by temporary access roadways and traffic.

1.4.66 Before construction commences, the Contractor shall coordinate with the Fort Lewis Department of Public Works (PW) to locate utilities. A permit is required for locating base utilities. Contractor shall allow a minimum of 14 days to obtain permit and shall be responsible for marking limits of construction areas with white paint or white flagging so utilities may be located.

1.4.7 A 103-Digging Permit will be required before construction excavation commences. Digging permits ~~expire 30 days after date issued and must be renewed~~ can be obtained for the duration of the project.

~~1.4.11 Blasting is prohibited on air base property.~~

1.4.8 Prior to use of a XRF at Fort Lewis ~~on airfield~~ the Contractor shall coordinate PW.

1.5 SPECIAL PROVISIONS FOR CONSTRUCTION

1.5.1 General

The construction effort at Fort Lewis may involve the simultaneous accomplishment of several facility construction projects. This creates the potential for interference unless measures are taken to coordinate individual contract operations. The purpose of these site and roadway management requirements is to establish ground rules for contractor operations on the Base. As applicable, these items supplement the requirements of other sections of the specifications including Section 01500A4- CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS. The Contractor, in conjunction with and in cooperation with other contractors using the roads, sites and work areas shall be expected to:

- a. Maintain a clean and neat work-site, staging, and parking area. See paragraph CONSTRUCTION SITE MANAGEMENT AND APPEARANCE STANDARDS- for details.
- b. Repair any road damage caused by contract operations.
- c. Restore work site, staging/parking areas, and site access routes to match the original conditions upon project completion.

1.5.2 General Conditions

1.5.2.1 Contractor Staging and Parking Areas

- a. Refer to contract drawings and the specifications for location of staging and parking areas.
- b. Any tree cutting required to provide a staging area shall be coordinated with Fort Lewis through the on-site representative of the Contracting Officer. Approved trees for cutting will be marked with orange paint by the onsite USACE representative.
- c. The Contractor's equipment and vehicles shall be assigned to park in specific areas. The only exceptions shall be heavy equipment, which is actively engaged in daily activities.
- d. All Contractor trailers, stored materials, and idle equipment shall be located in the designated support zone. The support zone shall be kept clean and orderly. Tarps are to be used, as necessary, to secure loose materials. The on-site representative of the Contracting Officer is the sole judge as to what constitutes an acceptable staging area. Dumpsters may be located outside the support zone, but must

be sited as approved by the on-site representative of the Contracting Officer. Any movement of a dumpster to another area on the project site must be approved by the Contracting Officer's representative.

e. All items in the support zone shall be promptly removed from Fort Lewis when no longer needed or when the contract is completed.

f. The Contractor shall provide, to the on-site representative of the Contracting Officer, a support zone layout showing trailer location, material storage, and equipment/vehicle parking together with the number of workers and parking spaces required.

1.5.3 Weather Protection: Temporary coverage of the worksite to protect against moisture shall be effectively secured down. The on-site representative of the Contracting Officer will be the sole judge of what constitutes effective measures to protect the site.

~~1.5.4 Free Zones and Access Routes~~

~~1.5.4.1 The designated free zone is shown on the attached sketches _____. The Contractor shall mark the boundary of the free zone as indicated below.~~

~~1.5.4.2 Site Access Route:~~

~~The entry control shall be clearly marked with a sign, not exceeding 2 feet in height. The sign shall say Entry Control Point for _____ (the Contractor's firm's name). The area between the entrance sign and the free zone barrier shall be clearly marked with a 6 inch wide dashed yellow line. Dashes shall be 10 feet long with 10 foot spaces. The yellow stripes shall be removed at the end of construction. Tape is not acceptable.~~

~~1.5.4.3 The Contractor shall coordinate work outside the free zone boundary with the base security police and airfield management through the Contracting Officer's Representative.~~

~~1.5.4.4 Free Zone and haul route marking shall be approved by the Contracting Officer's Representative.~~

~~1.5.4.5 The designated haul route to the site may be interrupted by other contract work on the base. If this is the case, the Contractor will be given the opportunity to coordinate another haul route with the Contracting Officer's Representative.~~

~~1.5.4.6 Free Zone Overlap~~

~~The free zone area for this contract may overlap with that of another contract. If this happens, the Contractor shall coordinate with the Contracting Officer's Representative to minimize any adverse impacts.~~

~~1.5.4.7 At the pre-construction meeting the Contractor shall provide to the Contracting Officer list with names and social security numbers, of all personnel who will need access to the work site.~~

2. CONSTRUCTION SITE MANAGEMENT AND APPEARANCE STANDARDS

2.1 GENERAL

2.1.1 Dirt and Dust Control Plan:

The Contractor shall submit a plan for controlling dirt, debris, and dust on base roadways. As a minimum, the plan shall identify the subcontractor and equipment for cleaning along the haul route and measures to reduce dirt, dust, and debris from roadways, and dust control onsite.

2.2 CONTRACTOR'S TEMPORARY FACILITIES

2.2.1 Temporary Facilities Layout Plan:

Prior to starting the work, the Contractor shall submit site plan through the Contracting Officer for the Base Civil Engineer approval, showing the layout and details of all temporary facilities used for this contract. The plan shall include the location of the safety and construction fences, location of all site trailers, equipment and material storage areas, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas. Site photographs prior to the start of work may be included with the plan. At completion of work, the Contractor shall remove the facilities and restore the site to its original condition.

2.2.2 Administrative Field Offices and Material Storage Trailers:

Locate the office and trailers behind the construction fence unless otherwise indicated on the drawings. Storage of materials or debris under the trailers is prohibited.

2.2.3 Dumpsters:

The cover shall be closed at all times, except when being loaded with trash and debris. Locate dumpsters behind the construction fence or out of the public view. Dumpsters shall not be permitted to overflow, and shall be emptied before reaching that condition, at least once a week, or as needed to keep the site free of debris and trash.

2.2.5 Temporary Sanitation Facilities:

All temporary sewer and sanitation facilities shall be self-contained units with both urinals and stool capabilities. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the Contracting Officer.

2.2.6 Construction and Safety Fence

The Contractor shall also provide a temporary orange safety fence with gates and warning signs at the construction site prior to the start of work to protect the public from construction activities. The Contractor shall remove the fence from the work site upon completion of the contract.

2.3 WASTE MINIMIZATION

The Contractor shall minimize the generation of hazardous waste to the maximum extent practicable. The Contractor shall take all necessary precautions to avoid mixing clean and contaminated wastes. The Contractor shall identify and evaluate recycling and reclamation options as alternatives to land disposal. Requirements of 40 CFR 266 shall apply to: hazardous wastes recycled in a manner constituting disposal; hazardous waste burned for energy recovery; and hazardous wastes with economically recoverable precious metals.

2.4 ORDNANCE AND EXPLOSIVE WASTE

If explosives, chemical surety and warfare materials (CSM/CWM), or unexploded ordnance (UXO) are discovered at any time during operations, the Contractor shall immediately stop operations in the affected area, mark the location, notify onsite personnel of the OEW hazard and the area's restriction, and notify the Contractor Officer. The Government will make appropriate arrangements for evaluation and proper disposal of each device.

END OF SECTION

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SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

1.1.1 This section provides a comprehensive summary of the various contract work elements and their relationship to each other. This summary does not provide the technical detail of the referenced sections for the particular work activities, but describes the work as a whole, providing overall perspective to the separate tasks and their interrelationships. Background on site conditions and previous soil investigations is also included. This section shall be used in conjunction with all the other sections and the drawings to establish the total work requirements.

1.1.2 The Contractor is advised that the contract work will consist of remediation activities for surface and subsurface soils at the Evergreen Former Infiltration Range located at Fort Lewis, Washington. The remediation will consist of excavation of designated soils, removal of bullets, stabilization of remaining waste stream to pass TCLP, transport and disposal of soils at active ranges on Fort Lewis, and rough grading of excavation following the on-site clean confirmation. All applicable Federal, state, and local regulations shall be adhered to by the Contractor.

1.2 SITE BACKGROUND

Fort Lewis is a major military facility located approximately 6 miles south of Tacoma, Washington (Plate G-1). Weapons qualifications and field training has occurred at Fort Lewis since around the time the Fort was established. Fort Lewis and Ecology entered into an Agreed Order (DE00HWTRSR-1122) in 2001. In this agreement, selected SWMUs and AOCs were identified as requiring further action. Currently, three of these sites are planned for an interim removal action. This action is being expedited as an interim to reduce human health risk as well as preparing the site for military construction in FY05.

The former Evergreen Infiltration Range (AOC 4-6.3) was identified from a 1951 aerial photograph and appears to have been in use until 1965. This site was used to condition soldiers to move under live fire and under combat type situations. Fixed-position machine guns firing into an impact berm provided the live fire training. The ammunition associated with infiltration range training during this era was the 30-caliber cartridge.

Soil contamination was documented in the impact berm during a 2003 site investigation in the impact berm. The primary contaminant of concern above MTCA Method A Cleanup Levels for unrestricted use was lead. The maximum detected concentration at the site was 62,500 mg/kg. In addition, antimony and copper exceedances were detected only when lead was above 250 mg/kg.

The Former Thompson Machine Gun sites (AOC 4-6.1 and 4-6.2) were identified on a 1944 map. Preliminary assessment activities did not confirm site use. However, recent magnetometer work confirmed the presence of .45 caliber bullets in isolated pockets, spent flares, blanks and live rounds. Soil sampling has not occurred at these sites.

Remedial activities will consist of excavation of designated soils, removal of bullets, stabilization of remaining waste stream to pass TCLP, transport and disposal of soils at active ranges on Fort Lewis, and grading of excavation following the on-site clean confirmation. These activities may be awarded as a option to this contract. Prior to the award of the option the government will complete a characterization of the Thompson Machine Gun ranges.

1.3 PROJECT OBJECTIVE

This restoration activity is intended to address potential current and future impacts to human health and the environment resulting from chemical contamination at all three of the previously mentioned sites.

1.4 SCOPE OF WORK

This contract will consist of remediation of the surface and subsurface soils in the designated areas inside the restoration site.

Based on the need for expedited removal, Fort Lewis Public Works has selected an interim cleanup action for the sites. The action includes:

- Excavation of site soils to 250 mg/kg for lead;
- Separation of bullet fragments from the soils;
- Stabilization of the remaining soils to pass TCLP criteria; and
- Placement of stabilized soils onto active ranges at Fort Lewis;
- Confirmation sampling to ensure clean closure

1.4.1 Performance Criteria

1.4.1.1 Bullet Separation

~~For every 500 cubic yard of soils, a treated sub-sample, with volume equivalent to approximately 5 gallons, will be collected and the retained material will be hand searched for bullet material. The treated portion must contain less than 0.1% bullet material for the total sub-sample volume. This is approximately equivalent to one bullet per 5 gallons soil. For approximately every ton of soil a 5 kg treated subsample will be collected, sieved with a 6.7 mm sieve. The retained material will be hand search for bullet material. The treated portion must contain <0.1% bullet material retained on the sieve for the total 5 kg sample (or about one bullet per 5 kg). This evaluation is to be performed and results documented by the contractor.~~

The Contractor shall ensure that this waste stream is recyclable with required certification if cost effective. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project. The Contractor shall participate in State and local government sponsored recycling programs.

1.4.1.2 Stabilization Performance

The stabilization performance must meet or exceed the performance of 3% Enviro 50:50 additive to soil (defined as TCLP less than or equal to 5.0 mg/L). ~~The pH of the soil must be maintained between 6 and 9. If the native soil is outside this range, the pH shall not be allowed to change more than 1 pH unit.~~ The pH cannot be lower than 2 or greater than 12 to avoid being classified as RCRA hazardous waste criteria. Additionally, the stabilization process must not cause the soil to exceed any criteria or to cause the soil to be classified as a Federal RCRA hazardous waste or to be classified as a State of Washington Department of Ecology Dangerous Waste. Frequency of testing soils for Toxicity Characteristic Leaching Procedure (TCLP) will be defined as described in Section 01450 CHEMICAL DATA QUALITY CONTROL.

1.4.1.3 Confirmation Sampling for Clean Closure

The Contractor is responsible for collecting and analyzing samples to confirm site is suitable for clean closure. Performance criteria and sampling frequency is described in Section 01450A CHEMICAL DATA QUALITY CONTROL. Final payment will not be made until suitable evidence of clean closure is submitted and approval by the Contracting Officer.

1.4.1.4 Placement of Treated Soils onto Active Ranges

The Contractor is responsible for treating remaining soil with a stabilizer until it passes TCLP, then transport backstop soil on Fort Lewis to active ranges that are 25 years old, and use for maintenance/construction of range backstops. The following ranges require material for maintenance and construction of range backstops over the next year: Ranges 18-19, 21-22, 89 and 90. These ranges are 6 miles, 6 miles and 9 miles from the Evergreen site. The government will identify the range for stabilized soil placement based on timing of soil transport.

1.4.2 Tasks

The following tasks are anticipated to be required to accomplish the work, although the sequence may vary somewhat from what is stated, and actions others than those listed here may be needed. All will need to be represented in the Remedial Action Management Plan, Health and Safety Plan, Sampling and Analysis Plan, etc., referencing the SWMU/AOC number for each site. Please see Table 01110-1 Tasks.

Table 01110-1 Tasks

Tasks to be performed:	Primary Associated Specification Sections
1. Schedule Submittals	Section 01320, PROJECT SCHEDULE
2. Remedial Action Management Plan	Section 01400 - REMEDIAL ACTION MANAGEMENT PLAN; Section 01351A - SAFETY & HEALTH & EMERGENCY RESPONSE Section 01355A- ENVIRONMENTAL PROTECTION Section 01450A - CHEMICAL DATA QUALITY CONTROL Section 01451A - CONTRACTOR QUALITY CONTROL
3. Site Mobilization	Section 01500A –TEMPORARY REMEDIATION FACILITIES Section 02120 - TRANSPORTATION & DISPOSAL OF HAZARDOUS MATERIALS
4. Site Preparation	
a. Preparing Stockpile Areas (Paving, or plastic laminate)	Section 01005 SITE SPECIFIC SUPPLEMENTARY REQUIREMENTS
b. Stockpiling Contaminated Soils, Clean Soils, Debris, Stone, Other Materials	Section 02120 - TRANSPORTATION & DISPOSAL OF HAZARDOUS MATERIALS
5. Excavation	
a. Earthwork	Section 02111 – EXCAVATION & HANDLING OF CONTAMINATED MATERIALS
6. Treatment	Section 01110 – SUMMARY OF WORK
7. Waste profiling	Section 01450A - CHEMICAL DATA QUALITY CONTROL
8. Laboratory Analysis During Excavation Monitoring	
a. Surface Soils contamination levels	Section 01450A - CHEMICAL DATA QUALITY CONTROL
9. Transport	Section 02120 - TRANSPORTATION & DISPOSAL OF HAZARDOUS MATERIALS
10. Project Closeout	Section 02111 - EXCAVATION & HANDLING OF CONTAMINATED MATERIALS

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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END OF SECTION

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SECTION 01115

SITE DESCRIPTION

PART I GENERAL

1.1 REFERENCE

Information regarding conditions at the site is available in the following documents and is incorporated by reference in this contract:

- U.S. Army Corps of Engineers (USACE). 2000. *Draft Remedial Investigation Work Plan Agreed Order, DPW, Fort Lewis, WA*. February 2000.

_____ *Sampling and Analysis Plan Addendum, Former Small Arms Ranges Miller Hill Pistol Range and Evergreen Infiltration Range (AOC 4-2.2 and 4-6.3), PW, Fort Lewis, WA*. August 2003.

- U.S. Army Corps of Engineers (USACE). 2004. *Draft Site Investigation Report Remedial Investigation Phase: Former Small Arms Ranges: Evergreen Infiltration Range (AOC 4-6.3), Miller Hill Pistol Range (4-2.2) and Skeet Range (AOC 4-3)*. Fort Lewis, WA. March 2004.
- Cleanup Action Plan
- ERDC treatability study results.

These documents are attached.

1.2 SUMMARY

This section provides background on the location, physical setting, history, relevant soil characteristics, and the nature and extent of soil contamination at the Evergreen Former Infiltration Range. Results of chemical and physical laboratory analyses conducted on project soils during the site investigation phases are summarized in this section. This section and the Drawings also provide information relevant to worker protection.

1.3 PROJECT LOCATION

See Specification 01110, paragraph 1.2, "Site Background" for the pertinent site history.

1.4 SITE ACCESS

All access under this remediation contract to Fort Lewis will be restricted to persons that are listed in the Contractor's Work Plan. All Contractors must use the Fort Lewis Logistics Center gate located at exit 123 off Highway I-5. The Contractor is notified that site soils are contaminated, and engineering controls shall be used at the time of site mobilization to reduce dust and personnel exposure, and to provide a clean surface for stockpiling materials for use as clean backfill. The Contractor is responsible for assuring that contaminated soil is not tracked off-site. The Contractor is responsible for cleanup of any materials that spill on roadways or are tracked off-site; e.g. clean material being transported to the site or contaminated material being transported off the site. Other import materials (e.g., road construction materials or berm materials) may enter the site overland; waste materials may be transported off of the site via the Thorne gate (see C-5). Access to the base with POVs or company pickup trucks with approved passes is through the Main Gate. All other vehicles are to use the Logistic Center gate.

1.5 SITE LAYOUT AND EXISTING STRUCTURES

Site layout and the location of structures existing within or adjacent to project site are provided in the Site Plans. See Specification 01110, paragraph 1.2, for the pertinent site history. See Section 01500A –TEMPORARY CONSTRUCTION FACILITIES for information on utility usage.

1.6 GEOLOGIC SETTING

1.6.1 General.

The geology of Fort Lewis reflects many of the processes and events that affected the Puget Sound Lowland. The series of Pleistocene glaciations and interglacial periods have left a distinct depositional record and include the following geological units in the order of sequence from most recent to latest:

- Vashon Glacial Drift deposits
- Undifferentiated glacial and nonglacial deposits
- Kitsap Nonglacial deposits
- Salmon Springs Glacial Drift and Puyallup Nonglacial deposits

These units are highly variable and may be discontinuous at the site. The Vashon Drift represents those units deposited during the Vashon Stage of the Fraser Glaciation and contains distinct units. In descending order, these units are Steilacoom Gravel, Vashon Recessional Outwash, Vashon Till, and Vashon Advance Outwash gravel and sand. Two undifferentiated units underlying the Vashon Glacial Drift deposits include undifferentiated glacial till and nonglacial deposits. The Kitsap formation underlies the Vashon Drift. The Salmon Springs Drift represents those units deposited during the Salmon Springs Glaciation. In descending order, the Salmon Springs units are the Recessional Outwash, Till, and

Advance Outwash. Underlying the Salmon Springs Drift deposits are nonglacial deposits of the Puyallup formation. These nonglacial deposits are characterized as alluvial deposits of interbedded silt and coarse-grained sediment with mudflow deposits and ash.

1.7 SITE CONTAMINATION

This information is provided to assist the contractor to evaluate possible worker exposure. Site chemical hazards are associated with metals, especially lead, released during training practices at the site.

Soil contamination was documented in the impact berm during a 2003 site investigation in the impact berm. The primary contaminant of concern above MTCA Method A Cleanup Levels for unrestricted use was lead. The maximum detected concentration at the site was 62,500 mg/kg. In addition, antimony and copper exceedances were detected only when lead was above 250 mg/kg.

1.7.1 Past Activities

1.7.1.1 Fort Lewis is a major military facility located approximately 6 miles south of Tacoma, Washington. Weapons qualifications and field training has occurred at Fort Lewis since around the time the Fort was established. The former Evergreen Infiltration Range (AOC 4-6.3) was identified from a 1951 aerial photograph and appears to have been in use until 1965. This site was used to condition soldiers to move under live fire and under combat type situations. Fixed-position machine guns firing into an impact berm provided the live fire training. The ammunition associated with infiltration range training during this era was the .30-caliber cartridge.

1.7.1.2 The Former Thompson Machine Gun sites (AOC 4-6.1 and 4-6.2) were identified on a 1944 map. Preliminary assessment activities did not confirm site use. However, recent magnetometer work confirmed the presence of .45 caliber bullets in isolated pockets. Soil sampling has not occurred at these sites, but will be conducted as part of the design efforts for removal.

1.7.2 Surface And Subsurface Soil Contaminates Of Concern (COCs).

Chemical hazards suspected to be present in the surface and subsurface media of the various investigation locations include heavy metals such as lead. For the metals the primary exposure route will be via inhalation of contaminated dust particles. The key to minimizing the potential for exposure is using adequate dust control measures, especially if the weather is windy. This will also be a primary concern during the summer months, which tend to be drier.

The primary constituents in bullet slugs consist of 97% lead and less than 2% antimony with trace amounts of copper. The primary contaminant of concern is lead, with potential traces in soils of antimony, arsenic, copper, tin, and zinc.

Lead was detected at concentrations above the MTCA criterion of 250 mg/kg at the impact berm at the former infiltration range. Maps showing the lead distribution are presented in the SI report. These maps were used as a tool to assist in delineating vertical and horizontal contamination and should not be interpreted as representing areas requiring remediation. Bullet fragments were present to at least 2 feet depth within the impact zone.

1.7.2.1 Front Side of Impact Berm

Soil concentrations greater than 250 mg/kg are present across the front face of the berm with highest concentrations located at the impact zone. Lead concentrations greater than 250 mg/kg are present down slope along the toe of the berm in the 0 to 1 foot depth interval. Concentrations remain significantly higher in the middle of the impact zone in the 1 to 2 foot depth interval, with decreasing lead concentrations encountered moving away from the impact zone. Maximum observed contamination observed 6 feet from the surface.

1.7.2.2 Back Side of Impact Berm

Soil lead concentrations greater than 250 mg/kg are present in the 0 to 1 foot depth interval across the back face of the impact berm. Lead contamination is highly heterogeneous due to the ricochet nature of the contamination source. Highest concentrations are primarily in the 1-foot depth interval with significant decrease of lead concentration in the 2-foot depth interval. Some limited lead contamination was encountered in samples collected within a trench approximately 75 feet SE from the berm.

1.7.3 Characteristics of COC

1.7.3.1 Arsenic

Arsenic is toxic by inhalation and ingestion of dusts and fumes or by inhalation of arsine gas. Trivalent arsenic compounds are the most toxic to humans, with significant corrosive effects on the skin, eyes, and mucous membranes. Dermatitis also frequently occurs, and skin sensitization and contact dermatitis may result from arsenic trioxide or pentoxide. Trivalent arsenic interacts with a number of sulfhydryl proteins and enzymes, altering their normal biological function. Ingestion of arsenic can result in fever, anorexia, cardiac abnormalities, and nerve (neurological) damage. Liver injury can accompany chronic exposure. The EPA currently classifies arsenic as a Class A, or confirmed, human carcinogen.

1.7.3.2 Lead

Inorganic lead exposure can occur via inhalation of dusts, ingestion of dusts, and skin and eye contact. The principal target organs of lead toxicity include the nervous system, kidneys, blood, gastrointestinal, and reproductive systems. Generalized symptoms of lead exposure include decreased physical fitness, fatigue, sleep disturbances, headaches, bone and muscle pain, constipation, abdominal pain, and decreased appetite. More severe exposure can result in anemia, severe gastrointestinal disturbance, "lead-line" on the gums, and neurological symptoms.

1.7.3.3 Copper

Copper exposure can occur via inhalation of dust or fume, ingestion, or skin and eye contact. Copper salts

can act as skin irritants, causing itching and dermatitis. Eye contact can result in severe damage, including corneal damage. Ingestion can result in irritation, but industrial exposure seldom results in damage because copper salts normally induce vomiting. Extensive exposure can damage the lungs, kidneys, skin, and liver.

1.7.3.3 Antimony

Antimony is used to make alloys, in bullets and fireworks, and for coating metals. The toxicity of antimony is of low order and is much less poisonous than arsenic. The symptoms of acute poisoning include weight loss, loss of hair, eosinophilia, and congestion of heart, liver, and kidney. The toxic routes are primarily inhalation of its dusts or fumes, and skin absorption.

1.7.3.4 Tin

The main route of exposure to tin and tin compounds is by eating food contaminated with these compounds. Swallowing large amounts of inorganic tin compounds may cause stomachaches, anemia, and liver and kidney problems. Humans exposed for a short period of time to some organic tin compounds have experienced skin and eye irritation and neurological problems; exposure to very high amounts may be lethal.

1.7.3.5 Zinc

Zinc is an ingredient in alloys such as brass and bronze. It is used as a protective coating to prevent corrosion of other metals, for galvanizing sheet iron, in utensils, and in dry cell batteries. Exposure of the metal to moist air produces a white carbonate coating. Exposure to zinc dust can cause irritation, coughing, sweating, and dyspnea. A 1-hour exposure to a concentration of 100 mg/m³ in air may manifest the foregoing symptoms in humans. Toxic effects from inhalation of its fumes include weakness, dryness of throat, chills, aching, fever, nausea, and vomiting. Many zinc salts can produce metal fume fever when the fumes are inhaled.

1.7.4 Human Health Risk Assessment.

1.7.4.1 Soils

The contamination is limited to metals. Depths and extents are discussed in Paragraph 1.7.2. Results from the investigation indicate that site activities have impacted the surface soils at the former ranges. Based on the refined conceptual site model, lead concentrations in soils pose a risk to potential human health and ecological receptors by direct contact, ingestion, root contact, or inhalation of dust.

1.7.5 Cleanup Levels

The target cleanup levels for soils shall be protective of Human Health and groundwater in accordance

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with Federal, State, and local laws and regulations. The target cleanup levels for soils for lead contamination shall follow MTCA A Unrestricted guidelines.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01270A

MEASUREMENT AND PAYMENT

02/94

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.

1.3 PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.3.1 Item 0001 Mobilization and Demobilization

1.3.1.1 Payment

Payment will be made for all work required to mobilize and demobilize from the Site, including, but not limited to: all personnel, necessary equipment, and supplies necessary to perform the excavation, separation, stabilization and hauling of soils from the site.

1.3.1.2 Unit of Measure

Unit of measure: lump sum.

1.3.2 Item 0002 Remedial Action Work Plan

1.3.2.1 Payment

Payment will be made for all work required to prepare the Remedial Action Management Plan (RAMP) in accordance with Section 01400 Management Plan. The Contract Price shall include, but not be limited to: all costs to prepare and produce a Preliminary Draft, Draft, and Final RAMP; address Government

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comments for all work plans listed in Section 01400; all reproduction and costs associated with submitting the required number of copies; attend all required in the Specifications; and all other work described in Section 01400 of the Specification to produce a RAMP approved by the Contracting Officer (CO) within the specified time frame. No additional payment will be made to the Contractor for delays or additional costs incurred due to the Contractor's failure to meet the criteria and schedule specified for preparation of a complete RAMP.

1.3.2.2 Unit of Measure

Unit of measure: lump sum.

1.3.3 Item 0003 All Work for Excavation, Separation, Stabilization and Hauling from Evergreen Berm

1.3.3.1 Payment

Payment will be made for all work required in Base Items for task 0003 All Work for Excavation, Separation, Stabilization and Hauling from Evergreen Berm. The Contract Price shall include, but not be limited to: incidentals not related to other base items; all costs for assisting the CO in discussions with regulatory agencies; temporary erosion control and sediment control measures; clearing and grubbing; site preparation; temporary access roads and ramps; developing Contractor staging and work areas; providing temporary facilities; setting-up and maintaining a local reference grid; all survey not incidental to other base items; administration and home office support; health and safety supplies; temporary office facilities and supplies; and all other work not included in other base items in this Section such as all analytical and all disposal/recycling of bullet waste stream.

1.3.4 Item 0004 Project Closeout Report

1.3.4.1 Payment

Payment will be made for all work required for preparation of a Project Closeout Report. The Contract Price shall include, but not be limited to: all costs to prepare and produce a Preliminary Draft, Draft, and Final Project Closeout Report; all reproduction and costs associated with submitting the required number of copies; attend all required in the Specifications; and all other work required for project closeout approved by the Contracting Officer (CO) within the specified time frame. No additional payment will be made to the Contractor for delays or additional costs incurred due to the Contractor's failure to meet the criteria and schedule specified for preparation of a complete Closeout Report. See Section 01450 for requirements for report.

1.3.4.2 Unit of Measure

Unit of measure: lump sum.

1.3.5 Item 0005 All Work for Excavation, Separation, Stabilization and Hauling from Evergreen Berm - Additional Volume (Option Item)

1.3.5.1 Payment

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Payment will be made for all work required in Base Items for task 0005 All Work for Excavation, Separation, Stabilization and Hauling from Evergreen Berm. The Contract Price shall include, but not be limited to: all personnel, equipment, and supplies necessary to excavate and process additional volume of soil from the berm; incidentals not related to other base items; administration and home office support; health and safety supplies; temporary office facilities and supplies; and all other work not included in other base items in this Section.

1.3.5.2 Unit of Measure

Unit of measure: lump sum.

1.3.6 Item 0006 All Work for Excavation, Separation, Stabilization, and Hauling from the Thompson Machine Gun Ranges (Option Item)

1.3.6.1 Payment

Payment will be made for all work required for task 0006 All Work for Excavation, Separation, Stabilization and Hauling from the Thompson Machine Gun Ranges. The Contract Price shall include, but not be limited to: incidentals not related to other base items; temporary erosion control and sediment control measures; clearing and grubbing; site preparation; temporary access roads and ramps; developing Contractor staging and work areas; all survey not incidental to other base items; health and safety supplies; temporary office facilities and supplies; and all other work not included in other base items in this Section such as all analytical and all disposal/recycling of bullet waste stream.

1.3.6.2 Unit of Measure

Unit of measure: lump sum.

1.3.7 Item 0007 All Work for Excavation, Separation, Stabilization, and Hauling from the Thompson Machine Gun Ranges (Option Item)

1.3.7.1 Payment

Payment will be made for all work required for task 0007 All Work for Excavation, Separation, Stabilization and Hauling from the Thompson Machine Gun Ranges. The Contract Price shall include, but not be limited to: incidentals not related to other base items; all costs for assisting the CO in discussions with regulatory agencies; temporary erosion control and sediment control measures; clearing and grubbing; site preparation; temporary access roads and ramps; developing Contractor staging and work areas; providing temporary facilities; setting-up and maintaining a local reference grid; all survey not incidental to other base items; administration and home office support; health and safety supplies; temporary office facilities and supplies; and all other work not included in other base items in this Section.

1.3.7.2 Unit of Measure

Unit of measure: lump sum.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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-- End of Section --

SECTION 01351A

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z358.1 (1998) Emergency Eyewash and Shower Equipment

AMERICAN PETROLEUM INSTITUTE (API)

API Pub 2219 (1999) Safe Operation of Vacuum Trucks in Petroleum Service

API RP 1604 (1996) Closure of Underground Petroleum Storage Tanks

API Std 2015 (2001) Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 20 Standards for Protection Against Radiation

29 CFR 1904 Recording and Reporting Occupational Injuries and Illnesses

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response

29 CFR 1926 Safety and Health Regulations for Construction

29 CFR 1926.65 Hazardous Waste Operations and Emergency Response

49 CFR 171 General Information, Regulations, and Definitions

49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

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U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

ER 385-1-95 (2003) Safety and Health Requirements for Ordnance and Explosives (OE) Operations

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH 85-115 (1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

1.2 DESCRIPTION OF WORK

This section requires contractors to implement practices and procedures for working safely and in compliance with OSHA and USACE regulation while performing cleanup activities on uncontrolled hazardous waste sites.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Work Zones; G, CENWS-EC-TB-ET

Drawings including initial work zone boundaries: Exclusion Zone (EZ), including restricted and regulated areas; Contamination Reduction Zone (CRZ); and Support Zone (SZ).

Decontamination Facilities; FIO, CENWS-EC-TB-ET

Drawings showing the layout of the personnel and equipment decontamination areas.

SD-03 Product Data

Exposure Monitoring/Air Sampling Program; G, CENWS-EC-TB-ET

Personnel exposure monitoring/sampling results.

Site Control Log; FIO, CENWS-EC-TB-ET

Record of each entry and exit into the site, as specified.

Vehicle Inspection; FIO, CENWS-EC-TB-ET

In accordance with DOT 4500.9R, the Contractor shall inspect motor vehicles used to transport hazardous materials in accordance with 49 CFR and DOT safety regulations and shall complete DD Form 626, Motor Vehicle Inspection.

Employee Certificates; FIO, CENWS-EC-TB-ET

A certificate for each worker performing cleanup operations with potential for contaminant-related occupational exposure signed by the safety and health manager and the occupational physician indicating the workers meet the training and medical surveillance requirements of this contract (Attachment 01351-B).

1.4 REGULATORY REQUIREMENTS

Work performed under this contract shall comply with EM 385-1-1, OSHA requirements in 29 CFR 1910 and 29 CFR 1926, especially OSHA's Standards 29 CFR 1926.65 and 29 CFR 1910.120 and state specific OSHA requirements where applicable. Matters of interpretation of standards shall be submitted to the Contracting Officer for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 PRECONSTRUCTION SAFETY CONFERENCE

A preconstruction safety conference shall be conducted prior to the start of site activities and after submission of the contractor's APP/SSHP. The objective of the meeting will be to discuss health and safety concerns related to the impending work, discuss project health and safety organization and expectations, review and answer comments and concerns regarding the APP/SSHP or other health and safety concerns the contractor may have. The Contractor shall ensure that those individuals responsible for health and safety at the project level are available and attend this meeting.

1.6 ACCIDENT PREVENTION PLAN/SITE SAFETY AND HEALTH PLAN (APP/SSHP)

The Contractor shall develop and implement a Site Safety and Health Plan that shall be attached to the Accident Prevention Plan (APP) as an appendix (APP/SSHP). The APP/SSHP shall address all occupational safety and health hazards (traditional construction as well as contaminant-related hazards) associated with cleanup operations. The APP/SSHP shall cover each SSHP element in section 28.A.01 of EM 385-1-1 and each APP element in Appendix A of EM 385-1-1. There are overlapping elements in Section 28.A.01 and Appendix A of EM 385-1-1. The APP/SSHP is a dynamic document, subject to change as project operations/execution change. The APP/SSHP will require modification to address changing and previously unidentified health and safety conditions. It is the Contractor's responsibility to ensure that the APP/SSHP is updated accordingly. Amendments to the APP/SSHP will be submitted to the Contracting Officer as the APP/SSHP is updated. The APP/SSHP will contain all updates.

1.6.1 Acceptance and Modifications

Prior to submittal, the APP/SSHP shall be signed and dated by the Safety and Health Manager and the Site Superintendent. The APP/SSHP shall be submitted for review within 30 calendar days after award of contract. The Contractor shall allow 30 calendar days in the schedule for the Government's review. The Final SSHP shall require approval by the CO before commencing site work. Deficiencies in the APP/SSHP will be discussed at the preconstruction safety conference, and the APP/SSHP shall be revised to correct the deficiencies and resubmitted for acceptance. Onsite work shall not begin until the plan has been accepted. A copy of the written APP/SSHP shall be maintained onsite. Changes and modifications to the accepted APP/SSHP shall be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Should any unforeseen hazard become evident during the performance of the work, the Site Safety and Health Officer (SSHO) shall bring such hazard to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer for resolution as soon as possible. In the interim, necessary action shall be taken to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Work will not commence on site until safe working conditions are established as approved by the Contracting Officer. Disregard for the provisions of this specification or the accepted APP/SSHP shall be cause for stopping work until the matter has been rectified.

1.6.2 Availability

The APP/SSHP shall be made available in accordance with 29 CFR 1910.120, (b)(1)(v) and 29 CFR 1926.65, (b)(1)(v).

1.7 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

1.7.1 Project/Site Conditions

The Contractor shall refer to the following reports and information for the site description and contamination characterization. They are available upon request from the USACE, Seattle District, CENWS-EC-TB-ET.

1.7.1.1 CERCLA Documents

N/A

1.7.1.2 RCRA Documents

Fort Lewis Agreed Order RI/FS, Range SI, Cleanup Action Plan.

1.7.1.3 UST Documents

N/A

1.7.2 Ordnance and Explosives (OE)

If explosives, chemical surety and warfare materials (CSM/CWM), or unexploded ordnance (UXO) are discovered at any time during operations, the Contractor shall immediately stop operations in the affected area, mark the location, notify onsite personnel of the OEW hazard and the area's restriction, and notify the Contractor Officer. The Government will make

appropriate arrangements for evaluation and proper disposal of each device. The SSHP shall specifically address procedure to be followed, if known or potential CSM/CWM, ordnance, or other such items are encountered during any phase of fieldwork.

1.8 TASK SPECIFIC HAZARDS, INITIAL PPE, HAZWOPER MEDICAL SURVEILLANCE AND TRAINING APPLICABILITY

Task specific occupational hazards, task specific HAZWOPER medical surveillance and training applicability and task specific initial PPE requirements for the project are listed on the **Task Hazard and Control Requirements Sheets** at the end of this section. It is the Contractor's responsibility to reevaluate occupational safety and health hazards as the work progresses and to adjust the PPE and onsite operations, if necessary, so that the work is performed safely and in compliance with occupational safety and health regulations.

1.9 STAFF ORGANIZATION, QUALIFICATION AND RESPONSIBILITIES

1.9.1 Safety and Health Manager

Safety and Health Manager shall be an Industrial Hygienist certified by the American Board of Industrial Hygiene.

1). The Safety and Health Manager shall have the following additional qualifications:

- a. A minimum of 3 years experience in developing and implementing safety and health programs at hazardous waste sites.
- b. Documented experience in supervising professional and technician level personnel.
- c. Documented experience in developing worker exposure assessment programs and air monitoring programs and techniques.
- d. Documented experience in managing personal protective equipment programs and conducting PPE hazard evaluations for the types of activities and hazards likely to be encountered on the project.
- e. Working knowledge of state and Federal occupational safety and health regulations.

2). The Safety and Health Manager shall:

- a. Be responsible for the development, implementation, oversight, and enforcement of the APP/SSHP.
- b. Sign and date the APP/SSHP prior to submittal.
- c. Be available for emergencies.
- d. Provide onsite consultation as needed to ensure the APP/SSHP is fully implemented.

- e. Coordinate any modifications to the APP/SSHP with the Site Superintendent, the SSHO, and the Contracting Officer.
- f. Provide continued support for upgrading/downgrading of the level of personal protection.
- g. Be responsible for evaluating air monitoring data and recommending changes to engineering controls, work practices, and PPE.
- h. Review accident reports and results of daily inspections.
- i. Serve as a member of the Contractor's quality control staff.

1.9.2 Additional Certified Health and Safety Support Personnel

The Contractor shall retain safety support from a safety professional certified by the Board of Certified Safety professionals to develop written occupational safety procedures for the APP/SSHP and, when necessary, visit the site to help implement APP/SSHP requirements.

1.9.3 Site Safety and Health Officer

An individual and one alternate shall be designated the Site Safety and Health Officer (SSHO). The name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and alternate shall be included in the APP/SSHP.

1). The SSHO shall have the following qualifications:

- a. A minimum of 2 years experience in implementing safety and health programs at hazardous waste sites where Level C personal protective equipment was required.
- b. Documented experience in construction techniques and construction safety procedures.
- c. Working knowledge of Federal and state occupational safety and health regulations.
- d. Specific training in personal and respiratory protective equipment, in the proper use of air monitoring instruments and air sampling methods.

2). The Site Safety and Health Officer shall:

- a. Represent the Safety and Health Manager in onsite training and the day-to-day onsite implementation and enforcement of the accepted APP/SSHP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO can have collateral duties in addition to Safety and Health related duties. If operations are performed during more than 1 work shift per day, a different site Safety and Health Officer shall be present for each shift.

c. Have authority to ensure site compliance with specified safety and health requirements, Federal, state and OSHA regulations and all aspects of the APP/SSHP including, but not limited to, activity hazard analyses, air monitoring, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, spill containment program, and preparation of records by performing a daily safety and health inspection and documenting results on the Daily Safety Inspection Log in accordance with 29 CFR 1904.

d. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.

e. Consult with and coordinate any modifications to the APP/SSHP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer.

f. Serve as a member of the Contractor's quality control staff on matters relating to safety and health.

g. Conduct accident investigations and prepare accident reports.

h. Conduct daily safety inspection and document safety and health findings into the Daily Safety Inspection Log. Track noted safety and health deficiencies to ensure that they are corrected.

i. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.

1.9.4 Occupational Physician

The services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible, shall be utilized. The physician shall be familiar with this site's hazards and the scope of this project. The medical consultant's name, qualifications, and knowledge of the site's conditions and proposed activities shall be included in the APP/SSHP. The physician shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1910.120, (f) and 29 CFR 1926.65, (f) and paragraph MEDICAL SURVEILLANCE.

1.9.5 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Blood Borne Pathogens Standard of 29 CFR 1910, Section .1030. These persons may perform other duties but shall be immediately available to render first aid when needed.

August 10, 2004

Evergreen Former Infiltration Range Remedial Action, Fort Lewis, WA

1.10 TRAINING

The Contractor's training program for workers performing cleanup operations and who will be exposed to contaminants shall meet the following requirements. Sample form is attached (Attachment 01351-A and B).

1.10.1 General Hazardous Waste Operations Training

All Personnel performing duties with potential for exposure to onsite contaminants shall meet and maintain the following 29 CFR 1910.120/29 CFR 1926.65 (e) training requirements:

- a. 40 hours of off site hazardous waste instruction.
- b. 3 days actual field experience under the direct supervision of a trained experienced supervisor.
- c. 8 hours refresher training annually.

Onsite supervisors shall have an additional 8 hours management and supervisor training specified in 29 CFR 1910.120/29 CFR 1926.65 (e) (4).

1.10.2 Pre-entry Briefing

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, shall attend a site-specific safety and health training session. This session shall be conducted by the Site Safety and Health Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Procedures and contents of the accepted APP/SSHP and Sections 01.B.02 and 28.D.03 of EM 385-1-1 shall be thoroughly discussed. Each employee shall sign a training log to acknowledge attendance and understanding of the training. The Contracting Officer shall be notified at least 7 calendar days prior to the initial site-specific training session so government personnel involved in the project may attend.

1.10.3 Periodic Sessions

Periodic onsite training shall be conducted by the SSHO at least weekly for personnel assigned to work at the site during the following week. The training shall address safety and health procedures, work practices, any changes in the APP/SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. Should an operational change affecting onsite fieldwork be made, a meeting prior to implementation of the change shall be convened to explain safety and health procedures. Site-specific training sessions for new personnel, visitors, and suppliers shall be conducted by the SSHO using the training curriculum outlines developed by the Safety and Health Manager. Each employee shall sign a training log to acknowledge attendance and understanding of the training.

1.11 PERSONAL PROTECTIVE EQUIPMENT

1.11.1 Site Specific PPE Program

Onsite personnel exposed to contaminants shall be provided with appropriate personal protective equipment. Components of levels of protection (B, C, D and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Only respirators approved by NIOSH shall be used. Commercially available PPE, used to protect against chemical agent, shall be approved by the director of Army Safety through the Chemical Agent Safety and Health Policy Action Committee (CASHPAC). Protective equipment and clothing shall be kept clean and well maintained. The PPE section of the APP/SSHP shall include site-specific procedures to determine PPE program effectiveness and for onsite fit testing of respirators, cleaning, maintenance, inspection, and storage of PPE.

1.11.2 Levels of Protection

The Safety and Health Manager shall establish and evaluate as the work progresses the levels of protection for each work activity. The Safety and Health Manager shall also establish action levels for upgrade or downgrade in levels of PPE. Protocols and the communication network for changing the level of protection shall be described in the SSHP. The PPE evaluation protocol shall address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, individual medical considerations, etc.

1.11.2.1 Initial PPE Components

The following items constitute minimum protective clothing and equipment ensembles to be utilized during this project: NIOSH, OSHA, USCG, EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985, NIOSH 85-115; EM 385-1-1, Section 5 and Appendix L; 29 CFR 1910 Section .120, Appendix B; and 29 CFR 1926 Section .65, Appendix B. The contractor's plan shall cover PPE for levels B, C, And D. Components must be included that provide protection for the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. Specify the types of materials (e.g., neoprene, nitrile, etc.) for gloves and boots and types of cartridges for air purifying respirators based on site-specific contaminants.

Level D. A work uniform affording minimal protection, used for nuisance contamination only; along with hard hat and boots/shoes that have a steel toe and shank; outer boot cover will be chemical resistant, disposable boot covers, eye protection, hearing protection, work gloves, and an orange reflective vest. Work gloves will be worn as necessary to avoid skin contact with sharp objects or rough edges on equipment. Level D shall be used when (1) the atmosphere contains no know occupational hazard; and (2) work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Level C. Level D gear along with (1) a full-face air purified respirator using contaminant-specific cartridges, (2) hooded, chemical resistant clothes with (3) outer and inner chemical-resistant gloves if in contact with liquids. Level C gear shall be used when (1) the atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin; (2) the types of air contaminants have been identified, concentrations

measured, and an air-purifying respirator is available that can remove the contaminants; and (3) all criteria for the use of air-purifying respirators are met.

Level B and Level A.
Not required.

1.11.3 PPE for Government Personnel

Government personnel are responsible for obtaining and wearing the appropriate level of PPE, as determined by the Contractor, at all times while on site. The Contractor is not responsible for providing PPE to Government personnel, maintaining Government personnel's PPE, or training Government personnel in proper use of PPE.

1.12 MEDICAL SURVEILLANCE PROGRAM

The Contractor's medical surveillance program for workers performing cleanup operations and who will be exposed to contaminants shall meet 29 CFR 1910.120/29 CFR 1926.65 (f) and the following requirements. The Contractor shall assure the Occupational Physician or the physician's designee performs the physical examinations and reviews examination results. Participation in the medical surveillance program shall be without cost to the employee, without loss of pay and at a reasonable time and place.

1.12.1 Frequency of Examinations

Medical surveillance program participants shall receive medical examinations and consultations on the following schedule:

- a. Every 12 months
- b. If and when the participant develops signs and symptoms indicating a possible overexposure due to an uncontrolled release of a hazardous substance on the project.
- c. Upon termination or reassignment to a job where medical surveillance program participation is not required, unless his/her previous annual examination/consultation was less than 6 months prior to reassignment or termination.
- d. On a schedule specified by the occupational physician.

1.12.2 Content of Examinations

The physical examination/consultation shall verify the following information about medical surveillance program participants:

- a. Baseline health conditions and exposure history.
- b. Allergies/sensitivity/susceptibility to hazardous substances exposure.
- c. Ability to wear personal protective equipment inclusive of NIOSH certified respirators under extreme temperature conditions.

- d. Fitness to perform assigned duties.

The Contractor shall provide the occupational physician with the following information for each medical surveillance program participant:

- a. Information on the employee's anticipated or measured exposure.
- b. A description of any PPE used or to be used.
- c. A description of the employee's duties as they relate to the employee's exposures (including physical demands on the employee and heat/cold stress).
- d. A copy of 29 CFR 1910.120, or 29 CFR 1926.65.
- e. Information from previous examinations not readily available to the examining physician.
- f. A copy of Section 5.0 of NIOSH 85-115.
- g. Information required by 29 CFR 1910 Section .134.

1.12.3 Physician's Written Opinion

A copy of the physician's written opinion for each employee shall be obtained and furnished to the Safety and Health Manager; and the employee before work begins. The opinion shall address the employee's ability to perform hazardous waste site remediation work and shall contain the following:

- a. The physician's verification of the employee's fitness to perform duties as well as recommended limitations upon the employee's assigned work and/or PPE usage.
- b. The physician's opinion about increased risk to the employee's health resulting from work; and
- c. A statement that the employee has been informed and advised about the results of the examination.

1.12.4 Employee Certificates

Documentation that employees have received medical examinations shall be provided on employee certificates.

1.12.5 Site Specific Medical Surveillance

Prior to onsite work, medical surveillance program participants shall undergo site specific medical testing for lead and arsenic. The Contractor shall provide an explanation of the site specific medical surveillance testing in the APP/SSHP.

1.13 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

The Safety and Health Manager shall prepare and implement an exposure monitoring/air sampling program to identify and quantify safety and health

hazards and airborne levels of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment for affected site personnel. Include action levels for upgrading/downgrading PPE in the program.

1.14 HEAT STRESS MONITORING AND MANAGEMENT

The Contractor shall document in the APP/SSHP and implement the procedures and practices in section 06.J. in EM 385-1-1 to monitor and manage heat stress.

1.15 SPILL AND DISCHARGE CONTROL

Written spill and discharge containment/control procedures shall be developed and implemented. These procedures shall address drum and container handling, opening, sampling, shipping and transport. These procedures shall describe prevention measures, such as building berms or dikes; spill control measures and material to be used (e.g. booms, vermiculite); location of the spill control material; personal protective equipment required to cleanup spills; disposal of contaminated material; and who is responsible to report the spill. Storage of contaminated material or hazardous materials shall be appropriately bermed, diked and/or contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, and/or human health or the environment are threatened, the National Response Center, the state, Fort Lewis Environment and Natural Resources Department, Fort Lewis Fire Department, and the Contracting Officer shall be notified as soon as possible.

1.16. General Site Rules/Prohibitions

Personnel must sign in and out each time they enter or leave the Site. Eating and drinking are only allowed in areas designated by the onsite USACE Field Representative. Smoking is not allowed within the property boundaries or within 50 feet of fuel and propane tanks. Keep all tools in good repair. Make sure the correct tool is used for each job. Practice good housekeeping at all times. Immediately clean up any grease, oil, or hydraulic fluid. Do not use flammable solvents to clean up oil and grease. Keep all passageways, aisles, stairs, and exits clear of tools, equipment, and other materials at all times. Properly store all chemicals and equipment. No firearms, alcoholic beverages, or illegal drugs are allowed on Site. The vehicle speed limit is 5 miles per hour (mph). This speed limit helps in reducing generation of dusts and reduces the effort required for dust control activities.

1.16.1 DIGGING PERMITS

The Contractor shall also coordinate digging permits with the Fort Lewis Department of Public Works in Building 2015.

1.17 HOT WORK

Prior to conducting hot work, the Contractor shall obtain a Hot Work Permit from the Fort Lewis Fire Department. The permit shall describe compliance with the following procedures. An individual at each hot work site shall

be designated as a fire watch. This person's sole responsibility shall be to monitor the hot work and have immediate access to the fire extinguisher located at each hot work site. A new permit shall be obtained at the start of each work shift during which hot work will be conducted.

1.17.1 Ignition Sources

Potential ignition sources shall be identified. Procedures, controls, and work practices shall be specified and shall be in accordance with EM 385-1-1 (see also paragraph 1.17.4 below).

1.17.2 Fire Protection And Prevention

Procedures, controls, and work practices shall be specified and shall be in accordance with EM 385-1-1, Section 9.

1.17.3 Electrical Safety

Procedures, controls, and work practices pertaining to electrical safety shall be specified and shall be in accordance with EM 385-1-1.

1.17.4 Excavation Safety

Any tasks involving excavation shall be identified. Procedures, controls, and work practices shall be specified and shall be in accordance with EM 385-1-1.

1.17.5 Guarding Of Machinery And Equipment

Machinery and equipment requiring guards shall be identified. Machinery and equipment guarding shall be in compliance with EM 385-1-1.

1.17.6 Lockout/Tagout

Any tasks which require lockout/tagout shall be identified as well as procedures to be followed. Procedures shall be in compliance with EM 385-1-1.

1.17.7 Fall Protection

Fall protection plans shall be prepared by the Contractor to address any work above 6 feet elevation. In addition to the provisions of EM 385-1-1, the following safety measures are required. Prior to commencement of Work in elevated areas, the Contractor shall submit drawings depicting all provisions of his positive fall protection system. If safety belts and harnesses are used, the positive fall protection plan shall address fall restraint versus fall arrest. Body belts shall only be used for fall restraint; they will not be used for fall arrest.

1.17.8 Hazard Communication

The Contractor shall address hazard communication for site workers in accordance with 29 CFR 1910 Section .1200. Normally scheduled (e.g. weekly) site safety meetings, as well as any additional necessary meetings, shall be used to communicate site hazards.

1.17.9 Illumination

Sufficient lighting for all areas of the Site shall be provided to meet the requirements specified in EM 385-1-1, Table 7-1.

1.17.10 Sanitation

Sanitation shall meet the requirements of EM 385-1-1. Solvents shall not be used to clean hands. Employees shall wash their hands thoroughly with soap/mild detergent and water after using toilet facilities and before eating. The Contractor shall provide sanitation facilities on site.

1.17.11 Engineering Controls

Use of Engineering Controls, such as watering for dust suppression, to minimize generation of dust shall be specified in the SSHP.

The Contractor shall thoroughly evaluate the hazards associated with performing all required tasks.

Noise control measures must be implemented where possible. Noise levels shall be in compliance with WAC 173-60 as well as for worker safety (29 CFR 1910.95). Refer to EM 385-1-1.

1.17.12 Process Safety Management

The Contractor must evaluate process safety management with regard to the requirements of 29 CFR 1910 Section .119.

1.17.13 Signs And Labels

The Contractor shall use signs and labels to clearly mark supplies, limits of hard hat area, and key areas within the project limits ((exclusion zone, contamination reduction zone, support zone), etc.

1.40 SITE CONTROL MEASURES

1.40.1 Work Zones

Initial anticipated work zone boundaries (exclusion zone, contamination reduction zone, support zone, all access points and decontamination areas) are to be clearly delineated on the site drawings. Delineation of work zone boundaries shall be based on the contamination characterization data and the hazard/risk analysis to be performed as described in paragraph: HAZARD/RISK ANALYSIS. As work progresses and field conditions are monitored, work zone boundaries may be modified (and site drawings modified) with approval of the Contracting Officer. Work zones shall be clearly identified and marked in the field (using fences, tape, signs, etc.). A site map, showing work zone boundaries and locations of decontamination facilities, shall be posted in a common area, accessible to all workers, that is also protected from the weather. Work zones shall consist of the following:

- a. Exclusion Zone (EZ): The exclusion zone is the area where hazardous contamination is either known or expected to occur and the

greatest potential for exposure exists. Entry into this area shall be controlled and exit may only be made through the CRZ.

b. Contamination Reduction Zone (CRZ): The CRZ is the transition area between the Exclusion Zone and the Support Zone. The personnel and equipment decontamination areas shall be separate and unique areas located in the CRZ.

c. Support Zone (SZ): The Support Zone is defined as areas of the site, other than exclusion zones and contamination reduction zones, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from hazardous waste operations. The Support Zone shall be secured against active or passive contamination. Parking areas, bathroom facilities, and other support facilities shall be located in the Support Zone.

1.40.2 Site Control Log (Attachment A)

A log of personnel visiting, entering, or working on the site shall be maintained. The log shall include the following: date, name, agency or company, time entering and exiting site, time entering and exiting the exclusion zone (if applicable). Before visitors are allowed to enter the Contamination Reduction Zone or Exclusion Zone, they shall show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and shall fill out a Certificate of Worker or Visitor Acknowledgment. This visitor information, including date, shall be recorded in the log.

1.40.3 Communication

An employee alarm system that has adequate means of on and off site communication shall be provided and installed in accordance with 29 CFR 1910 Section .165. The means of communication shall be able to be perceived above ambient noise or light levels by employees in the affected portions of the workplace. The signals shall be distinctive and recognizable as messages to evacuate or to perform critical operations.

1.40.4 Site Security

The following site security shall be provided: Warning signs, Posted site access procedures, and orange plastic construction fencing placed along the perimeter of the project that is adjacent to any road. Signs shall be printed in bold large letters on contrasting backgrounds. Signs shall be visible from all points where entry might occur and at such distances from the restricted area that employees may read the signs and take necessary protective steps before entering.

1.41 PERSONAL HYGIENE AND DECONTAMINATION

Personnel entering the Exclusion or Contamination Reduction Zones or otherwise exposed to contaminated solids shall decontaminate themselves and their equipment prior to exiting the contamination reduction zone (CRZ) and entering the support zone. Chapter 10.0 of NIOSH 85-115 shall be consulted when preparing decontamination procedures. A detailed discussion of personal hygiene and decontamination facilities and procedures to be followed by site workers shall be submitted as part of the APP/SSHP.

Employees shall be trained in the procedures and the procedures shall be enforced throughout site operations.

1.41.1 Decontamination Facilities

The Contractor shall initially set up a decontamination line in the CRZ. Employees shall exit the exclusion zone through the CRZ and shall implement the following decontamination procedures and techniques: Scrub and rinse boots and water proof outer garments, remove all outer garments, and wash hands and face. It is the Site Safety and Health Officer's responsibility to recommend techniques to improve personnel decontamination procedures, if necessary. Initial personnel decontamination equipment includes the following: Level D.

1.41.2 Equipment Decontamination

Vehicles and equipment used in the EZ shall be decontaminated in the CRZ prior to leaving the site.

1.41.2.1 Facilities for Equipment and Personnel

A vehicle/equipment decontamination station shall be provided within the CRZ for decontaminating vehicles and equipment leaving the EZ. A decontamination station pad, which meets the site decontamination needs, shall be constructed for all vehicles and larger equipment decontamination. The pad shall be constructed to capture decontamination water, including over spray, and shall allow for collection and removal of the decontamination water using sumps, dikes and ditches as required. High pressure, low volume, water wash area for equipment and vehicles should be used. A designated "clean area" in the CRZ for performing equipment maintenance. This area shall be used when personnel are required by normal practices to come in contact with the ground, i.e., crawling under a vehicle to change engine oil. Equipment within the EZ or CRZ shall be decontaminated before maintenance is performed.

1.41.2.2 Procedures

Procedures for equipment decontamination shall be developed and utilized to prevent the spread of contamination into the SZ and offsite areas. These procedures shall address disposal of contaminated products and spent materials used on the site, including containers, fluids, oils, etc. Any item taken into the EZ shall be assumed to be contaminated and shall be inspected and decontaminated before leaving CRZ. Vehicles, equipment, and materials shall be cleaned and decontaminated prior to leaving the site. Construction material shall be handled in such a way as to minimize the potential for contaminants being spread and/or carried offsite. Prior to exiting the site, vehicles and equipment shall be monitored to ensure the adequacy of decontamination.

1.42 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

The following items, as a minimum, shall be maintained onsite and available for immediate use:

- a. First aid equipment and supplies approved by the consulting physician.

b. Emergency eyewashes, and hand/face wash facility that complies with ANSI Z358.1.

c. Fire extinguishers of sufficient size and type shall be provided at site facilities and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk.

1.43 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

An Emergency Response Plan, that meets the requirements of 29 CFR 1910.120 (l) and 29 CFR 1926.65 (l), shall be developed and implemented as a section of the APP/SSHP. In the event of any emergency associated with remedial action, the Contractor shall, without delay, alert all onsite employees and the USACE Field Representative, and offsite emergency responders that there is an emergency situation; if safe to do so, take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer, Fort Lewis Fire Department and the Fort Lewis Environmental and Natural Resources Department; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Employees that are required to respond to hazardous emergency situations shall be trained to their level of responsibility according to 29 CFR 1910.120 (q) and 29 CFR 1926.65 (q) requirements. The plan shall be rehearsed regularly as part of the overall training program for site operations. The plan shall be reviewed periodically and revised as necessary to reflect new or changing site conditions or information. Copies of the Emergency Response Portion of the accepted APP/SSHP shall be provided to the affected local emergency response agencies, to include the Fort Lewis Fire Department and the Fort Lewis Environmental and Natural Resources Department. The following elements, as a minimum, shall be addressed in the plan:

a. Pre-emergency planning. The Contractor shall coordinate with local emergency response providers during preparation of the Emergency Response Plan. At a minimum, coordinate with local fire, rescue, hazardous materials response teams, police and emergency medical providers to assure all organizations are capable and willing to respond to and provide services for on-site emergencies. The Contractor shall ensure the Emergency Response Plan for the site is compatible and integrated with the local fire, rescue, medical and police security services available from local emergency response planning agencies.

b. Personnel roles, lines of authority, communications for emergencies.

c. Emergency recognition and prevention.

d. Site topography, layout, and prevailing weather conditions.

e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).

f. Specific procedures for decontamination and medical treatment of injured personnel.

g. Route maps to Fort Lewis Madigan Army Medical Center . Site-support vehicles shall be equipped with maps. At the beginning of project operations, drivers of the support vehicles shall become familiar with the emergency route and the travel time required.

h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and/or their alternates).

i. Criteria for initiating community alert program, contacts, and responsibilities.

j. Procedures for reporting incidents to appropriate government agencies (sample form attached; see attachment 01351-D). In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies shall be immediately notified. In addition, the Contracting Officer and the local district safety office shall be verbally notified immediately and receive a written notification within 24 hours. The report shall include the following items:

- (1) Name, organization, telephone number, and location of the Contractor.
- (2) Name and title of the person(s) reporting.
- (3) Date and time of the incident.
- (4) Location of the incident, i.e., site location, facility name.
- (5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.
- (6) Cause of the incident, if known.
- (7) Casualties (fatalities, disabling injuries).
- (8) Details of any existing chemical hazard or contamination.
- (9) Estimated property damage, if applicable.
- (10) Nature of damage, effect on contract schedule.
- (11) Action taken to ensure safety and security.
- (12) Other damage or injuries sustained, public or private.

k. Procedures for critique of emergency responses and follow-up.

1.44 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a Contractor-generated certificate of worker/visitor acknowledgement shall be completed and submitted for each visitor allowed to enter contamination reduction or exclusion zones, and for each employee, following the example certificate at the end of this section.

1.45 INSPECTIONS

The SSHO's Daily Inspection Logs shall be attached to and submitted with the Daily Quality Control reports. Each entry shall include the following: date, work area checked, employees present in work area, PPE and work equipment being used in each area, special safety and health issues and notes, and signature of preparer.

1.46 SAFETY AND HEALTH PHASE-OUT REPORT

A Safety and Health Phase-Out Report shall be submitted in conjunction with the project close out report and will be received prior to final acceptance of the work. The following minimum information shall be included:

- a. Summary of the overall performance of safety and health (accidents or incidents including near misses, unusual events, lessons learned, etc.).
- b. Final decontamination documentation including procedures and techniques used to decontaminate equipment, vehicles, and on site facilities.
- c. Summary of exposure monitoring and air sampling accomplished during the project.
- d. Signatures of Safety and Health Manager and SSHO.

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PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

Evergreen Former Infiltration Range Remedial Action, Fort Lewis, WA

PROJECT NAME _____ CONTRACT NO. _____
PROJECT ADDRESS _____
CONTRACTOR'S NAME _____
[EMPLOYEE'S][VISITOR'S] NAME _____

Name _____ Date _____

Date Completed 40-hour training: _____
 8-hour supervisory: _____
 8-hour refresher: _____

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in [The Contractor's] [my Employer's] Respiratory Protection program. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy.

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months, which was paid for by my employer. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's industrial hygienist evaluated the

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medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

___ were NOT identified physical limitations to performing the required work tasks.

___ were identified physical limitations to performing the required work tasks.

Date medical exam completed _____

[Employee's][Visitor's] Signature _____

Date _____ Printed Name _____

Social Security Number _____

The Contractor's Site Safety and Health Officer Signature _____

Date _____ Printed Name _____

Social Security Number _____

Attachment 01351-B
SAMPLE FORM FOR TRAINING CERTIFICATE

FORMAL TRAINING: I have completed the following formal training courses that meet OSHA's requirements

Date Completed _____

40-hour training: _____

24 hours experience under HTRW supervisor: _____

8-hour supervisory: _____ 8-hour refresher: _____

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. The Site Safety and Health Officer conducted the training.

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in [the Contractor's] [my Employer's] Respiratory Protection program. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy. _____

RESPIRATOR FIT-TEST TRAINING: I have been trained in the proper selection, fit, use, care, cleaning, and maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in [the Contractor's] [my employer's] Respiratory Program and have received a satisfactory fit. [I have been assigned my individual respirator.] I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time. _____

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months which was paid for by my employer. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's industrial hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

___were no limitations to performing the required work tasks;

___were identified physical limitations to performing the required work tasks.

Date medical exam completed _____

[Employee's][Visitor's] Signature _____

Date _____

Printed Name _____

Contractor's Site Safety and Health Officer Signature _____

Date _____

Printed Name _____

Attachment 01351-C
SAMPLE FORM FOR ON-SITE SAFETY MEETING/TAILGATE MEETING DOCUMENTATION

Project Name: _____	Date: _____
Location: _____	Start Time: _____
Conducted By: _____	Stop Time: _____

Topics Covered:	_____

Comments:	_____

ATTENDANCE:	
Name (print): _____	Signature: _____
Name (print): _____	Signature: _____
Name (print): _____	Signature: _____
Name (print): _____	Signature: _____
Name (print): _____	Signature: _____

**Attachment 01351-D
SAMPLE FORM FOR HEALTH AND SAFETY INCIDENT REPORT**

Project Name: _____ Project Number: _____ Date of Incident: _____ Time of Incident: _____ Location: _____ _____ _____	TYPE OF INCIDENT (Check all applicable items) <input type="checkbox"/> Illness <input type="checkbox"/> Fire, explosion, flash <input type="checkbox"/> Injury <input type="checkbox"/> Unexpected exposure <input type="checkbox"/> Property damage <input type="checkbox"/> Vehicular accident <input type="checkbox"/> Health and safety infraction <input type="checkbox"/> Other (describe) _____ _____			
DESCRIPTION OF INCIDENT (Describe what happened and possible cause. Identify individual involved, witnesses, and their affiliations; and describe emergency or corrective action taken. Attach additional sheets, drawings, or photographs as needed.) _____ _____ _____ _____ _____ _____				
Reporter: _____ <table style="width: 100%; border: none;"> <tr> <td style="width: 40%; border-bottom: 1px solid black;">Print Name</td> <td style="width: 30%; border-bottom: 1px solid black;">Signature</td> <td style="width: 30%; border-bottom: 1px solid black;">Date</td> </tr> </table>		Print Name	Signature	Date
Print Name	Signature	Date		
Reporter must deliver this report to the Operating Unit Health & Safety Officer within 24 hours of the reported incident for medical treatment cases and within five working days for other incidents.				
Reviewed by: _____ <div style="display: flex; justify-content: space-between;"> Operating Unit Health and Safety Officer Date </div>				
Distribution by Health and Safety Officer: <ul style="list-style-type: none"> - USACE Health and Safety Officer - Contractor Health and Safety Officer - Project Manager - Personnel Office (medical treatment cases only) 				

Attachment 01351-E
SAMPLE FORM FOR Task Hazard and Control Requirements Sheet

Task			
Initial Anticipated Hazards			
Initial PPE			
Initial Controls			
Initial Exposure Monitoring			
HAZWOPER Medical Surveillance Required			
HAZWOPER Training Required			

SECTION 01355A

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328	Definitions
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps on Engineers Safety and Health Requirements Manual
WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate, which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

1.2.5 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

1.2.6 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.2.7 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this

contract. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

The Contractor must that a complete inventory of all hazardous materials to be used on this project and their appropriate MSDS must be turned in to the Pollution Prevention office before works begins. The point of contact for HM inventories is Anabel Roberts, (253) 966-6466.

1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, CENWS-EC-TB-ET

The environmental protection plan.

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the

Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is (are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.
- i. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a

substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1 and all applicable requirements of Fort Lewis Environment and Natural Resources Division (ENRD). This plan shall include as a minimum:

1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer and the Fort Lewis Fire Department. Secondary notification shall be made to (253) 967-4786 or 3268 in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.
2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
3. Training requirements for Contractor's personnel and methods of accomplishing the training.
4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
6. The methods and procedures to be used for expeditious contaminant cleanup.
- j. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction. The Contractor shall attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. The report shall be submitted on the first working day after the first quarter that non-hazardous solid waste has been disposed and/or diverted and shall be for the previous quarter (e.g. the first working day of January, April, July, and October). The report shall indicate the total amount of waste generated and total amount of waste diverted in cubic yards or tons along with the percent that was diverted.
- k. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to

participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.

l. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.

m. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

n. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the wastewater, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the wastewater. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

o. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached, as an appendix, to the Environmental Protection Plan.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to

start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference, which their preservation may cause to the Contractor's work under the contract.

1.9 SPECIAL ENVIRONMENTAL REQUIREMENTS

The Contractor shall comply with all special environmental requirements listed in this section.

1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

1.12 HTRW PERIMETER AIR MONITORING

For the protection of public health, the Contractor shall monitor and control contaminant emissions to the air from HTRW remedial action area sources to minimize short term risks that might be posed to the community during implementation of the remedial alternative in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

The Contractor shall be responsible for obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil or other materials that have been displaced into uncleared areas shall be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area, which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as specified in Section 01356 STORM WATER POLLUTION PREVENTION MEASURES. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. The Contractor's best management practices shall

also be in accordance with the Fort Lewis ENRD policy, and the National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP), which may be reviewed at the Fort Lewis ENRD . Any temporary measures shall be removed after the area has been stabilized.

3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for spoil.

3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. There are no surface waters adjacent to the project site.

3.3.1 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Methods to control particulates in the work area must be incorporated in the Environmental Protection Plan. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with the provisions of the State of Washington rules.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill shall be the minimum acceptable off-site solid waste disposal option. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262 and shall manage and store hazardous waste in accordance with the Installation hazardous waste management plan (HWMS (253) 967-4786). The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations. The Contractor shall transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations, or the number of days specific by Fort Lewis ENRD policy, whichever is less. The Contractor shall dispose of

hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer, Fort Lewis ENRD and Fort Lewis Fire Department. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility. The Contractor shall coordinate the disposition of hazardous waste with the Fort Lewis ENRD Hazardous Waste Manager and the Contracting Officer.

3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. There shall be no storage of fuel on the project site. Fuel must be brought to the project site each day that work is performed.

3.5.5 Waste Water

Disposal of wastewater shall be as specified below.

- a. Waste water from construction activities, such as onsite material processing, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water off-Government property in accordance with all Federal, State, Regional and Local laws and regulations
- b. For discharge of ground water, the Contractor shall surface discharge in accordance with all Federal, State, and local laws and regulations.

3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

3.7 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

The Contractor shall maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. The Contractor shall submit a report to the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. The following shall be included in the report:

- a. Construction and Demolition (C&D) Debris Disposed = in cubic yards or tons, as appropriate.
- b. Construction and Demolition (C&D) Debris Recycled = in cubic yards or tons, as appropriate.

- c. Total C&D Debris Generated = in cubic yards or tons, as appropriate.

3.8 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area are shown on the drawings. The Contractor shall protect these resources and shall be responsible for their preservation during the life of the Contract. If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.9 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

3.10 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

3.11 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.12 MILITARY MUNITIONS

In the event the Contractor discovers or uncovers military munitions as defined in 40 CFR 260, the Contractor shall immediately stop work in that area and immediately inform the Contracting Officer.

3.13 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.14 CONTAMINATED MEDIA MANAGEMENT

Contaminated environmental media consisting of, but not limited to, ground water, soils, and sediments shall be managed in accordance with Section 02111.

3.15 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --

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SECTION 01356A

STORM WATER POLLUTION PREVENTION MEASURES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 4439	(1997) Standard Terminology for Geosynthetics
ASTM D 4491	(1996) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996)) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1995) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(1995) Identification, Storage, and Handling of Geosynthetic Rolls

1.2 GENERAL

The Contractor shall implement the storm water pollution prevention measures specified in this section in a manner, which will meet the requirements of Section 01355A ENVIRONMENTAL PROTECTION.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Storm Water Pollution Prevention Plan; G, (CENWS-EC-TB-ET)

SD-07 Certificates

Mill Certificate or Affidavit; G, (CENWS-EC-TB-ET)

Certificate attesting that the Contractor has met all specified requirements.

1.4 EROSION AND SEDIMENT CONTROLS

The controls and measures required by the Contractor are described below.

1.4.1 Stabilization Practices

The stabilization practices to be implemented shall include protection of trees designated by the Contracting Officer. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., clearing and grubbing, excavation, and grading); when earthwork activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.4.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.4.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices. Location of installation and construction of the following erosion control materials shall be approved by the onsite USACE Field Representative prior to placement within the project limits.

1.4.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, stockpiling, and grading). Final removal of silt fence barriers shall be upon approval by the Contracting Officer.

1.4.2.2 Straw Bales

The Contractor shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, stockpiling, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bales shall be placed as work progresses, bales shall be removed/replaced/relocated as needed for work to

progress in the drainage area). Final removal of straw bale barriers shall be upon approval by the Contracting Officer. Rows of bales of straw shall be provided as follows:

- a. Along the downhill perimeter edge of all areas disturbed.
- b. Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.
- c. Along the toe of all cut slopes and fill slopes of the construction areas.
- d. Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Row spacing shall be approved by the onsite USACE Field Representative.
- e. Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Row spacing shall be approved by the onsite USACE Field Representative.
- f. At the entrance to culverts that receive runoff from disturbed areas.

1.4.2.3 Diversion Dikes

Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. The Contractor shall ensure that the diversion dikes are not damaged by construction operations or traffic.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Filter Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments, which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
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Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

2.1.3 Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The Contractor shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric.

2.1.4 Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.2 COMPONENTS FOR STRAW BALES

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The Contractor may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

PART 3 EXECUTION

3.1 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6-inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4

inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the Contracting Officer.

3.2 INSTALLATION OF STRAW BALES

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.3 MAINTENANCE

The Contractor shall maintain erosion and sediment control measures, and other protective measures in good and effective operating condition. Maintenance is conducted by performing routine inspections to determine condition and effectiveness, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.3.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made within 24 hours. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced within 24 hours. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed following approval by the onsite USACE Field Representative. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall receive erosion control if determined by the Contracting Officer.

3.3.2 Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished within 24 hours. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each

end of each row. When a straw bale barrier is no longer required, it shall be removed following approval by the onsite USACE Field Representative. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade.

3.3.3 Diversion Dike Maintenance

Diversion dikes shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged diversion dikes and necessary repairs shall be accomplished within 24 hours. When diversion dikes are no longer required, they shall be shaped to an acceptable grade, following approval by the onsite USACE Field Representative.

3.4 INSPECTIONS

3.4.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.4.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to local receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.4.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

3.4.4 Maintenance Inspection Procedures

Visual inspections of all cleared and graded areas of the construction site will be performed according to the Fort Lewis Construction Storm Water Pollution Prevention Plan (CSWP3). Follow the web address provided below to Design Standards for the CSWP3.

<http://www.lewis.army.mil/publicworks/default.htm>

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SECTION 01400

MANAGEMENT PLAN

PART 1 GENERAL

1.1 REQUIREMENTS.

This Section describes the general requirements for the Contractor's Management Plan (MP). In order to comply with the contract requirements, the Contractor shall prepare and submit a Management Plan for approval. The Management Plan is intended to assure all of the environmental, health and safety, and quality control are addressed. The Management Plan is not intended to replace the requirements of section 01451 CONTRACTOR QUALITY CONTROL.

The Management Plan consists of pre-excavation plans and design information to be submitted for approval by the Contractor before commencing site work. The MP shall describe the procedures, methods, and execution requirements for accomplishing the Work. The MP shall implement the requirements of referenced sections of the technical specifications and other required work for carrying out a complete, functional, effective, and economical project.

The MP shall supplement drawings and technical specifications during execution of the Work. The MP is intended to ensure that the remediation of the project site meet the requirements of the Contract, while being protective of worker safety and health, the public, and the environment. The MP shall demonstrate to the Contracting Officer (CO) and reviewing Governmental agencies that the Contractor is well prepared and capable of completing the Work on schedule and in accordance with the Contract.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Management Plan; G.

The Contractor shall prepare and submit a preliminary Draft MP and Final MP for Government review and approval by the CO. The MP shall consist of the individual plans listed in Table 01400-1 below. The Draft MP shall be submitted within 30 calendar days after the award of contract with all sections of the MP completed. Principal sections discussing plan and design requirements are also listed in Table 01400-1; however, the Contractor shall review all sections of the Contract for complete MP document requirements and content. The Final MP shall require approval by the CO before commencing site work. No work at the site, with the exception of site inspections and surveys, shall be performed until the Final MP is approved. The Contractor shall allow 30 calendar days in the schedule for the Government's review. No adjustment for time or money will be made if resubmittals of the plan are required due to deficiencies in the plan. All submittals using report binders shall reference the Defense Site Environmental

Restoration Tracking System (DSERTS) number for Evergreen Infiltration Range, Fort Lewis, Washington, FTLE-33 on the cover and back spine. The cover shall also bear the Fort Lewis Public Works (PW) logo provided by USACE.

The Management Plan shall contain, at a minimum, the following:

Table 01400-1

<u>PLAN</u>	<u>RELATED SECTION(S)</u>
Work Plan	SECTION 01356A Storm Water Pollution Prevention Measures SECTION 02111 Excavation and Handling of Contaminated Material SECTION 2120A Transportation and Disposal of Hazardous Material: On-site Hazardous Waste Management Plan SECTION 02231 Clearing and Grubbing SECTION 02300 Earthwork
Initial Project Schedule	SECTION 01320 Project Schedule
Site Safety and Health Plan (SSHP)/APP	SECTION 01351A Safety, Health, and Emergency Response
Environmental Protection Plan	SECTION 01355 A Environmental Protection
Sampling and Analysis Plan	SECTION 01450 A Chemical Data Quality Control
Waste Management Plan	SECTION 02120A Transportation and Disposal of Hazardous Material: On-site Hazardous Waste Management Plan
Contractor Quality Control Plan	SECTION 01451 Contractor Quality Control

The work shall be conducted in an environmentally acceptable manner conforming to existing Federal, State and local regulations. Where there is a discrepancy between the Management Plan and the Specifications, the Specifications shall take precedence.

Paragraphs 2 through 7 of this specification section provide specific requirements for a complete Management Plan and shall be used as a checklist to assure the Management Plan is complete.

2. WORK PLAN.

A comprehensive work plan shall be completed and submitted in accordance with the submittal schedule. The work plan shall include a detailed discussion of the technical approach to be used (equipment, methods, and procedures) and include all required federal, state, and local permits execution of all work. All personnel shall be identified and work schedules formulated. All work shall be performed according to the approved work plan. The project organization for the prime contractor and any subcontractors shall be clearly defined with a discussion of Quality Control (QC) responsibilities. A list of key individuals shall be provided and shall include QC officers for all project components. Major activities to be described in the Work Plan include, but are not limited to, the following:

- a. General conditions of the Contract
- b. Submittals, engineering design, and installation plan
- c. Mobilization
- d. Site work and temporary facilities
- e. Regulatory compliance
- f. Demobilization
- g. Proposed Daily Log format.
- h. Project close-out

In addition, the work plan shall include, as a minimum, the following components:

- 1). Drawings of site layout with work areas identified.
- 2). Excavation, handling, and stabilization approach
- 3). Transport and disposal approach, proposed haul routes.
- 4). Storm water control procedures

2.1 SAMPLE COLLECTION, METHODS, HANDLING, AND CUSTODY.

In the Work Plan, the Contractor will identify the laboratory to be used, and will request approval from the CO. The Contractor shall be responsible for the collecting, handling and shipping of the samples. The QC/QA plan shall tabulate the samples and number of samples to be collected, types, locations, containers, preservatives and field controls. Specific sampling procedures and appropriate references or descriptions shall be given to address sample sizes and equipment. The QC/QA plan shall describe

the cleaning of equipment. The composition and volume of sample containers to be used, according to sample type, shall be listed along with a description of their preparation and cleaning. The system for identifying and tracking the samples shall be described, and shall include the recording of field data in permanently bound notebooks along with the description relating the field data to the proper samples. All procedures shall be in accordance with ASTM standards referenced in the respective specifications.

2.2 EQUIPMENT CALIBRATION, PROCEDURES AND FREQUENCY.

A list of the field instrumentation to be used by the Contractor specifying manufacturers, models, accessories, etc., with procedures used for calibration and frequency of checks is required. The instrumentation and calibration shall be consistent with the analytical method requirements.

3.0 PROJECT SCHEDULE

The project schedule shall be prepared in accordance with Section 01320, PROJECT SCHEDULE. The initial project schedule shall be in the Draft MP. The schedule provided in the Final MP shall govern execution of the project.

4.0 HEALTH AND SAFETY.

4.1 Purpose

The most important consideration to be regarded throughout all aspects of the activities to be performed is the health and safety of all on site personnel and the surrounding community. Accordingly the Contractor shall review all information provided and develop the necessary documents that contain the health and safety criteria, procedures, and practices sufficient to protect on site personnel, the environment, and the potential off site receptors from the chemical and physical hazards particular to any site. The Contractor shall utilize the services of a Certified Industrial Hygienist (CIH) experienced in hazardous waste site operations to be responsible for the development and implementation of the Accident Prevention Plan (APP) and Site Specific Health and Safety Plan (SSHP). If the information made available is insufficient for the Contractor to develop the health and safety documentation, a description of all additional information required shall be prepared and submitted to the CO.

4.2 Content

The APP and SSHP shall address all items stated in SECTION 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE.

5.0 ENVIRONMENTAL PROTECTION

5.1 Purpose

The Environmental Protection Plan (EPP) shall execute the requirements of Section 01355 ENVIRONMENTAL PROTECTION. The EPP governs site activities relating to pollution prevention and minimization; spill control and reporting, stormwater management, noise and dust control, and compliance with state and federal water, wastewater, air, and solid waste regulations.

5.2 Content

1. The EPP shall address all items stated in 01355 ENVIRONMENTAL PROTECTION.

6.0 CHEMICAL DATA QUALITY CONTROL PLAN

6.1 Purpose

The Contractor Quality Control (CQC) Plan implements the requirements of Section 01450A CHEMICAL DATA QUALITY CONTROL. The CDQC Plan shall be the framework for ensuring that planning and quality are integrated into every aspect chemical data collection, handling and analysis.

6.2 Content

- a. See Section 01450A CHEMICAL DATA QUALITY CONTROL.

7.0 CONTRACTOR QUALITY CONTROL PLAN

7.1 Purpose

The Contractor Quality Control (CQC) Plan implements the requirements of Section 01451A CONTRACTOR QUALITY CONTROL. The CQC Plan shall be the framework for ensuring that planning and quality are integrated into every aspect of the project.

7.2 Content

- b. See Section 01451A CONTRACTOR QUALITY CONTROL.

8.0 SUBMITTAL SCHEDULE.

8.1 DRAFT MANAGEMENT PLAN.

The Contractor shall submit for approval to the CO ten paper copies of a DRAFT Management Plan in native and PDF format within 30 calendar days following award of the contract.

8.2 COMMENTS.

The Government will review the draft and return comments to the Contractor within 30 calendar days.

8.3 FINAL PLAN AND RESPONSE TO COMMENTS.

The Contractor shall respond to the Government comments in writing and incorporate the comments into the FINAL Management Plan. The Contractor shall submit to the CO the Final Management Plan in native and PDF format within 14 calendar days of receipt of Government comments. The submittal shall include ten copies of the final plan and a copy on compact disk.

8.4 START OF FIELD WORK

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The Contractor shall not begin any fieldwork until the CO approves the Final Management Plan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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SECTION 01450A

CHEMICAL DATA QUALITY CONTROL

PART 1 GENERAL

The contractor shall furnish all labor, materials, and equipment necessary for the handling of Contaminated Materials outlined in this and related sections.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. The publications are available at this URL:
<http://www.environmental.usace.army.mil/info/technical/chem/chemguide/chemusac/chemusac.html>.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 178	Specifications for Packaging

ENGINEERING MANUALS (EM)

EM 200-1-1	(1994) Validation of Analytical Chemistry Laboratories
EM 200-1-3	(1994) Requirements for the Preparation of Sampling and Analysis Plans Ch 1
EM 200-1-6	(1997) Chemical Quality Assurance

ENGINEERING REGULATIONS (ER)

ER 1110-1-263	(1996) Data Quality Management for Hazardous, Toxic, Radioactive Waste Remedial Activities
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ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 540/R 94-012	(1998) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review
EPA 540/R 94-013	(1998) Contract Laboratory Program National Functional Guidelines for Organic Data Review
EPA SW-846	(Rev O and updates) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II)

1.2 ACRONYMS

The definition of acronyms used by the Contractor that pertain to chemical data quality control shall be clearly defined for all contract related products and communications.

1.3 MEASUREMENT AND PAYMENT

Separate payment will not be made for providing and maintaining the chemical data quality requirements including the chemical data quality management, chemical data validation, minimum chemical data reporting requirements, and chemical data quality submittal requirements; these costs shall be included in the applicable unit prices or lump sum prices contained in the bidding schedule.

1.4 CHEMISTRY REQUIREMENTS

Chemical Data Quality Control (CDQC) shall be as defined in ER 1110-1-263; this ER, which integrates USACE guidance on the subject, shall be supplemented by EM 200-1-6 for detail technical guidance on CDQC. Tables and charts defining Design Analysis (DA), ROD, and remedial technology specific chemistry shall be according to or consistent with EM 200-1-3.

1.4.1 Site History

See SECTION 01110 SUMMARY OF WORK.

1.4.2 Data Quality Objectives (DQO)

Sample acquisition, chemical analysis and chemical parameter measurements shall be performed so that the resulting data meet and support data use requirements. The chemical data shall be acquired, documented, verified and reported to ensure that the specified precision, accuracy, representativeness, comparability, completeness and sensitivity requirements are achieved.

1.4.3 Sampling, Analysis and Measurement

The Contractor shall collect representative composite soil samples for field-analysis by XRF and collaborative laboratory analysis as directed within this specification.

1.4.3.1 Soil Sampling and Analysis

The Contractor shall conduct surface soil sampling in excavated areas to confirm the presence or absence of contamination above MTCA A Unrestricted Land Use levels for lead in the project area. Sufficient samples shall be collected as to provide confidence that contamination does not remain. The Contractor shall design a sampling strategy that utilizes and XRF to confirm that all soils with lead above 250 mg/kg has been removed with a 90% confidence level. Any hot spots detected by the XRF will be removed. Following the XRF confirmation sampling, the pooled variance will be used to calculate the relative standard deviation, using 0.4 as the standard gray zone, to determine the appropriate number of confirmation samples to be sent to the fixed laboratory for analysis. All confirmation fixed laboratory samples shall be discrete samples. The Contractor will be required to utilize a systematic planning process to develop the sampling and analysis strategy for clean closure confirmation. The rationale for the proposed sampling and analysis approach will be clearly documented in the Contractors Field Sampling Plan (FSP).

The Contracting Officer shall be present to inspect the removal of contaminated material from within the project limits. Lead contamination extends throughout the project site as shown on the drawings. Therefore, the contractor shall initially excavate to the depths shown on the drawings. After excavation to the limits indicated on the drawings, the excavation shall be examined for evidence of contamination. If the excavation appears to be free of contamination, field analysis shall be used to determine the presence of lead contamination using XRF. Excavation of additional material beyond the limits indicated on the drawings shall be as directed by the Contracting Officer. After XRF analysis demonstrates that the site is compliant with all chemical parameters and respective action levels, collaborative samples shall be collected and lab analyzed for the following contaminants:

Chemical Parameter	Action Level (mg/kg)
Lead	250

The decision on whether an area complies with a cleanup level is based on three criteria: (1) the upper 95% confidence limit on one true population mean, calculated from sampling data, cannot exceed the cleanup level; (2) no sample will be twice the cleanup level; and (3) less than 10% of the samples can exceed the cleanup level. Based on test results, the Contractor shall propose any additional excavation, which may be required to remove material, which is contaminated above action levels. Additional excavation shall be subject to approval by the Contracting Officer. Locations of samples shall be marked in the field and documented on the as-built drawings.

Soil samples from the excavated areas (0-6 inch depth interval) shall be sent to a fixed laboratory for screening and characterization of contaminants as required by appropriate regulations. The Contractor shall transport and dispose of excavated soils after receipt of analytical reports.

1.4.3.2 Stabilized Soil Testing

Soils that have been stabilized must meet or exceed the Toxicity Characteristic Leaching Procedure (TCLP) as specified in EPA 530/F-93/004.

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TCLP shall be performed on representative samples of treated material. One representative composite sample per 100 yd³ of soil, with a minimum of 30 samples, shall be tested. The extract shall meet the chemical post-treatment testing criteria listed in Table 1 and as described in Section 01110 Summary of Work, paragraph 1.4.1.2.

Table 1. POST-TREATMENT TEST CRITERIA

TEST	TEST VALUE
Lead	5.0 mg/L

1.4.3.3 Investigation Derived Waste Samples

Investigation derived waste (IDW) samples shall be collected and analyzed according to Section 02120A Transportation and Disposal of Materials.

1.4.3.4 Manifesting Samples

No manifest is required for stabilized soil. Contaminated water and potentially the bullet waste stream if it is to be sent off-site will require manifesting. Material shipping manifesting shall be in accordance with 40 CFR 261, 40 CFR 262, 40 CFR 268, 49 CFR 172, and 49 CFR 178. Manifesting samples shall be collected and analyzed according to the Disposal of Solid and Water Investigation Derived Waste SOP, Fort Lewis, Washington.

1.5 QUALITY ASSURANCE ELEMENTS

The Contractor shall be responsible for the following QA elements necessary to monitor and ensure the quality of chemical data produced.

1.5.1 Laboratory Validation Requirements

The Contractor shall propose the minimum number of laboratories that can attain or have attained U.S. Army Corps of Engineers (USACE) validation in accordance with EM 200-1-1 and consistent with contract required chemical data quality. The Contractor may propose laboratories that shall subsequently be validated by the USACE, or select currently validated USACE laboratories. The Contractor shall identify all proposed project laboratories in the sampling and analysis plan (SAP). If a proposed analytical laboratory cannot meet specified analytical requirements or achieve the required validation, the Contractor shall select another laboratory. If not currently validated, the USACE laboratory validation process requires a nominal 120-day process.

1.5.2 QC Protocol Requirements

The Contractor is required to ensure that all quality control samples such as blanks, matrix spikes, surrogates, field duplicates, and laboratory control samples are provided. The Contractor will also provide a detailed XRF instrumentation SOP that includes QC protocol in the FSP. The Contractor is required to conduct 100% data review of both fixed-laboratory and XRF data.

1.5.3 XRF Analysis

The Contractor will coordinate with PW regarding the use of XRF on the facility. XRF data should be reported to the Corps within 24 hours of sample collection.

1.5.4 Contaminated Water

Liquid collected from excavations, storage areas, and decontamination facilities shall be sampled at a frequency of once for every 500 gallons of liquid collected or one per distinct water waste stream. Samples shall be tested for the following:

Chemical Parameter	Action Level (ug/L)
Lead	15

1.5.5 Bullet Waste Stream

It is assumed that the bullet waste stream will be profiled based on book information and will not require analysis.

1.5.6 Review of Primary Laboratory Data

The Contractor shall be responsible for the independent data review of the entire primary data set. This review will be incorporated in a data quality report submitted to the Corps within 30 days of data submittal by the laboratory and will include the following discussion:

- Fulfillment of QC and sampling requirements;
- Analytical error determination shall be made for 100 percent of data generated, including calculating linear regression correlation coefficient, and evaluation of representativeness, and completeness. For each matrix under investigation the QC parameters list above shall be calculated and compared against standard laboratory and project-specific performance requirements documented in the Shell; and
- Procedures to confirm the compliance with documentation requirements including field documentation, daily quality control reports, daily instrument and monitor outputs, standard form completion, authenticity of all document entries by signed for initialed entries, data reporting packages, QC documentation, and production of deliverables.

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

1.6.1 Remedial Action Management Plan

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The RAMP will consist of a SAP including the Field Sampling Plan (FSP) and the Quality Assurance Project Plan (QAPP), which shall be submitted no later than 30 days after receipt of notice to proceed.

1.7 QUALIFICATIONS

1.7.1 Chemical Quality Control Officer

As a minimum, the Contractor's Chemical Quality Control Officer shall have: a B.S. degree in Chemistry; five years of experience related to investigations, studies, design and remedial actions at HTRW sites; and two field seasons (or one continuous calendar year experience) in calibration and operation of various field monitoring devices as well as standard analytical chemistry methods common for analyzing soil, water, air and other materials for chemical contamination assessment, including hazardous waste manifesting. The Chemical Quality Control Officer shall ensure that all chemistry related objectives including responsibilities for DQO definitions, sampling and analysis, project requirements for data documentation and validation, and final project reports are attained. The Chemical Quality Control officer need not be present onsite during routine sampling, but shall be available for consultation with Government and Contractor personnel.

1.7.2 Project Chemist

As a minimum, the Contractor's Senior Chemist shall have: a B.S. degree in Chemistry; five years of experience related to investigations, studies, design and remedial actions at HTRW sites; two field seasons experience in calibrating and operating various field monitoring devices; and five years of experience in the operation of an HTRW commercial laboratory with standard analytical chemistry methods common for analyzing soil, water, air and other materials for chemical contamination assessment, including data for hazardous waste manifesting. The project chemist shall ensure that all chemistry related goals of the program are attained. The project chemist shall be onsite during all sampling events and shall also be available for consultation with Government personnel.

1.7.3 Environmental Sampler

As a minimum, the Contractor's Environmental Sampler shall have: a B.S. degree in Chemistry, Environmental Science, Engineering, Geology, Hydrology, or a related field; two years of experience in the development and preparation of SAP and work plans; two years of experience in and knowledge of EPA methods for collecting environmental and hazardous waste samples; two years of experience in operation of field screening equipment (e.g. PID, FID, infrared spectrometer, immunoassay, etc.); and two field seasons of experience with the particular field screening techniques for use on this project. The Environmental Sampler shall collect all onsite samples and perform all field screening tests. The Environmental Sampler shall review the sampling results, and provide recommendations for the Contractor's sampling program. The Environmental Sampler shall be onsite during excavation and stockpiling operations involving contaminated soil or soil to be checked for contamination.

1.7.4 XRF Analyst

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As a minimum, the Contractor's XRF Analyst shall have: a B.S. degree in Chemistry, Environmental Science, Engineering, Geology, Hydrology, or a related field; two years of experience in the development and preparation of SAP and work plans; two years of experience in and knowledge of EPA methods for collecting environmental and hazardous waste samples; two years of experience in operation of field screening equipment (e.g. PID, FID, infrared spectrometer, immunoassay, etc.); and at least three years of experience with XRF analysis. The XRF analyst shall be onsite during excavation and stockpiling operations involving contaminated soil or soil to be checked for contamination.

1.8 COORDINATION MEETING

After the pre-construction conference, before any sampling or testing, the Contractor and the Contracting Officer will meet at the Corps Seattle District Office to discuss the CQC Plan. The coordination meeting will be simultaneous to any CQC coordination meeting required in Section 01451 CONTRACTOR QUALITY CONTROL unless otherwise indicated or directed. A list of definable features that involve chemical measurements shall be agreed upon. At a minimum, each matrix (soil, water, air, containerized wastes, radioactive wastes, instrumental chemical parameter measurement, etc.) shall be a definable work feature. Management of the chemical data quality system including project DQO, project submittals, chemical data documentation, chemical data assessment, required sampling and analysis protocols, and minimum data reporting requirements shall be agreed upon. The meeting will serve to establish an interrelationship between the Contractor's chemical data quality management and Government chemical quality assurance requirements. Minutes of the meeting will be documented by the Government and shall be signed by both the Contractor and the Contracting Officer. The minutes will include any or all unresolved chemical issues along with the conditions for resolution and will become a part of the contract file.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor shall be responsible for chemical sample acquisition, sample analysis, and instrumental measurements of chemical parameters and for chemical data quality control. An effective chemical data quality control system shall be established that meets the requirements for the chemical measurement DQO applicable to the project. The system shall cover chemical measurements pertaining to and required for Contractor and subcontractor produced chemical data. The Contractor shall control field screening, sampling, and testing in conjunction with remedial activities to meet all DQO; minimize the amount of excavated material requiring temporary storage; prevent dilution of contaminated soils with clean soils; and ensure completion of work within the required time.

3.2 QUALITY CONTROL PLAN

3.2.1 Additional Requirements

In addition to the quality control requirements specified in Section 01451 CONTRACTOR QUALITY CONTROL, the CQC Plan shall incorporate the

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qualifications, authority and responsibilities of all chemical quality management and support personnel. Chemical measurements including sampling and/or chemical parameter measurement will not be permitted to begin until after production and acceptance of the CQC Plan, and Government approval of the SAP.

3.2.2 Chemistry Elements of the CQC Plan

To cover contract related chemical measurements by the Contractor and all subcontractors, the CQC Plan shall include the following as a minimum.

3.2.2.1 Qualifications

Names, education, experience qualifications, authorities, and decision-making responsibilities of all chemical quality management and support personnel. The CQC Plan shall contain a copy of a letter from the project QC manager designating and authorizing a Chemical Quality Control Officer and chemical quality control organization staff.

3.2.2.2 Authority and Responsibility

A diagram, flow chart, or figure clearly depicting the chemical data quality management and support staff and the authority and responsibility of each for chemical sampling and analysis, procedures for corrective actions, deliverables and submittals, deviations and changes, chemical quality documentation, data validation, minimum data reporting requirements, and DQO for chemical parameter measurement by the Contractor and subcontractors. The contents of this section of the CQC Plan shall be included in the applicable "Project Organization" elements of the FSP and the QAPP.

3.3 SAMPLING AND ANALYSIS PLAN

The SAP shall be prepared in accordance with CDQC requirements and EM 200-1-3. The SAP shall be a single document that contains two distinct elements: FSP and QAPP. Sections of the FSP and QAPP shall be cross-referenced. The SAP shall confirm the Contractor's understanding of the contract requirements for chemical data quality control, and shall describe procedures for field sampling and sample submittal for analysis, field chemical parameter measurement, data documentation, data assessment and data reporting requirements. The SAP shall delineate the methods the Contractor intends to use to accomplish the chemical quality control items to assure accurate, precise, representative, complete, legally defensible and comparable data. The SAP shall describe all chemical parameter measurements for all matrices for all phases of the remediation contract. As a single interrelated document, the SAP shall be provided to field and laboratory personnel. The Contractor may propose original/innovative approaches to chemical parameter measurements for cost reduction and remediation efficiency by abbreviated sampling, contingency sampling and/or contingency analysis, indicator or tracer analysis, onsite analytical services, equivalency or screening methods. The SAP shall clearly identify the Contractor obtained laboratories. The Contractor shall furnish copies of the Government approved SAP to all laboratories and the Contractor's field sampling crew. The SAP shall address all levels of the investigation with enough detail to become a document, which may be used as an audit guide for field and laboratory work.

3.3.1 Field Sampling Plan

The FSP shall contain necessary technical detail and direction for the field personnel to understand sampling and field measurement requirements. The FSP shall provide a comprehensive description and full detail for personnel to perform all onsite activities required to attain project DQO, including: locations of samples, sampling procedures for onsite and offsite chemical analysis, summaries of analyses to be performed on samples, shipment of samples for offsite analyses, performance of onsite and offsite instrumental parameter measurements, data documentation and reporting requirements.

3.3.2 Quality Assurance Project Plan

The QAPP shall contain necessary technical detail and direction for field and laboratory personnel to understand project sample analysis, quality control and data reporting requirements, analytical methods, required detection limits, QC requirements, and data validation and reporting requirements.

3.4 CHEMISTRY DATA PACKAGE

The full chemistry data package shall be produced and provided through USACE CO as an attachment to the CDFR. The chemistry data package shall contain information to demonstrate that the project's DQO have been fulfilled. The QA function will compare QA sample results to corresponding primary sample results, will assess the Contractor's compliance with the SAP, and will recommend corrective action as necessary.

3.5 CONTROL OF CHEMICAL DATA QUALITY

Contractor chemical data quality control shall ensure that a quality control program is in place that assures sampling and analytical activities and the resulting chemical parameter measurement data comply with the DQO and the requirements of the SAP. The Contractor shall utilize the three-phase control system that includes a preparatory, initial and follow-up phase for each definable feature of work. The Contractor's three-phase chemical data control process shall ensure that data reporting requirements are achieved and shall be implemented according to Section 01451 CONTRACTOR QUALITY CONTROL. The three-phase chemical data control process shall be combined with that under Section 01451 CONTRACTOR QUALITY CONTROL.

3.6 ANALYTICAL TESTING LABORATORIES

The Contractor shall propose the analytical laboratories to be used for the primary samples analyses. Laboratory validation requirements shall be in accordance with paragraph Laboratory Validation Requirements. The Contractor may utilize its own laboratory or utilize subcontract laboratories to achieve the primary required sample analyses.

3.6.1 Laboratory Analytical Requirements

The Contractor shall provide the specified chemical analyses by the Contractor's laboratory. The Contractor shall provide chemical analyses to achieve the project DQO for all parameters specified by the methods. To give the USACE programs the greatest flexibility in the execution of its projects, the EPA SW-846 methods are generally the methods employed for the

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analytical testing of environmental samples. These methods are flexible and shall be adapted to individual project-specific requirements.

3.6.2 Laboratory Performance

The Contractor shall provide continued acceptable analytical performance and shall establish a procedure to address data deficiencies noted by review and/or quality assurance sample results. The Contractor shall provide and implement a mechanism for providing analytical labs with the SAP or QAPP portion of the SAP, for monitoring the lab's performance and for performing corrective action procedures.

3.7 CHEMICAL DATA FINAL REPORT

The CDFR shall be produced including a summary of quality control practices employed and all chemical parameter measurement activities after project completion. As a minimum, the CDFR shall contain the following:

- a. Summary of project scope and description.
- b. Summary of any deviations from the design chemical parameter measurement specifications.
- c. Summary of chemical parameter measurements performed as contingent measurements.
- d. Summary discussion of resulting data including achieving data reporting requirements.
- e. Summary of achieving project-specific DQO.
- f. Full review, presentation, and evaluation of the data to include an overall assessment on the quality of the data for each method and matrix.
- g. Internal QC data generated during the project, including tabular summaries correlating sample identifiers with all blank, matrix spikes, surrogates, duplicates, laboratory control samples, and batch identifiers.
- h. A list of the affected sample results for each analyte (indexed by method and matrix) including the appropriate data qualifier flag (J, B, R, etc.), where sample results are negatively impacted by adverse quality control criteria.
- i. Summary of field and laboratory oversight activities, providing a discussion of the reliability of the data, QC problems encountered, and a summary of the evaluation of data quality for each analysis and matrix as indicated by the laboratory QC data and any other relevant findings.
- j. Maps of all sample locations.
- k. Conclusions and recommendations.
- l. Appendices containing: (1) Chemistry data package, and (2) Results of the Chemical Quality Review Report (CQRR). The CQRR is

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a document achieved through the inspection and analysis of QA samples and corresponding project sample data. The CQRR will include review of all QC parameters such as holding times, detection limits, method blanks, surrogate recoveries, matrix spikes and duplicates, and inter-laboratory and intra-laboratory data comparisons.

3.8 DOCUMENTATION

Documentation records shall be provided as factual evidence that required chemical data has been produced and chemical data quality has been achieved. The documentation shall comply with the requirements specified in paragraphs SAMPLING AND ANALYSIS PLAN and CHEMICAL DATA FINAL REPORT.

3.9 NOTIFICATION OF NON-COMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice.

Table 01450-1
Data Quality Indicator Summary

Analytical Method	Matrix	Completeness	Precision (RPD)	Accuracy	Surrogate Recovery	Reporting Limit
Lead	Soil	95%	<30%	75-125%	60-140%	20 (mg/kg)
Lead	Water	95%	<30%	75-125%	60-140%	0.001 (mg/L)

SECTION 01451A

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1999b) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Remediation
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ASTM E 329	(1998a) Agencies Engaged in the Testing and/or Inspection of Materials Used in Remediation
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1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable lump-sum prices contained in the Bidding Schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product, which complies with the contract requirements. The system shall cover all remediation operations, both onsite and offsite, and shall be keyed to the proposed remediation sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest-level manager responsible for the overall remediation activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable

to the Contracting Officer, and shall be responsible for all remediation and remediation related activities at the site.

3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 30 days after receipt of award of contract, the Contractor Quality Control (CQC) Plan. The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. Remediation will be permitted to begin only after approval of the RAMP

3.2.1 Content of the CQC Plan

The Contractor has the choice to combine the contents of the CQC Plan and the QAPP into one document. The CQC Plan shall include, as a minimum, the following to cover all remediation operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking remediation deficiencies from identification through acceptable corrective action. These

procedures shall establish verification that identified deficiencies have been corrected.

- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task, which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of remediation. Acceptance is conditional and will be predicated on satisfactory performance during the remediation. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preremediation Conference, before start of remediation, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures, which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall receive direction and authority from the CQC System Manager and shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring

specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, show drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, chemist, environmental scientist, or geologist with a minimum of 3 years remediation experience on remediation similar to this contract. This CQC System Manager shall be on the site at all times during remediation and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, environmental. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; have the necessary education and/or experience in accordance with the experience matrix listed herein.

Experience Matrix

Area	Qualifications
a. Civil	Graduate Civil Engineer with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience
b. Environmental	Graduate Environmental

Engineer with 3 yrs experience
in the type of work being
performed on this project or
technician with 5 yrs related
experience

3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the remediation, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document remediation tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work, which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 COMPLETION INSPECTION

3.7.1 Punch-Out Inspection

Near the end of the work, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the site is ready for the Government Pre-Final inspection.

3.7.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the remediation is complete. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.7.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance

inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. The Daily Contractor Quality Control Report (DCQCR) shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to

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the Government daily in PDF format within 24 hours after the date covered by the report. A report shall be submitted for days on which no work is performed stating, "No work performed today". All calendar days shall be accounted for throughout the life of the contract. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

A sample DCQCR form is enclosed at the end of this section. The Contractor's DCQCR must contain all the information included in the sample as a minimum.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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Contract Number: _____ Date: _____ Rpt. No. _____

Weather: Clear __ P. Cloudy __ Cloudy __ Rainfall __ (__% of workday)

1. WORK PERFORMED BY CONTRACTOR/SUBCONTRACTOR(S):

[illegible]

<u>Type, Size, Etc.</u>	<u>Owned/Rented</u>	<u>Hours Used</u>	<u>Hours Standby</u>
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3. QUALITY CONTROL INSPECTIONS AND RESULTS: (Include a description of preparatory, initial, and/or follow up inspections or meetings; check of subcontractors work and materials delivered to the site compared to submittals and/or specifications; comments on the proper storage of materials; include comments on corrective actions to be taken):

4. QUALITY CONTROL TESTING AND RESULTS (comment on tests and attach test reports):

5. DAILY SAFETY INSPECTIONS (Include comments on new hazards to be added to the Hazard Analysis and corrective action of any safety issues):

6. REMARKS (Include conversations with or instructions from the Government representatives; delays of any kind that are impacting the job; conflicts in the contract documents; comments on change orders; environmental considerations; etc.):

CONTRACTOR'S VERIFICATION: The above report is complete and correct. All material, equipment used, and work performed during this reporting period are in compliance with the contract documents except as noted above.

CONTRACTOR QUALITY CONTROL REPRESENTATIVE

(Sample of Typical Contractor's Test Report)

TEST REPORT

LOCATION _____

CONTRACT NO. _____

DESCRIPTION OF ITEM, SYSTEM, OR PART OF SYSTEM TESTED:

DESCRIPTION OF TEST: _____

NAME AND TITLE OF PERSON IN CHARGE OF PERFORMING TESTS FOR THE
CONTRACTOR:

NAME _____

TITLE _____

SIGNATURE _____

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED ITEM, SYSTEM, OR PART OF SYSTEM
HAS BEEN TESTED AS INDICATED ABOVE AND FOUND TO BE ENTIRELY SATISFACTORY
AS REQUIRED IN THE CONTRACT SPECIFICATIONS.

SIGNATURE OF CONTRACTOR
QUALITY CONTROL INSPECTOR _____

DATE _____

REMARKS

END OF SECTION

SECTION 01500A

TEMPORARY REMEDIATION FACILITIES

1.1 GENERAL REQUIREMENTS

1.1.1 Site Plan

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, and avenues of ingress/egress to the fenced area and details of the fence installation. Any areas, which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.1.2 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer. Requests for Access Badges will be submitted to the CO no later than two weeks prior to the start of construction using the Access Form enclosed at the end of this section. Prescribed identification for personnel and vehicles shall immediately be delivered to the onsite USACE Quality Assurance Representative for cancellation upon release of any employee or vehicle. A POC shall be provided for verification of contractor employees.

1.1.3 Employee Parking

Contractor employees shall park privately owned vehicles in the support zone. This area will be within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with existing and established parking requirements of the military installation.

1.2 AVAILABILITY AND USE OF UTILITY SERVICES

The Contractor shall be responsible for providing its own water and electricity.

1.2.2 The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections at and from approved locations, and shall install and maintain all meters required to measure the amount of electricity, water, natural gas, and high temperature hot water (HTHW) heating, used for the purpose of determining charges. The Contractor shall read these meters and shall provide meter readings to the Contracting Officer on a monthly basis. The Contracting Officer may verify these readings. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, meters, and associated paraphernalia in a manner satisfactory to the Contracting Officer.

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1.2.3 Electricity will be billed at the following rate that is the prevailing non-Government rate being charged by the Government to its on-base tenants: \$0.06488 per kWH.

1.2.4 Water will be billed at the following rate that is the prevailing non-Government rate being charged by the Government to its on-base tenants: \$4.26213 per thousand gallons.

1.2.5 HTHW heat will be billed at the following rate which is the prevailing non-Government rate being charged by the Government to its on base tenants \$12.65179 per million BTU.

1.2.6 Natural gas will be billed at the following rate which is the prevailing non-Government rate being charged by the Government to its on base tenants \$5.52036 per 1,000 cubic feet (MCF).

1.2.7 The Contractor will be required to sign a resale agreement for electricity, water, HTHW heating, and natural gas, used with the Base Civil Engineer. The Contractor shall coordinate through the Contracting Officer to obtain permits from Base Civil Engineer for connection to utilities. Meter readings shall be read by the Contractor and provided monthly to the 341st CES/CECC office for billing purposes. Connection locations and details shall be as approved by Base Civil Engineer. Point of contact at the Base Civil Engineer is SSgt James Cleary, telephone (406) 731-6225.

1.3 Payment for Utility Services

The Government will make all reasonably required utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

1.3.1 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meter bases (Government will provide meters) required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities contract can be established. The Government will provide a meter and make the final hot connection after inspection and approval of the Contractor's temporary wiring installation. The Contractor shall not make the final electrical connection.

1.3.2 Advance Deposit

An advance deposit for utilities consisting of an estimated month's usage or a minimum of \$50.00 will be required. The last monthly bills for the fiscal year will normally be offset by the deposit and adjustments will be billed or returned as appropriate. Services to be rendered for the next fiscal year, beginning 1 October, will require a new deposit. Notification of the due date for this deposit will be mailed to the Contractor prior to the end of the current fiscal year.

1.3.4 Final Meter Reading

Before completion of the work and final acceptance of the work by the Government, the Contractor shall notify the Contracting Officer, in writing, 5 working days before termination is desired. The Government will take a final meter reading, disconnect service, and remove the meters. The Contractor shall then remove all the temporary distribution lines, meter bases, and associated paraphernalia. The Contractor shall pay all outstanding utility bills before final acceptance of the work by the Government.

1.3.5 Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer. Government toilet facilities will not be available to Contractor's personnel.

1.3.6 Telephone

The Contractor shall make arrangements and pay all costs for telephone facilities desired.

1.4 BULLETIN BOARD

1.4.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.5 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

1.5.1 Haul Roads

The Contractor shall, at its own expense, construct temporary access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

1.5.2 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.6 CONTRACTOR'S TEMPORARY FACILITIES

1.6.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.6.2 Storage Area

The Contractor shall ensure all materials and equipment are safely organized, maintained, and protected from inclement weather and theft from the mobilization to the site until demobilization from the site. The location of the storage areas shall be approved by the CO.

1.6.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but shall be within the military boundaries. Fencing of materials or equipment will not be required at this site; however, the Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.6.4 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting

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Officer, require exterior painting or maintenance will not be allowed on the military property.

1.6.5 Maintenance of Roadways

Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion.

1.6.6 Security Provisions

The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the onsite equipment and materials.

1.7 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.8 TEMPORARY PROJECT SAFETY FENCING

No later than the first day of construction, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

1.10 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

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Access Form

Company Name	Last	Middle	First	SSN	DOB	Driver License #	1 st date badge is needed	Last day badge is needed

This is a USACE Contract #:

* USACE (Seattle) POC is Matt Allen @ phone (206) 764-3697

or Bryce Jones (NW Area Office) (253) 966-4398

* PW POC (Fort Lewis) is Rich Wilson (253) 966-1801.

End of Section

SECTION 01720

FIELD ENGINEERING

PART 1 GENERAL

1.1 SUMMARY

- a. The Contractor shall provide all materials, items, operations, or methods specified, listed, or scheduled on the contract Drawings or in the Specifications, including all materials, labor, equipment, and incidentals necessary and required to conduct proper surveys required to stake and layout the work.
- b. The Contractor shall perform surveys for layout of the work, to obtain data for progress quantity charts, and to verify the quantities of final remediation volumes for payment of completed work.
- c. Software used for data transfer to USACE shall be provided to the Contracting Officer (CO) and written approval received from the CO prior to the start of the site work. If the software provided is not suitable for USACE use, in the opinion of the CO, then the Contractor shall obtain alternative software and submit for approval. The CO will provide options for suitable software, if necessary.

1.2 QUALITY CONTROL

All survey, layout, and related work shall be performed and signed by a qualified land surveyor registered in the State of Washington.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals with an "FIO" designation are for information only. The following shall be submitted with the project closeout report.

SD-06 Test Reports

Field Notes, Computations, and Survey Quantities; FIO, CENWS-EC-TB-ET.

Upon completion of the fieldwork, the Contractor shall furnish the CO copies of all field notes, computations, any records relating to the quantity survey or to the layout of the work, and an IBM PC-compatible version of any computer software required to interpret the finished data and records. The Contractor is responsible for converting data and drawing files to a standard

software version approved by the CO. Microstation, Version 7.1 "DGN" binary format is preapproved for drawing files and standard ASCII format is preapproved for data files.
SD-07 Certificates

Survey Crew Qualifications; G, FIO, CENWS-EC-TB-ET.

Prior to start of any survey work, the Contractor shall submit name, address, telephone number, and qualifications of the surveyor, crew chief, superintendent, and all other persons who are proposed to perform surveys or survey-related duties to the CO for review and acceptance.

1.4 PROJECT RECORD DOCUMENTS

- a. The Contractor shall maintain on site a complete, accurate log of control of survey work as it progresses.
- b. Upon completion of the work, the Contractor shall submit final survey of site a part of the project closeout report.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall exercise care during the execution of the work to minimize any disturbance to existing property and to the landscape in the areas surrounding the work site, and to ensure survey crews limit their work to within the project site boundaries as defined on the Drawings. The Contractor shall not enter areas identified on the Drawings as wetlands. Surveys by the Contractor shall include, but not be limited to, the following:

- a. Initial inspection.
- b. Survey to establish new benchmarks.
- c. Any surveys to reestablish control points.
- d. Any other surveys indicated or implied by these specifications or necessary to document pre-excavation grades and final grades. The Contractor shall comply with all requests by the CO for additional surveys deemed necessary to verify that conditions of the Contract are met. Any surveys necessary to correct defects in the work shall be performed by the Contractor at no additional cost to the Government.

3.2 SURVEY REFERENCE POINTS

- a. The Contractor shall establish a minimum of three new, permanent control points at the locations approved by the CO. Permanent reference points shall be constructed to meet the applicable requirements of the Washington State Code. The Contractor shall protect survey control points prior to starting site work and preserve permanent control points during construction. The Contractor shall not relocate site control points without prior written approval from the CO.
- b. The Contractor shall promptly report to the CO the loss, damage, or destruction of any control points or relocation required because of changes in grades or other reasons. The Contractor shall replace dislocated control points based on original survey control at no additional cost to the Government. Replacement of dislocated control points shall be done by a land surveyor licensed in the State of Washington. Survey accuracy used to relocate disturbed control points shall be equal to or better than that with which the original control was set. At a minimum, control points shall be reset to within the tolerance described in Paragraph 3.4 c.

3.3 INSPECTION AND INITIAL SURVEY

The Contractor shall verify existing site conditions, including but not limited to locations of existing bench marks, survey control points, utilities, topography, and site features, prior to starting work. The Contractor shall promptly notify the CO of any discrepancies discovered. The Contractor shall also verify layouts periodically during construction. The Contractor shall perform a damage inspection prior to the start of work activities at the site. The inspection shall include all structures and identified aboveground utilities. The inspection shall include the limits of site work. The damage inspection results shall be compared to the site conditions indicated on the drawings. Any discrepancies in existing site conditions, damage to existing facilities or missing items shall be noted in writing and provided to the CO prior to the start of site work.

3.4 SURVEY REQUIREMENTS

- a. The Contractor shall reference Contractor established site reference points and survey control points to the provided permanent benchmarks, with horizontal and vertical data, on As Built Records.
- b. The Contractor shall with its own forces obtain working or construction lines or grades as needed.
- c. All control surveys for elevation shall be ± 0.01 foot and, for horizontal, control angles shall be to the nearest twenty (20) seconds ± 10 seconds, and measured distances shall be to ± 0.01 foot. All measurement surveys for elevation shall be to the nearest 0.01 foot and for horizontal distances shall be to ± 0.01 foot.

- d. The Contractor shall provide all materials as required to properly perform the surveys, including, but not limited to, instruments, tapes, rods, measures, mounts and tripods, stakes and hubs, nails, ribbons, other reference markers, and all else as required. All material shall be of good professional quality and in first-class condition.
- e. All lasers, transits, and other instruments shall be calibrated and maintained in accurate calibration throughout the execution of the work. Calibration certificates shall be submitted to the CO prior to the use of any instrument.
- f. The Contractor shall furnish all materials and accessories (i.e., grade markers, stakes, pins, spikes, etc.) required for the proper location of grade points and line.
- g. All marks given shall be carefully preserved and, if destroyed or removed without the CO's approval, they shall be reset, if necessary, at the Contractor's expense.

3.5 SURVEY RECORDS

Upon completion of all fieldwork, the Contractor shall furnish the CO originals of all field notes, computations, any records relating to the quantity survey or to the layout of the work, and an IBM PC-compatible version of any computer software required to interpret the finished data and records. The CO will use them as necessary to verify the amount of progress payments. The survey records shall be kept updated as construction progresses with a marked-up set of record. The Contractor shall retain copies of all such material furnished to the CO. In addition, Contractor shall provide copies of all field notes, maps, or other records within 30 calendar days of completion of the field-work. The Contractor shall perform any necessary surveys to update record drawings and produce final As Built Records to the CO under the provisions of Section 01702 AS BUILT RECORDS AND DRAWINGS. The final coordinates reported on the As-Built Records shall use the State Plane Coordinate System, Washington South Zone, using the North American Datum (NAD 1983). Elevation surveys shall use the North American Vertical Datum of 1988.

3.6 PAYMENT AS AN INCIDENTAL

The cost to the Contractor of all work and delays occasioned by giving lines and grades, or making other necessary measurements, will be considered as having been included in and incidental to the lump sum prices for other items of the work.

END OF SECTION

SECTION 02111

EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 698	(2000a) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))
ASTM D 2167	(1994; R 2001) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2487	(2000) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(2001) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 5434	(1997) Field Logging of Subsurface Explorations of Soil and Rock

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 302	Designation, Reportable Quantities, and Notification
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29 CFR 1926	Safety and Health Regulations for Construction
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U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) Safety and Health Requirements Manual
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1.2 MEASUREMENT AND PAYMENT

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1.2.1 Measurement

Measurement for excavation and on-site transportation shall be based on the actual number of cubic yards of contaminated material in-place prior to excavation. Determination of the volume of contaminated material excavated shall be based on cross-sectional volume determination reflecting the differential between the original elevations of the top of the contaminated material and the final elevations after removal of the contaminated material. Measurement for construction of stockpile areas shall be based on the number of square yards of stockpile liner constructed.

1.2.2 Payment

1.2.2.1 Excavation and Transportation

Compensation for excavation and onsite transportation of contaminated material will be paid as a unit cost. This unit cost shall include any other items incidental to excavation and handling not defined as having a specific unit cost.

1.2.2.2 Stockpiling

Compensation for construction of stockpile areas will be paid for as a unit cost. This unit cost shall include all aspects of grading, preparation, handling, placement, maintenance, removal, treatment, and disposal of stockpile cover materials and liner materials and all other items incidental to construction of stockpiles.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Surveys; G, (CENWS-EC-TB-ET)

Separate cross-sections of each area before and after excavation.

SD-03 Product Data

Excavation and Handling of Contaminated Material Work Plan; G,
(CENWS-EC-TB-ET)

Excavation and Handling of Contaminated Material Work Plan within 30 calendar days after award of contract. No work at the site, with the exception of site inspections and surveys, shall be performed until the Management Plan (see Section 01400) is approved. The Contractor shall allow 30 calendar days in the schedule for the Government's review. No adjustment for time or money will be made if resubmittals of the Management Plan are required due to deficiencies in the plan. At a minimum, the

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Excavation and Handling of Contaminated Material Work Plan shall include:

- a. Schedule of activities.
- b. Method of excavation and equipment to be used.
- c. Dewatering plan.
- d. Storage methods and locations for liquid and solid contaminated material.
- e. Haul routes.
- f. Decontamination procedures.
- g. Spill contingency plan.
- h. Plan detailing the manner in which hazardous wastes shall be managed.

Closure Report; G, (CENWS-EC-TB-ET)

10 copies of the Closure Report within 30 calendar days of work completion at the site.

SD-06 Test Reports

Backfill; G

Surveys; G

Confirmation Sampling and Analysis; G

Sampling of Stored Material; G

Sampling Liquid; G

1.4 SURVEYS

Surveys shall be performed immediately prior to and after excavation of contaminated material to determine the volume of contaminated material removed. The Contractor shall provide cross-sections on 25-foot intervals and at break points for all excavated areas. Locations of confirmation samples shall also be surveyed and shown on the drawings. Surveys shall be performed in accordance with Section:01720.

1.5 REGULATORY REQUIREMENTS

1.5.1 Permits and Licenses

The Contractor shall obtain required federal, state, and local permits for excavation and storage of contaminated material. Permits shall be obtained at no additional cost to the Government.

1.5.2 Air Emissions

Air emissions shall be monitored and controlled in accordance with Section 01355A.

1.6 DESCRIPTION OF WORK

The work shall consist of excavation and temporary storage of approximately 5,000 cubic yards of contaminated material. Characterization data on the nature and extent of the contaminated material is shown in the following document: Draft Site Investigation Report Remedial Investigation Phase: Former Small Arms Ranges: Evergreen (AOC 4-6.3), Miller Hill (4-2.2) and Skeet (AOC 4-3), Fort Lewis, Washington. USACE, March 2004. The Contractor shall submit an Excavation and Handling of Contaminated Material Work Plan as specified in the Submittals paragraph. The Contracting Officer shall be notified within 24 hours, and before excavation, if contaminated material is discovered that has not been previously identified or if other discrepancies between data provided and actual field conditions are discovered. Ground water is typically approximately 10 to 30 feet below pre-excavation ground surface in the project area.

1.7 CHEMICAL TESTING

Required sampling and chemical analysis shall be conducted in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

1.8 SCHEDULING

The Contractor shall notify the Contracting Officer 7 calendar days prior to the start of excavation of contaminated material. The Contractor shall be responsible for contacting regulatory agencies in accordance with the applicable reporting requirements.

PART 2 PRODUCTS

2.1 BACKFILL

This project requires the removal of lead contaminated material on Evergreen Infiltration Range. It does not require backfilling.

2.2 SPILL RESPONSE MATERIALS

The Contractor shall provide appropriate spill response materials including, but not limited to the following: containers, adsorbents, shovels, and personal protective equipment. Spill response materials shall be available at all times when contaminated materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of materials and contaminants being handled.

PART 3 EXECUTION

3.1 EXISTING STRUCTURES AND UTILITIES

No excavation shall be performed until site utilities have been field located. The Contractor shall take the necessary precautions to ensure no damage occurs to existing structures and utilities. Damage to existing structures and utilities resulting from the Contractor's operations shall be repaired at no additional cost to the Government. Utilities encountered that were not previously shown or otherwise located shall not be disturbed without approval from the Contracting Officer. In addition, the Contractor shall immediately notify the Contracting Officer of any utilities discovered that are not shown on the drawings.

3.2 CLEARING

Clearing shall be performed to the limits shown on the drawings in accordance with Section 02231 CLEARING AND GRUBBING.

3.3 CONTAMINATED MATERIAL REMOVAL

3.3.1 Excavation

There will be no stripping of clean material because the clean material is located below contaminated material. Soil contaminated with lead extends from grade to a depth of two-feet below grade within the project limits. Areas of contamination shall be initially excavated to the depth and extent shown on the drawings. Additional excavation may be required to remediate the site, following approval of the Contracting Officer. Excavation shall be performed in a manner that will limit spills and the potential for contaminated material to be mixed with uncontaminated material. An excavation log describing visible signs of contamination encountered shall be maintained for each area of excavation. Excavation logs shall be prepared in accordance with ASTM D 5434.

3.3.2 Dewatering

Surface water shall be diverted to prevent entry into the excavation. Dewatering shall be limited to that necessary to assure adequate access, a safe excavation, and to prevent the spread of contamination.

3.4 CONFIRMATION SAMPLING AND ANALYSIS

The Contracting Officer shall be present to inspect the removal of contaminated material from within the project limits. Lead contamination extends throughout the project site as shown on the drawings. Therefore, the contractor shall initially excavate the entire berm. After excavation, the excavation area shall be examined for evidence of contamination. Field analysis shall be used to determine the presence of lead contamination using XRF. Excavation of additional material beyond the limits indicated on the drawings shall be as directed by the Contracting Officer. After XRF analysis demonstrates that the site is compliant with all chemical parameters and respective action levels, confirmation samples shall be collected and lab analyzed for the following contaminants:

Chemical Parameter	Action Level (mg/kg)
Lead	250

Samples shall be collected at a frequency to be determined by the Contractor based on performance standards described in Section 01450 CHEMICAL DATA QUALITY CONTROL. Based on test results, the Contractor shall propose any additional excavation, which may be required to remove material, which is contaminated above action levels. Additional excavation shall be subject to approval by the Contracting Officer. Locations of samples shall be marked in the field and documented on the as-built drawings.

3.5 CONTAMINATED MATERIAL STORAGE

Material shall be placed in temporary storage immediately after excavation. The following paragraphs describe acceptable methods of material storage. Storage units shall be in good condition and constructed of materials that are compatible with the material or liquid to be stored. If multiple storage units are required, each unit shall be clearly labeled with an identification number and a written log shall be kept to track the source of contaminated material in each temporary storage unit.

3.5.1 Stockpiles

Stockpiles shall be constructed to isolate stored contaminated material from the environment. The maximum stockpile size shall be 500 cubic yards. Stockpiles shall be constructed to include:

- a. A chemically resistant geomembrane liner free of holes and other damage. Non-reinforced geomembrane liners shall have a minimum thickness of 20 mils. Scrim reinforced geomembrane liners shall have a minimum weight of 40 lbs. per 1000 square feet. The ground surface on which the geomembrane is to be placed shall be free of rocks greater than 0.5 inches in diameter and any other object, which could damage the membrane.
- b. Geomembrane cover free of holes or other damage to prevent precipitation from entering the stockpile. Non-reinforced geomembrane covers shall have a minimum thickness of 10 mils. Scrim reinforced geomembrane covers shall have a minimum weight of 26 lbs. per 1000 square feet. The cover material shall be extended over the berms and anchored or ballasted to prevent it from being removed or damaged by wind.
- c. Berms surrounding the stockpile, a minimum of 12 inches in height. Vehicle access points shall also be bermed.
- d. The liner system shall be sloped to allow collection of leachate. Storage and removal of liquid, which collects in the stockpile, in accordance with paragraph Liquid Storage.

3.5.2 Roll-Off Units

Roll-off units used to temporarily store contaminated material shall be watertight. A cover shall be placed over the units to prevent precipitation from contacting the stored material. The units shall be located in areas approved by the CO. Liquid that collects inside the units shall be removed and stored in accordance with paragraph Liquid Storage.

3.5.3 Liquid Storage

Liquid collected from excavations and stockpiles shall be temporarily stored in 55-gallon barrels gallon tanks. Liquid storage containers shall be watertight and shall be located in areas approved by the CO.

3.6 SAMPLING

3.6.1 Sampling of Stabilized Material

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Samples of stabilized material shall be collected at a frequency of once per 500 cubic yards as described in Section 01450. Samples shall be tested for the following:

Chemical Parameter	Action Level (mg/L)
TCLP Lead	5

3.6.2 Sampling Liquid

Liquid collected from excavations, storage areas, and decontamination facilities shall be sampled at a frequency of once for every 500 gallons of liquid collected or one per each distinct water waste stream. Samples shall be tested for the following:

Chemical Parameter	Action Level (ug/L)
Lead	15

Liquid with contaminant levels that exceed action levels shall be disposed of at an approved disposal facility. Analyses for contaminated liquid to be taken to an offsite disposal facility shall conform to local, state, and federal criteria as well as to the requirements of the disposal facility. Documentation of all analyses performed shall be furnished to the Contracting Officer. Additional sampling and analysis to the extent required by the approved disposal facility receiving the material shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government.

3.6.3 Sampling Beneath Storage Units

Samples from beneath each storage unit shall be collected prior to construction of and after removal of the storage unit. Samples shall be collected at a frequency of one per each 10 square yards from a depth interval of 0 to 0.5 feet and shall be tested for the following:

Chemical Parameter	Action Level (mg/kg)
Lead	250

Based on test results, soil which has become contaminated above action levels shall be removed at no additional cost to the Government. Contaminated material removed from beneath the storage unit shall be handled in accordance with paragraph Sampling of Stored Material. As directed by the Contracting Officer and at no additional cost to the Government, additional sampling and testing shall be performed to verify areas of contamination found beneath stockpiles have been cleaned up to below action levels.

3.7 SPILLS

The only contaminated materials within the project site is soil contaminated with lead. Therefore, there will be no spills within the project area associated with the onsite contaminated materials. However, the Contractor shall maintain adequate spill response materials, per paragraph 2.2 SPILL RESPONSE MATERIALS of this section, to respond to spill of petroleum, oils or lubricants associated with the use of onsite machinery. In the event of

a spill or release of a hazardous substance as designated in 40 CFR 302, pollutant, contaminant, or oil as governed by the Oil Pollution Act (OPA), 33 U.S.C. 2701 et seq., the Contractor shall notify the Contracting Officer immediately. If the spill exceeds the reporting threshold, the Contractor shall follow the pre-established procedures as documented by the Fort Lewis Environmental and Natural Resources Department for immediate reporting and containment. Immediate containment actions shall be taken to minimize the effect of any spill or leak. Cleanup shall be in accordance with applicable federal, state, and local regulations. As directed by the Contracting Officer, additional sampling and testing shall be performed to verify spills have been cleaned up. Spill cleanup and testing shall be done at no additional cost to the Government.

3.8 BACKFILLING

3.8.1 Confirmation Test Results

Excavation will continue at the approval of the Contracting Officer. It is the Contracting Officer's intent to continue excavation until XRF and lab results indicate that the areas within the project limits are below the action levels for the parameters approved by the CO. There will be no backfilling following excavation.

3.8.2 Compaction

Grading is required. See Section 2300 for information on earthwork. There is no required compaction.

3.9 DISPOSAL REQUIREMENTS

Offsite disposal of contaminated material shall be in accordance with Section 02120A TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS.

3.10 CLOSURE REPORT

10 copies of a Closure Report shall be prepared and submitted within 30 calendar days of completing work at the site. The report shall be labeled with the contract number, project name, location, date, name of prime contractor, the Corps of Engineers District contracting for the work, and the Fort Lewis Department of Public Works Logo. The Closure Report shall include the following information as a minimum:

- a. A cover letter signed by a Professional Engineer who is a responsible company official certifying that all services involved have been performed in accordance with the terms and conditions of the contract documents and regulatory requirements.

- b. A narrative report including, but not limited to, the following:

- (1) site conditions, ground water elevation, and cleanup criteria;

- (2) excavation logs;

- (3) field screening readings;

(4) quantity of materials removed from each area of contamination;

(5) quantity of water/product removed during dewatering;

(6) sampling locations and sampling methods;

(7) sample collection data such as time of collection and method of preservation;

(8) sample chain-of-custody forms.

c. Copies of all test results.

d. Copies of all manifests and land disposal restriction notifications.

e. Copies of all certifications of final disposal signed by the responsible disposal facility official.

f. Waste profile sheets.

g. Scale drawings showing limits of each excavation, limits of contamination, known underground utilities within the project limits, sample locations, and sample identification numbers. On-site stockpile, storage, treatment, loading, and disposal areas shall also be shown on the drawings.

h. Progress Photographs. Color photographs shall be used to document progress of the work. A minimum of four views of the site showing the location of the area of contamination, entrance/exit road, and any other notable site conditions shall be taken before work begins. After work has been started, activities at each work location shall be photographically recorded weekly. Photographs shall be a minimum of 4 x 6 inches and shall include:

(1) Soil removal and all sampling locations.

(2) Dewatering operations.

(3) Unanticipated events such as spills, and the discovery of additional contaminated material, utilities not shown on the drawings, unexploded ordnance, or any other previously unidentified condition that the Contracting Officer was notified about.

(4) Contaminated material/water storage, handling, treatment, and transport.

(5) Site or task-specific employee respiratory and personal protection.

(6) Grading.

(7) Post-construction photographs. After completion of work at each site, the Contractor shall take a minimum of ten pictures of the project site documenting the final condition of the site, ensuring that four views of project limits are adequately shown.

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A digital version of all photos shown in the report shall be included with the Closure Report. Photographs shall be a minimum of 4 inches by 6 inches and shall be mounted back-to-back in double face plastic sleeves punched to fit standard three ring binders. Each print shall have an information box attached. The box shall be typewritten and arranged as follows:

Project Name:	Direction of View:
Location:	Date/Time:
Photograph No.:	Description of View:

-- End of Section --

SECTION 02120A

TRANSPORTATION AND DISPOSAL OF MATERIALS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

IATA DGR (2004) Dangerous Goods Regulations

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

DOT 4500.9R Defense Transportation Regulation, Chapter
204, Hazardous Material

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
40 CFR 279	Standards for the Management of Used Oil
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan

40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 61	National Emission Standards for Hazardous Air Pollutants
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

On-site Hazardous Waste Management Plan; G, CENWS-EC-TB-ET

See paragraph 3.1.2 of Section 02120 for contents of the Hazardous Waste Management Plan.

Notices of Non-Compliance and Notices of Violation; FIO.

Notices of non-compliance or notices of violation, as specified.

SD-06 Test Reports

Recordkeeping; G, CENWS-EC-TB-ET

Information necessary to file state annual or EPA biennial reports for all hazardous waste transported, treated, stored, or disposed of under this contract. The Contractor shall not forward these data directly to the regulatory agency but to the Contracting Officer at the specified time. The submittal shall contain all the information necessary for filing of the formal reports in the form and format required by the governing Federal or state regulatory agency. A cover letter shall accompany the data to include the contract number, Contractor name, and project location.

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Spill Response; G, CENWS-EC-TB-ET

In the event of a spill or release of a hazardous substance (as designated in 40 CFR 302), or pollutant or contaminant, or oil (as governed by the Oil Pollution Act (OPA), 33 U.S.C. 2701 et seq.), the Contractor shall notify the Contracting Officer immediately. If the spill exceeds a reporting threshold, the Contractor shall follow the pre-established procedures for immediate reporting to the Contracting Officer, the Fort Lewis Environmental and Natural Resource Department, and Fort Lewis Fire Department.

Exception Reports; G, CENWS-EC-TB-ET

In the event that a manifest copy documenting receipt of hazardous waste at the treatment, storage, and disposal facility is not received within 35 days of shipment initiation, the Contractor shall prepare and submit an exception report to the Contracting Officer within 37 days of shipment initiation.

Packaging Notifications; FIO

In accordance with 49 CFR 178.2(c), the Contractor shall acquire the appropriate notifications from the package manufacturers or any other persons certifying compliance with the packaging provisions and provide these to the Government.

SD-07 Certificates

Certification; FIO

Copies of the current certificates of registration required by 49 CFR 107, Subpart G issued to the Contractor and/or subcontractors or written statements certifying exemption from these requirements.

Security Plan; G, CENWS-EC-TB-ET

Pre-transportation security plan, as specified.

Transportation and Disposal Coordinator; FIO

Transportation and Disposal Coordinator qualifications including proof of at least one year specialized experience in management and transportation of hazardous wastes; proof of current Department of Transportation Hazardous Materials Training Certification; and, where applicable, proof of IATA DGR.

Training; FIO

Documentation that employees preparing or transporting hazardous materials have been trained, tested, and certified per 49 CFR 172, Subpart H, including general security awareness requirements and where applicable, site-specific security plan requirements.

EPA Off-Site Policy; FIO

A letter certifying that EPA considers the facilities to be used for all off-site disposal to be acceptable in accordance with the Off-Site policy in 40 CFR 300, Section .440. This certification

shall be provided for wastes from Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 et seq., sites as well as from Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., responses. See Attachment A, sample certification, at the end of this section.

Certificates of Disposal; G, CENWS-EC-TB-ET

Certificates documenting the ultimate disposal, destruction or placement of hazardous and non-hazardous wastes within 180 days of initial shipment. Receipt of these certificates will be required for final payment.

Shipping Documents and Packagings Certification; ; G, CENWS-EC-TB-ET

All transportation related shipping documents to the Contracting Officer, including draft hazardous waste manifests, draft bill of lading for hazardous materials, lists of corresponding proposed labels, packages, marks, and placards to be used for shipment, waste profiles, supporting waste analysis documents, for review a minimum of 14 days prior to anticipated pickup. Packaging assurances shall be furnished prior to transporting hazardous material; bill of lading, supporting waste analysis documents shall be furnished when shipments are originated; and "receipt copies" of hazardous waste manifests, shall be furnished not later than 35 days after acceptance of the shipment.

Waste Minimization; G, CENWS-EC-TB-ET

Written certification that waste minimization efforts have been undertaken to reduce the volume and toxicity of waste to the degree economically practicable and that the method of treatment, storage, or disposal selected minimizes threats to human health and the environment.

1.3 QUALIFICATIONS

1.3.1 Transportation and Disposal Coordinator

The Contractor shall designate, by position and title, one person to act as the Transportation and Disposal Coordinator (TDC) for this contract. The TDC shall serve as the single point of contact for all environmental regulatory matters and shall have overall responsibility for total environmental compliance at the site including, but not limited to, accurate identification and classification of hazardous waste and hazardous materials; determination of proper shipping names; identification of marking, labeling, packaging and placarding requirements; completion of waste profiles, bill of lading, exception and discrepancy reports; and all other environmental documentation. The TDC shall have, at a minimum, one year of specialized experience in the management and transportation of hazardous waste and have been Department of Transportation certified under 49 CFR 172, Subpart H. See Attachment B for specific requirements for Fort Lewis.

1.3.2 Training

The Contractor's hazardous materials employees shall be trained, tested, and certified to safely and effectively carry out their assigned duties in accordance with Section 01351A SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST). The Contractor's employees transporting hazardous materials or preparing hazardous materials for transportation, including samples, shall be trained, tested, and certified in accordance with 49 CFR 172, Subpart H, including security awareness and any applicable security plans. Contractor employees making determinations that shipments do not constitute DOT regulated hazardous materials shall also be trained, tested, and certified in accordance with 49 CFR 172, Subpart H. See Attachment B for specific requirements for Fort Lewis.

1.3.3 Certification

The Contractor and/or subcontractors transporting hazardous materials shall possess a current certificate of registration issued by the Research and Special Programs Administration (RSPA), U.S. Department of Transportation, when required by 49 CFR 107, Subpart G.

1.4 LAWS AND REGULATIONS REQUIREMENTS

Work shall meet or exceed the minimum requirements established by Federal, state, and local laws and regulations, which are applicable. These requirements are amended frequently and the Contractor shall be responsible for complying with amendments as they become effective. In the event that compliance exceeds the scope of work or conflicts with specific requirements of the contract, the Contractor shall notify the Contracting Officer immediately. See Attachment B for specific requirements for Fort Lewis.

1.5 DEFINITIONS

- a. Hazardous Material. A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. Appendix Section 1801 et seq. The term includes materials designated as hazardous materials under the provisions of 49 CFR 172, Sections .101 and .102 and materials which meet the defining criteria for hazard classes and divisions in 49 CFR 173. EPA designated hazardous wastes are also hazardous materials.
- b. Hazardous Waste. A waste which meets criteria established in RCRA or specified by the EPA in 40 CFR 261 or which has been designated as hazardous by a RCRA authorized state program.

PART 2 PRODUCTS

2.1 MATERIALS

The Contractor shall provide all of the materials required for the packaging, labeling, marking, placarding and transportation of hazardous wastes and hazardous materials in conformance with Department of

Transportation standards and USACE EP 415-1-266. Details in this specification shall not be construed as establishing the limits of the Contractor's responsibility. See Attachment B for specific requirements for Fort Lewis.

2.1.1 Packagings

The Contractor shall provide bulk and non-bulk containers for packaging hazardous materials/wastes consistent with the authorizations referenced in the Hazardous Materials Table in 49 CFR 172, Section .101, Column 8. Bulk and non-bulk packaging shall meet the corresponding specifications in 49 CFR 173 referenced in the Hazardous Materials Table, 49 CFR 172, Section .101. Each packaging shall conform to the general packaging requirements of Subpart B of 49 CFR 173, to the requirements of 49 CFR 178 at the specified packing group performance level, to the requirements of special provisions of column 7 of the Hazardous Materials Table in 49 CFR 172, Section .101, and shall be compatible with the material to be packaged as required by 40 CFR 262. The Contractor shall also provide other packaging related materials such as materials used to cushion or fill voids in overpacked containers, etc. Sorbent materials shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the hazardous materials being packaged. Additionally, sorbents used to treat free liquids to be disposed of in landfills shall be non-biodegradable as specified in 40 CFR 264, Section .314. In addition, packaging notifications will be provided to the Government per 49 CFR 172, Section .178.2(c) regarding type and dimensions of closures, including gaskets, needed to satisfy performance test requirements. See Attachment B for specific requirements for Fort Lewis.

2.1.2 Markings

The Contractor shall provide markings for each hazardous material/waste package, freight container, and transport vehicle consistent with the requirements of 49 CFR 172, Subpart D and 40 CFR 262, Section .32 for hazardous waste. Markings shall be capable of withstanding, without deterioration or substantial color change, a 180 day exposure to conditions reasonably expected to be encountered during container storage and transportation. See Attachment B for specific requirements for Fort Lewis.

2.1.3 Labeling

The Contractor shall provide primary and subsidiary labels for hazardous materials/wastes consistent with the requirements in the Hazardous Materials Table in 49 CFR 172, Section .101, Column 6. Labels shall meet design specifications required by 49 CFR 172, Subpart E including size, shape, color, printing, and symbol requirements. Labels shall be durable and weather resistant and capable of withstanding, without deterioration or substantial color change, a 180-day exposure to conditions reasonably expected to be encountered during container storage and transportation.

2.1.4 Placards

For each off-site shipment of hazardous material/waste, the Contractor shall provide primary and subsidiary placards consistent with the requirements of 49 CFR 172, Subpart F. Placards shall be provided for each side and each

end of bulk packaging, freight containers, transport vehicles, and rail cars requiring such placarding. Placards may be plastic, metal, or other material capable of withstanding, without deterioration, a 30 day exposure to open weather conditions and shall meet design requirements specified in 49 CFR 172, Subpart F.

2.1.5 Spill Response Materials

The Contractor shall provide spill response materials including, but not limited to, containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times in which hazardous materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

2.2 EQUIPMENT AND TOOLS

The Contractor shall provide miscellaneous equipment and tools necessary to handle hazardous materials and hazardous wastes in a safe and environmentally sound manner.

PART 3 EXECUTION

3.1 ON-SITE HAZARDOUS WASTE MANAGEMENT

These paragraphs apply to Government owned waste only. Contractors are prohibited by 10 U.S.C. 2692 from storing contractor owned waste on site for any length of time. The Contractor shall be responsible for ensuring compliance with all Federal, state, and local hazardous waste laws and regulations and shall verify those requirements when preparing reports, waste shipment records, hazardous waste manifests, or other documents. The Contractor shall identify hazardous wastes using criteria set forth in 40 CFR 261 or all applicable state and local laws, regulations, and ordinances. When accumulating hazardous waste on-site, the Contractor shall comply with generator requirements in 40 CFR 262 and any applicable state or local law or regulations. On-site accumulation times shall be restricted to applicable time frames referenced in 40 CFR 262, Section .34 and any applicable state or local law or regulation. Accumulation start dates shall commence when waste is first generated (i.e. containerized or otherwise collected for discard). The Contractor shall only use containers in good condition and compatible with the waste to be stored. The Contractor shall be responsible for ensuring containers are closed except when adding or removing waste. The Contractor shall be responsible for immediately marking all hazardous waste containers with the words "hazardous waste" and other information required by 40 CFR 262, Section .32 and any applicable state or local law or regulation as soon as the waste is containerized. An additional marking shall be placed on containers of "unknowns" designating the date sampled, and the suspected hazard. The Contractor shall be responsible for inspecting containers for signs of deterioration and shall be responsible for responding to any spills or leaks. The Contractor shall inspect all hazardous waste areas weekly and shall provide written documentation of the inspection in the closure report. Inspection logs shall contain date and time of inspection, name of individual conducting the inspection, problems noted, and corrective actions taken. See Attachment B for specific requirements for Fort Lewis.

3.1.1 Hazardous Waste Classification

The Contractor, in consultation with the Contracting Officer, shall identify all waste codes applicable to each hazardous waste stream based on requirements in 40 CFR 261 or any applicable state or local law or regulation. The Contractor shall also identify all applicable treatment standards in 40 CFR 268 and state land disposal restrictions and shall make a determination as to whether or not the waste meets or exceeds the standards. Waste profiles, analyses, classification and treatment standards information shall be submitted to Contracting Officer for review and approval.

3.1.2 Investigation Derived Waste Samples

Investigation derived waste (IDW) samples shall be collected and analyzed according to Attachment B.

3.1.3 Management Plan

The Contractor shall prepare a plan detailing the manner in which hazardous wastes will be managed and describing the types and volumes of hazardous wastes anticipated to be managed as well as the management practices to be utilized. The plan shall identify the method to be used to ensure accurate piece counts and/or weights of shipments; shall identify waste minimization methods; shall propose facilities to be utilized for treatment, storage, and/or disposal; shall identify areas on-site where hazardous wastes are to be handled; shall identify whether transfer facilities are to be utilized; and if so, how the wastes will be tracked to ultimate disposal. The plan must also include EPA ID numbers, names, locations, telephone numbers of TSD facilities and transporters. In addition, the Plan must include waste profiles, analyses, classification and treatment standards information shall be submitted to Contracting Officer for review and approval. See Attachment B for specific requirements for Fort Lewis.

3.2 OFF-SITE HAZARDOUS WASTE MANAGEMENT

The Contractor shall use RCRA Subtitle C permitted facilities which meet the requirements of 40 CFR 264 or facilities operating under interim status which meet the requirements of 40 CFR 265. Off-site treatment, storage, and/or disposal facilities with significant RCRA violations or compliance problems (such as facilities known to be releasing hazardous constituents into ground water, surface water, soil, or air) shall not be used. The Contractor shall submit Notices of Non-Compliance and Notices of Violation by a Federal, state, or local regulatory agency issued to the Contractor in relation to any work performed under this contract. The Contractor shall immediately provide copies of such notices to the Contracting Officer. The Contractor shall also furnish all relevant documents regarding the incident and any information requested by the Contracting Officer, and shall coordinate its response to the notice with the Contracting Officer or his designated representative prior to submission to the notifying authority. The Contractor shall also furnish a copy to the Contracting Officer of all documents submitted to the regulatory authority, including the final reply to the notice, and all other materials, until the matter is resolved.

3.2.1 Treatment, Storage, and/or Disposal Facility and Transporter

The Contractor shall provide the Contracting Officer with EPA ID numbers, names, locations, and telephone numbers of TSD facilities and transporters. This information shall be contained in the Hazardous Waste Management Plan and shall be approved by the Contracting Officer prior to waste disposal.

3.2.2 Status of the Facility

Facilities receiving hazardous waste must be permitted in accordance with 40 CFR 270 or operating under interim status in accordance with 40 CFR 265 requirements, or must be permitted by a state authorized by the Environmental Protection Agency to administer the RCRA permit program. Additionally, prior to using a TSD Facility, the Contractor shall contact the EPA Regional Off-site Coordinator specified in 40 CFR 300, Section .440, to determine the facility's status, and document all information necessary to satisfy the requirements of the EPA Off-Site policy and furnish this information to the Contracting Officer.

3.2.3 Shipping Documents and Packagings Certification

Prior to shipment of any hazardous material off-site, the Contractor's TDC shall provide written certification to the Contracting Officer that hazardous materials have been properly packaged, labeled, and marked in accordance with Department of Transportation and EPA requirements. The Contractor's TDC shall also provide written certification regarding waste minimization efforts documenting that efforts have been taken to reduce the volume and toxicity of waste to the degree economically practicable and that the method of treatment, storage, or disposal selected minimizes threats to human health and the environment.

3.2.4 Transportation

Prior to conducting hazardous materials activities, the Contractor responsible for pre-transportation activities shall either certify to the Government that a Security Plan is in place which meets the requirements of 49 CFR 172, Subpart I or in the event that the types or amounts of hazardous materials are excluded from the security planning requirements, a written statement to that effect detailing the basis for the exception. The Contractor shall coordinate with Fort Lewis Public Works ENRD Operations (HW) for manifests for transporting hazardous wastes as required by 40 CFR 263 or any applicable state or local law or regulation. See Attachment B for specific requirements for Fort Lewis. Transportation shall comply with all requirements in the Department of Transportation referenced regulations in the 49 CFR series. The Contractor shall prepare hazardous waste manifests for each shipment of hazardous waste shipped off-site. Manifests shall be completed using instructions in 40 CFR 262, Subpart B and any applicable state or local law or regulation. Manifests and waste profiles shall be submitted to Contracting Officer for review and approval. The Contractor shall prepare land disposal restriction notifications as required by 40 CFR 268 or any applicable state or local law or regulation for each shipment of hazardous waste. Notifications shall be submitted with the manifest to the Contracting Officer for review and approval. In accordance with DOT 4500.9R, the Contractor shall inspect motor vehicles used to transport hazardous materials in accordance the 49 CFR, the Revised Code of Washington (Title 46 Chapter 44), and DOT safety regulations and shall complete DD Form 626, Motor Vehicle Inspection.

3.2.5 Disposal and Treatment of Hazardous Wastes

The Contractor will be responsible for the proper disposal of both the soil and water waste stream. Profile and manifests will be coordinated through Public Works Hazardous Waste (see Attachment B for specific requirements for Fort Lewis). Water waste streams will need to be profiled but the bullet/rock waste stream profile is available based on waste stream knowledge.

The hazardous waste shall be transported to an approved hazardous waste treatment, storage, or disposal facility within 90 days of the accumulation start date on each container. The Contractor shall ship hazardous wastes only to facilities, which are properly permitted to accept the hazardous waste or operating under interim status. The Contractor shall ensure wastes are treated to meet land disposal treatment standards in 40 CFR 268 prior to land disposal. The Contractor shall propose TSD facilities via submission of the Hazardous Waste Management Plan, subject to the approval of the Contracting Officer. The Contractor shall submit Certificates of Disposal as specified in the Submittals paragraph.

3.3 HAZARDOUS MATERIALS MANAGEMENT

The Contractor must report all material removed from Fort Lewis whether for reuse, disposal to a landfill or sent to recycling facility to the Pollution Prevention office. Information must include amounts, type of material and destination facility. The point of contact for reporting this information is Ms. Stacy Randall (253) 966-6470.

The Contractor, in consultation with the Contracting Officer, shall evaluate, prior to shipment of any material off-site, whether the material is regulated as a hazardous waste in addition to being regulated as a hazardous material; this shall be done for the purpose of determining proper shipping descriptions, marking requirements, etc., as described below.

3.3.1 Identification of Proper Shipping Names

The Contractor shall use 49 CFR 172, Section .101 to identify proper shipping names for each hazardous material (including hazardous wastes) to be shipped off-site. Proper shipping names shall be submitted to the Contracting Officer in the form of draft shipping documents for review and approval.

3.3.2 Packaging, Labeling, and Marking

The Contractor shall package, label, and mark hazardous materials/wastes using the specified materials and in accordance with the referenced authorizations. The Contractor shall mark each container of hazardous waste of 110 gallons or less with the following:

"HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal.

If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's name _____

Manifest Document Number _____

3.3.3 Shipping Documents

The Contractor shall ensure that each shipment of hazardous material sent off-site is accompanied by properly completed shipping documents. This includes shipments of samples that may potentially meet the definition of a Department of Transportation regulated hazardous material.

3.3.3.3 Other Hazardous Material Shipment Documents

The Contractor shall prepare a bill of lading for each shipment of hazardous material, which is not accompanied by a hazardous waste manifest, which fulfills the shipping paper requirements. The bill of lading shall satisfy the requirements of 49 CFR 172, Subpart C, and 40 CFR 279 if shipping used oil and any applicable state or local law or regulation, and shall be submitted to the Contracting Officer for review and approval. For laboratory samples and treatability study samples, the Contractor shall prepare bills of lading and other documentation as necessary to satisfy conditions of the sample exclusions in 40 CFR 261, Section .4(d) and (e) and any applicable state or local law or regulation. Bill of lading requiring shipper's certifications will be signed by the Contractor.

3.4 OBTAINING EPA ID NUMBERS

The Contractor shall complete EPA Form 8700-12, Notification of Hazardous Waste Activity, and submit to the Contracting Officer for review and approval. The Contractor shall allow a minimum of 30 days for processing the application and assigning the EPA ID number. Shipment shall be made not earlier than one week after receipt of the EPA ID number.

3.6 WASTE MINIMIZATION

The Contractor shall minimize the generation of hazardous waste to the maximum extent practicable. The Contractor shall take all necessary precautions to avoid mixing clean and contaminated wastes. The Contractor shall identify and evaluate recycling and reclamation options as alternatives to land disposal. Requirements of 40 CFR 266 shall apply to: hazardous wastes recycled in a manner constituting disposal; hazardous waste burned for energy recovery; lead-acid battery recycling; and hazardous wastes with economically recoverable precious metals.

3.7 RECORDKEEPING

The Contractor shall be responsible for maintaining adequate records to support information provided to the Contracting Officer regarding exception reports, annual reports, and biennial reports. The Contractor shall be responsible for maintaining bill of lading for a minimum of 375 days from the date of shipment or any longer period required by any applicable law or regulation or any other provision of this contract.

3.8 SPILL RESPONSE

The Contractor shall respond to any spills of hazardous material or hazardous waste, which are in the custody or care of the Contractor, pursuant to this contract. Any direction from the Contracting Officer

concerning a spill or release shall not be considered a change under the contract. The Contractor shall comply with all applicable requirements of Federal, state, or local laws or regulations regarding any spill incident.

3.9 EMERGENCY CONTACTS

The Contractor shall be responsible for complying with the emergency contact provisions in 49 CFR 172, Section.604. Whenever the Contractor ships hazardous materials, the Contractor shall provide a 24 hr emergency response contact and phone number of a person knowledgeable about the hazardous materials being shipped and who has comprehensive emergency response and incident mitigation information for that material, or has immediate access to a person who possesses such knowledge and information. The phone must be monitored on a 24 hour basis at all times when the hazardous materials are in transportation, including during storage incidental to transportation. The Contractor shall ensure that information regarding this emergency contact and phone number is placed on all hazardous material shipping documents. The Contractor shall designate an emergency coordinator and post the following information at areas in which hazardous wastes are managed:

- a. The name of the emergency coordinator.
- b. Phone number through which the emergency coordinator can be contacted on a 24-hour basis.
- c. The telephone number of the local fire department and Fort Lewis Environmental and Natural Resources Department.
- d. The location of fire extinguishers and spill control materials.

Attachment A

SAMPLE OFF-SITE POLICY CERTIFICATION MEMO

Project/Contract #: _____

Waste Stream: _____

Primary TSD Facility, EPA ID # and Location: _____

Alter. TSD Facility, EPA ID # and Location: _____

EPA Region	Contact
I	(617) 918-1752
II	(212) 637-4130
III	(214) 814-5267
IV	(404) 562-8591
V	(312) 353-8207
VI	(214) 665-2282
VII	(913) 551-7154
VIII	(303) 312-6419
IX	(415) 972-3304
X	(206) 553-2859

EPA representative contacted: _____

EPA representative phone number: _____

Date contacted: _____

Comment: _____

The above EPA representative was contacted on _____. As of that date, the above sites were considered acceptable in accordance with the Off-Site Policy in 40 CFR 300.440.

Signature: _____ Date: _____

Phone number: _____

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Attachment B

Fort Lewis Requirements for Disposal of Waste Streams

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HAZARDOUS WASTE

Regulations

The contractor is subject to all provisions of FL Reg. 200-1 and WAC 173-303. The Contractor shall comply with both FL Reg. 200-1 and WAC 173-303.

Identification

The contractor shall fully identify all hazardous waste (HW), which is generated on site during the execution of this contract. The contractor shall completely characterize the waste stream to identify the waste constituents and all applicable state and federal waste codes. Each waste profile shall be recorded separately on a hazardous waste profile packet (see attached). This will be the only approved profile generation packet accepted. Additional packets are available for the PW ENRD Operations (HW) section, Bldg. 1210. The Contractor shall be responsible for any and all laboratory costs associated to verify the waste stream identification. Completed Waste Profiles shall be turned in to the PW ENRD Operations, (HW) Section, Bldg. 1210, Fort Lewis.

Environmental Compliance Officer/Hazardous Waste Technician

The contractor shall appoint in writing and provide to the PW ENRD Operations (HW) no later than (NLT) 60 days before commencement of contract, the names of both the Environmental Compliance Officer (ECO) and the Hazardous Waste Technician (HWT). Both the ECO and HWT shall attend and complete the prescribed training for ECO and HWT IAW with FL Reg. 200-1. Training shall be completed NLT 45 days before the commencement of the contract.

Accumulation

HW shall be accumulated in an approved facility which meets the criteria as outlined in FL Reg. 200-1. The facility shall be furnished at no cost to the government. The appointed ECO shall establish a HW account at the PW ENRD Operations (HW) section, Bldg. 1210. Containers, which are drawn for HW accumulation, shall be stored only at the pre-approved site, in the pre-approved facility/building IAW FL Reg. 200-1. The ECO shall be responsible for the weekly written inspection of the HW accumulation site. Findings will be recorded on the FL HFL Form 950 (rev 1 Nov 03). Any and all discrepancies found, regardless of nature shall be annotated. Corrective actions taken shall also be noted. All weekly inspections shall be kept on site. The site is subject un-announced environmental compliance inspection, by the PW ENRD, Operations Section, Environmental Compliance Inspection Team, IAW FL re. 200-1.

Disposal and transportation generated of HW

Disposal of HW shall be accomplished only by the PW ENRD Operations (HW) section. The Contractor shall not contract, manifest or dispose of any Regulated, non-RCRA, or State listed wastes. Only PW ENRD, Operations (HW) section personnel, shall dispose of wastes, which are collected in FL issues containers.

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SECTION 02231

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Nonsaleable Materials; G, CENWS-EC-TB-ET.

Written permission to dispose of such products on private property shall be filed with the Contracting Officer.

1.2 DELIVERY, STORAGE, AND HANDLING

Deliver materials to, store at the site, and handle in a manner that will maintain the materials in their original manufactured or fabricated condition until ready for use.

PART 2 EXECUTION

2.1 PROTECTION

2.1.1 Roads and Walks

Keep roads and walks free of dirt and debris at all times.

2.1.2 Trees, Shrubs, and Existing Facilities

Protection shall be in accordance with Section 01355, ENVIRONMENTAL PROTECTION. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by such means as the circumstances require, following approval by the Contracting Officer.

2.1.3 Utility Lines

Protect existing utility lines. The Contractor shall obtain the necessary Digging Permit prior to excavation within the project limits. In addition, the Contractor is responsible for obtaining all additional required permits, and conducting a utility locate prior to excavation within the project limits. Notify the Contracting Officer immediately of additional utilities

discovered that are not indicated on the drawings. In addition, notify the CO immediately of damage to or an encounter with an unknown existing utility line. The Contractor shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to the Contractor prior to start of clearing and grubbing operations. No utility lines are planned to be removed from within the project limits. Expected interruption of Fort Lewis utility lines due to onsite work must be coordinated from the Contractor, through the Contracting Officer two weeks prior to the expected interruption to allow for coordination with Fort Lewis Department of Public Works and other Fort Lewis agencies.

2.2 CLEARING

All trees have been removed in May 2004. At notice to proceed, there should not be any trees or structures within the project limits that require removal. Therefore, clearing shall consist of the satisfactory disposal of snags, brush, stumps and rubbish occurring within the areas to be cleared. Stumps and other debris shall be stockpiled outside of the visual range of the road.

However, if trees are left onsite and the Contracting Officer requires their removal, clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. Trees designated for removal, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface.

2.3 TREE REMOVAL

This work shall include the felling of trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

2.4 GRUBBING

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas. Material to be grubbed, together with logs and other organic or non-organic debris shall be removed to a depth of not less than 18 inches below the original ground surface level within the designated grubbing areas.

2.5 DISPOSAL OF MATERIALS

2.5.1 Saleable Timber

The Government shall, by separate contract, harvest all saleable timber from the project site prior to this contract's notice to proceed. Consider felled timber from which saw logs and fuelwood can be produced as saleable timber. Sawlogs and fuelwood will remain the property of the Government. This saleable timber shall be stockpiled on site in an area free of debris where it does not interfere with the construction project and will be accessible at a later date. The stockpile timber will remain the property of the Government. All remaining limbs, tops, stumps, and debris shall be cleared and disposed of by the Contractor as specified.

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Logs shall be sorted by size and placed in separate decks for sawlogs and fuelwood. Trees shall be cut from the stump and limbed to the top before decking. Whenever possible logs shall be left in tree length. If trees are too large to be handled tree length, cut 40-foot logs plus 12 inches trim allowance from the butt. The minimum size for a sawlog is 6 inches Diameter Inside Bark (DIB) on the small end and 16 feet in length. All logs not suitable for sawlogs shall be placed in a fuelwood deck. The minimum size for a fuelwood log is 5 inches diameter on the large end and 8 feet in length.

2.5.2 Nonsaleable Materials

Logs, stumps, roots, brush, rotten wood, trash, and other refuse from the clearing and grubbing operations, except for salable timber, become the property of the Contractor and shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility. The Contractor shall make a reasonable attempt to recycle the nonsaleable materials prior to disposing of the materials at a facility approved by the CO.

-- End of Section --

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SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C 136	(2001) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 1140	(2000) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2167	(1994; R 2001) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2487	(2000) Soils for Engineering Purposes (Unified Soil Classification System)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 530/F-93/004	1993; Rev O and Updates) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II) (SW-846)
EPA 600/4-79/020	(1983) Methods for Chemical Analysis of Water and Wastes

1.2 MEASUREMENT

1.2.1 Excavation

The unit of measurement for excavation will be the cubic yard, computed by the average end area method from cross sections taken before and after the

excavation and borrow operations, including the excavation for ditches, gutters, and channel changes, when the material is acceptably utilized or disposed of as herein specified. The measurements will include authorized excavation of soil, and the volume of loose, scattered rocks and boulders collected within the limits of the work. The measurement will not include the volume of material or other material that is scarified or plowed and reused in-place, and will not include the volume excavated without authorization or the volume of any material used for purposes other than directed. The measurement will not include the volume of any excavation performed prior to the taking of elevations and measurements of the undisturbed grade.

1.3 PAYMENT

Payment will constitute full compensation for all labor, equipment, tools, supplies, and incidentals necessary to complete the work.

1.6 SUBSURFACE DATA

There are no subsurface soil boring logs for the project site. See Section 02111, paragraph 1.6 DESCRIPTION OF WORK, for more available surface and subsurface data collected within the project limits.

1.7 CLASSIFICATION OF EXCAVATION

No consideration will be given to the nature of the materials, and all excavation will be designated as unclassified excavation.

1.8 CRITERIA FOR BIDDING

Base bids on the following criteria:

- a. Surface elevations are as indicated.
- b. Utilities or other artificial obstructions, except those indicated, will not be encountered.
- c. The depth to groundwater is typically approximately 10 to 30 feet below ground surface (bgs) in this area.

PART 2 EXECUTION

3.2 GENERAL EXCAVATION

The intent of this contract is to remediate the project site via or removal of bullets, stabilization of lead contaminated soil and placement of the soil in an approved active range. Regardless, there will be no backfilling associated with this project. The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be

in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material excavated shall be disposed of as directed.

3.2.2 Drainage Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed.

3.2.3 Drainage

Provide for the collection and disposal of surface and subsurface water encountered during construction. Completely drain remediation site during periods of construction to keep soil materials sufficiently dry. The Contractor shall establish/construct storm drainage retention features at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed.

3.2.4 Dewatering

Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction.

3.2.6 Underground Utilities

Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Excavation made with power-driven equipment is not permitted within five feet of known Government-owned utility or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Contracting Officer. Report damage to utility lines or subsurface construction immediately to the Contracting Officer.

3.4 OPENING AND DRAINAGE OF EXCAVATION AND BORROW PITS

The Contractor shall notify the Contracting Officer 14 days prior to the opening of any excavation to permit elevations and measurements of the undisturbed ground surface to be taken. Except as otherwise permitted, excavation areas shall be excavated providing adequate drainage. The

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Contractor shall ensure that all earthwork activities result in minimum detrimental effects on natural environmental conditions.

3.6 GRADING AREAS

The Contractor shall not haul material excavated in one grading area to another grading area except when so directed in writing. Stockpiles shall be kept in a neat and well-drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment. The goal of this contract is to only remove soil, which is contaminated with lead. Therefore, it is also the goal of this contract to minimize excavation of clean material. If clean material is excavated, stockpiles of clean materials shall be protected from contamination, which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes contaminated, such material shall be removed and replaced with clean material from approved sources.

3.9 UTILIZATION OF EXCAVATED MATERIALS

Materials removed from excavations shall have bullets removed, be stabilized and disposed of in an approved active range. No excavated material shall be disposed of to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

3.16 FINISHING

The surface of excavations shall be finished to a smooth surface.

3.16.1 Subgrade

During construction, excavations shall be kept shaped and drained. Ditches and drains along subgrade shall be maintained to drain effectively at all times. The finished subgrade shall not be disturbed by traffic or other operation and shall be protected and maintained by the Contractor in a satisfactory condition.

-- End of Section --

DAILY CHEMICAL QUALITY CONTROL REPORT

Project Name:

Project No.:

Date							
Day	S	M	T	W	TH	F	S
Weather	Brigh t Sun	Clea r	Mostly Cloudy	Rain	Snow		
Temp							
Wind				Report No.			
Humidity							

Personnel and Visitors on Site (List names and affiliations):

Equipment on Site:

Work Performed Today (Include tasks performed and progress/delays):

DAILY CHEMICAL QUALITY CONTROL REPORT

Project Name:

Project No./Task No.:

Date:

Safety (Include any infractions of approved safety plan or instructions from Government personnel. Specify corrective action taken):

Attached Forms (check box and describe):

☐

☐

Laboratory Data – ☐ XRF, ☐ Fixed

Samples Collected (Field and QA)/Requested Analyses/Laboratories Performing Work:

Field Audit Results/Problems Encountered/Corrective Actions Taken:

Instructions to Contractors (Include names, reactions, and remarks):

By _____
(Signature/Printed Name)

Title Field Investigation Leader

Report on Treatment of Fort Lewis Soil: Baseline Soil Characteristics, Treatment Effectiveness, and Geotechnical Properties

Prepared by Victor Medina
Environmental Engineer
United States Army Corps of Engineers
Engineer Research & Development Center (ERDC)
Vicksburg, MS
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Background/Purpose

Ft. Lewis, in western WA, has numerous sites with soil contaminated with lead bullets, bullet fragments and pellets stemming from firing range usage. A team of AMEC Earth & Environmental Inc. (AMEC), Brice Engineering (Brice), Doyle-Ellis, Encapco, and ERDC are developing a treatment approach based on separation of lead from the bulk soil, and, if required, stabilization lead in fine soil material.

On August 18 and 19, 2003, representatives from AMEC, Brice, and ERDC collected samples from Ft. Lewis to conduct preliminary studies, which will be used to design a treatment system for the soils. The sample collection, and the subsequent testing, followed the AMEC workplan titled “Collaborative Treatability Study: Engineer Bluff (AOC 4-1) and Miller Hill (AOC 4-2), Fort Lewis Washington”. ERDC received two bulk soils samples from the Fort Lewis sampling effort: Range 61 (composite), which was from the Engineer Bluff area, and Range 62/67 (composite), which was from the Miller Hill location. The following analyses were conducted on each bulk sample:

- Atterburg Limits (Liquid Limit, Plastic Limit, Plasticity Index) by American Society for Testing and Materials (ASTM) D4318.
- Size Distribution – ASTM D422
- Specific Gravity on < 10 mesh fraction
- Percent Moisture – ASTM D2216
- Soil pH – EPA SW 846 - on <10 mesh fraction

Afterwards, ERDC received approximately 70 lbs of soil from Brice. This soil had undergone Brice’s size treatment procedure. Brice reported the total lead of the soil to be 20,222 mg/kg and reported TCLPs ranging from 198 to 218 mg/L (as reported in ENCAPCO Submittal TO-0001-03). The resulting soil was very fine, almost powdery.

ERDC treated the soil, then evaluated the treatment by TCLP. The treatments included various treatments with lime, encapco solution and Enviro 50:50. In addition, treatments with apatite and apatite with Enviro 50:50 were also conducted.

A successful treatment was chosen for geotechnical testing. This was 3% lime and 15% asphalt encapco (which was mixed with 5g of water per 15g of asphalt emulsion to promote better mixing). The following tests were performed:

- Unconfined compressive strength

- Marshall

Permeability tests are being conducted and additional Marshall testing is planned upon receipt of new emulsion. These will be reported as an addendum to this report.

Results

Atterburg Limits

The Atterburg Limits test is used to determine if particles finer than a #40 sieve are plastic or non-plastic, and was conducted on two samples: Range 61 (composite) and Range 62/67 (composite). Both samples were non-plastic (NP). Therefore, it was not possible to determine liquid and plastic limits. Range 61 was approximately 60% sand and gravel after being washed through a #40 sieve. Range 62/67 was approximately 30% sand and gravel after being washed through a #40 sieve. Both soils were classified as silty sand (SM).

Size Distribution

Figures 1 and 2 are pie graphs summarizing the results of the size distribution analysis. Both soils had remarkably similar distributions. Attachments 1 & 2 provide the raw data for the size distribution analysis.

Figure 1. Grain Size Distribution for Range 61 (Composite)

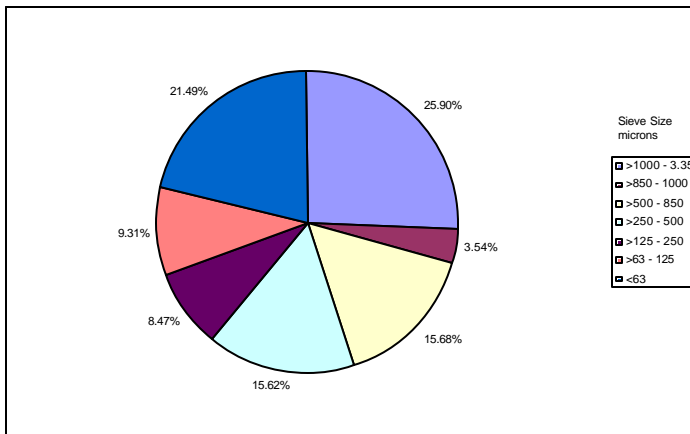
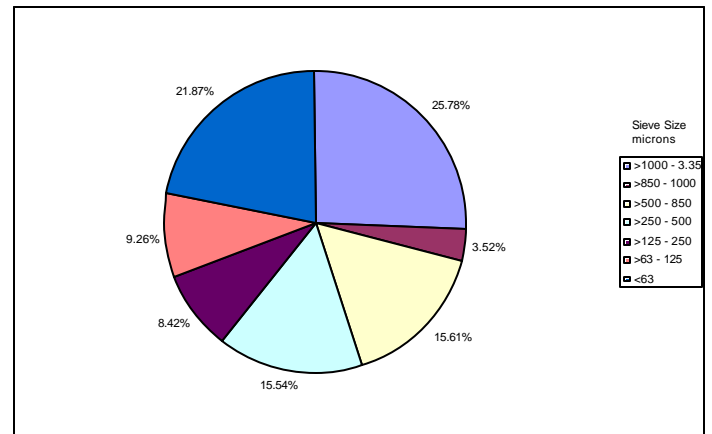


Figure 2. Grain Size Distribution for Range 62/67 (Composite)



Specific Gravity, Percent Moisture, Soil pH

Table 1 summarizes specific gravity, percent moisture, and soil pH

Table 1. Summary of Specific Gravity, Percent Moisture and Soil pH

Sample	Specific Gravity	Percent Moisture	pH
Range 61 (composite)	2.48 ± 0.03	4.55 ± 0.02	5.37 ± 0.02
Range 62/67 (composite)	1.25 ± 0.00	3.62 ± 0.24	5.50 ± 0.02

Soil Treatment Results

Soil treatment with Encapco Asphalt emulsion results are presented in Table 2.

Generally, the treatments worked well. We did discover that a key factor in the asphalt treatments was to add enough water to facilitate even mixing of the emulsion. Lime also appeared to be a key factor in treatment performance. Asphalt with no lime greatly reduced the TCLP, but did not meet the treatment goal. 1% treatments did not meet the goal either, however, these were the first treatments conducted and we later determined that water addition greatly improved mixing, so better performance may have been possible. In any case, treatments with 3% and 5% achieved the desired results.

Table 3 summarizes results for apatite treatments. Treatments with apatite alone reduced concentrations, but did not meet the 5-mg/L goal. However, the addition of 5% Enviro 50:50 resulted in effective treatment.

Table 2. Summary of Asphalt Treatments and Treatment Results for Ft. Lewis Soils (Output of Brice Treatment)

Treatment ID	% Lime	% Enviro 50:50	% Asphalt	TCLP (mg/L)
Untreated Soil (Brice Measurements)	0	0	0	205 ± 11.3
Untreated Soil (ERDC Measurements)	0	0	0	608.8 ± 23.9
Encapco only	0	0	10	9.47 ± 0.82
Encapco/Lime 1*	1	0	6	38.92 ± 2.20
Encapco/Lime 2*	1	0	8	17.27 ± 1.93
Encapco/Lime 3*	1	0	10	14.40 ± 4.24
Encapco/Lime 4	3	0	10	1.12 ± 0.15
Encapco/Lime 5	5	0	10	1.04 ± 0.26
Encapco/Lime 6	5	0	12	1.07 ± 0.75
Encapco/Lime/Enviro	1	5	10	0.39 ± 0.03

Table 3. Summary of Apatite Treatments for Ft. Lewis Soils

Treatment ID	% Apatite	% Enviro 50:50	TCLP (mg/L)
Apatite 1	5	0	306 ± 10.1
Apatite 2	8	0	107 ± 30.4
Apatite 3	10	0	56 ± 35.2
Apatite/Enviro 1	5	5	0.41 ± 0.02
Apatite/Enviro 2	8	5	0.41 ± 0.03
Apatite/Enviro 3	10	5	0.42 ± 0.02

Geotechnical Results

Table 4 summarizes the compressive strength results. Attachment 3 contains the raw data. Table 5 summarizes Marshall test results.

Table 4. Summary of Compressive Strength Testing

	Chamber Pressure (TSF)			Average
	0.50	1.00	2.00	
Compressive Strength (TSF)	2.36	3.17	5.00	3.51

Table 5. Summary of Marshall Test Results

Condition	Marshall Result (lbs)	Flow
Standard Test Temperature (140°F)	793	11
Ambient Temperature	2130	12

Attachment 1. Size Distribution Data for Range 61 (Composite)

Table I. Mass of Soil Used for Sieving

Sample ID	Wt. of Cont. (kg)	Wt. of Cont. + Soil (kg)	Wt. of Soil (kg)
Range 61 Composite	0.019	3.019	3.000

Table II. % Moisture of Soil Before Dry Sieving

Sample ID	wt. of empty pan (g)	wt. of wet soil (g)	wt. of cont. + wet soil (g)	Oven dry wt. + cont. (g)	Oven dry wt. (g)	% moisture
Range 61 Composite: Rep 1	0.9382	10.0032	10.9414	10.4841	9.5459	4.57
Range 61 Composite: Rep 2	0.9365	10.0011	10.9376	10.4837	9.5472	4.54
Range 61 Composite: Rep 3	0.9360	10.0009	10.9369	10.4843	9.5483	4.53

Table III. Mass of Soil in each Fraction (Dry)

Sieve Size (mm)	Wt. of Empty Pan (kg)	Dry Wt. + Pan (kg)	Dry Wt. (kg)
>6.7-3.35	0.011	1.134	1.123
>3.35	0.011	0.309	0.298
Total			1.422

Table IV. Final Weight (<3.35mm)

Initial Mass of Soil Used for Wet Sieving

Wt. of Empty Cont. (kg)	Wt. of Pan + Soil (kg)	Wt. of Wet Soil (kg)	Dry Wt. (kg)
0.019	1.597	1.578	1.507

Table V. Mass of Soil in each Fraction (Wet)

Sieve Size (micron)	Wt. of Pan Cont. (kg)	Dry Wt. + Pan (kg)	Dry Wt. (kg)	Percentage
>1000 - 3.35	0.011	0.374	0.363	25.90%
>850 - 1000	0.011	0.060	0.050	3.54%
>500 - 850	0.011	0.231	0.220	15.68%
>250 - 500	0.011	0.230	0.219	15.62%
>125 - 250	0.011	0.129	0.119	8.47%
>63 - 125	0.011	0.141	0.130	9.31%
<63	0.016	0.318	0.301	21.49%
Total			1.402	100.00%

Attachment 2. Size Distribution Data for Range 62/67 (Composite)

Table I. Mass of Soil Used for Sieving

Sample ID	Wt. of Cont. (kg)	Wt. of Cont. + Soil (kg)	Wt. of Soil (kg)
Range 62/67 Composite	0.019	3.019	3.000

Table II. % Moisture of Soil Before Dry Sieving

Sample ID	wt. of empty pan (g)	wt. of wet soil (g)	wt. of cont. + wet soil (g)	Oven dry wt. + cont. (g)	Oven dry wt. (g)	% moisture
Range 62/67 Composite: Rep 1	0.9397	10.0003	10.9400	10.6243	9.6846	3.16
Range 62/67 Composite: Rep 2	0.9378	10.0010	10.9388	10.5871	9.6493	3.52
Range 62/67 Composite: Rep 3	0.9378	10.0007	10.9385	10.5767	9.6389	3.62

Table III. Mass of Soil in each Fraction (Dry)

Sieve Size (mm)	Wt. of Empty Pan (kg)	Dry Wt. + Pan (kg)	Dry Wt. (kg)
>6.7-3.35	0.011	1.191	1.181
>3.35	0.011	0.311	0.300
Total			1.481

Table IV. Final Weight (<3.35mm)

Initial Mass of Soil Used for Wet Sieving

Wt. of Empty Cont. (kg)	Wt. of Pan + Soil (kg)	Wt. of Wet Soil (kg)	Dry Wt. (kg)
0.019	1.538	1.519	1.467

Table V. Mass of Soil in each Fraction (Wet)

Sieve Size (micron)	Wt. of Pan Cont. (kg)	Dry Wt. + Pan (kg)	Dry Wt. (kg)	Percentage
>1000 - 3.35	0.011	0.374	0.363	25.78%
>850 - 1000	0.011	0.060	0.050	3.52%
>500 - 850	0.011	0.231	0.220	15.61%
>250 - 500	0.011	0.230	0.219	15.54%
>125 - 250	0.011	0.129	0.119	8.42%
>63 - 125	0.011	0.141	0.130	9.26%
<63	0.010	0.318	0.308	21.87%
Total			1.408	100.00%

Attachment 3. Report on Compressive Strength Test.

<p>C = T/SF</p> <p>ϕ = DEG</p> <p>TAN ϕ =</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> </div>
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SPECIMEN NO.	1	2	3	4
WATER CONTENT, %	16.2	15.8	15.4	
DRY DENSITY, PCF	90.1	91.7	92.9	
SATURATION, %	51.0	51.7	51.7	
VOID RATIO	.850	.817	.794	
WATER CONTENT, %				
DRY DENSITY, PCF				
SATURATION, %				
VOID RATIO				
BACK PRESSURE, 'TSF'				
CHAMBER PRESSURE, TSF	.50	1.00	2.00	Ave.
MAX. DEV. STRESS, TSF	2.36	3.17	5.00	3.51
TIME TO FAILURE, MIN.	12	28	27	
STRAIN RATE INCR., %				
INITIAL DIAMETER, IN.	1.32	1.31	1.31	
INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: SILTY SAND (SM), GRAY

LL	PL	PI	GS 2.67 (ESTIMATED)	UNDISTURBED	SPECIMEN	Q TEST
REMARKS: 15% ASPHALT ; 5% WATER				PROJECT FT. LEWIS		
				BORING NO.		SAMPLE NO.
				DEPTH/ELEV		TECH. JH
				LABORATORY USAE WES - STF/GL		DATE 02 DEC 03
TRIAXIAL COMPRESSION TEST REPORT						