



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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June 16, 2004

Col. M.K. Stephenson  
Garrison Commander  
I Corps and Ft. Lewis  
MS 1AA, Box 339500  
Ft. Lewis, WA 98433-9500

Re: First Amendment to Camp Bonneville Enforcement Order No. 03TCPHQ-5286

Dear Colonel Stephenson:

On February 4, 2003, the Department of Ecology (Ecology) issued Enforcement Order No. 03TCPHQ-5286 to the U.S. Department of the Army (Army) under the jurisdiction of the Model Toxics Control Act, chapter 70.105D RCW, and the Dangerous Waste Regulations, corrective action authority, WAC 173-303-646(3)(a). The Order provides for the investigation and cleanup of the Camp Bonneville site.

Prior to the issuance of the Order, Ecology and the Army worked together for several months to develop a schedule and an understanding regarding the work to be performed under the Order that was reasonable and accommodated the Army's resource constraints. Ecology and the Army successfully reached understandings on those issues, and were incorporated into the Order.

Under the Order, the Army was required to submit to Ecology a draft Remedial Investigation / Feasibility Study (RI/FS) report for RAU 3 by November 5, 2003. On September 15, 2003, after the Army had failed to meet the deadline for submitting several documents, Ecology notified the Army by letter of those failures and reminded the Army of the deadline for submitting the draft RI/FS for RAU 3. Despite that warning, the Army failed to meet the deadline and has still not submitted a draft RI/FS for RAU 3.

At the request of the Army, Ecology entered into discussions regarding an extension of the schedule for RAU 3. Ecology asked the Army to provide Ecology with a revised schedule for RAU 3, including a date for submitting the draft RI/FS for RAU 3. Although the Army declined to provide Ecology with a revised schedule, Ecology has decided to grant the Army a schedule extension. That extension requires an amendment of the Order.

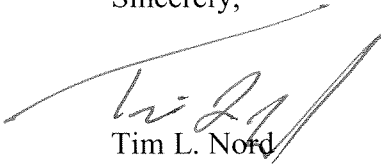
June 16, 2004  
Page 2

Accordingly, please find enclosed the First Amendment of Enforcement Order No. 03TCPHQ-5286. The effective date of this First Amendment is June 16, 2004. The amendment divides the geographic area of RAU 3 into two distinct sections for investigation and cleanup (RAU 3A and RAU 3B) and modifies the schedule and work to be performed for each of those areas. The amendment also updates the status of remedial actions throughout the site.

As the Army is aware, RAU 3 consists of those areas at the Camp Bonneville site where unexploded ordnance (UXO) has come to be located. The presence of UXO in areas adjacent to a residential neighborhood poses a significant risk to public safety. As a consequence of the delays, we believe we are now off-schedule and request your commitment to complete the work required under the Order to address that threat. Despite these delays, we appreciate the partnership we have established and look forward to building upon its solid base as we work toward our shared goals.

If you have any questions about this First Amendment of Enforcement Order No. 03TCPHQ-5286, please call Barry Rogowski at (360) 407-7236.

Sincerely,



Tim L. Nord  
HQ Section Manager  
Toxics Cleanup Program

cc: Barry Rogowski, Department of Ecology  
Ben Forson, Department of Ecology  
Michael Dunning, Assistant Attorney General

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:  
The U.S. Department of the Army,  
Camp Bonneville Military Reservation  
Proebstel, Washington

ENFORCEMENT ORDER  
No. 03TCPHQ-5286  
FIRST AMENDMENT

**FOR REVIEW ONLY**  
**Amended Sections Highlighted**

**TABLE OF CONTENTS**

I. JURISDICTION .....2  
II. FINDINGS OF FACT .....2  
III. ECOLOGY DETERMINATIONS .....10  
IV. REMEDIAL ACTION UNITS .....12  
V. STATUS OF REMEDIAL ACTIONS .....13  
VI. WORK TO BE PERFORMED .....18  
VII. TERMS AND CONDITIONS OF THIS ORDER .....34  
VIII. SATISFACTION OF THIS ORDER .....42  
IX. ENFORCEMENT .....42

1 **I. JURISDICTION**

2 1.1 On February 4, 2003, the State of Washington, Department of Ecology (Ecology)  
3 issued Enforcement Order No. 03TCPHQ-5286 to the United States Department of the Army  
4 (Army) pursuant to the authority of RCW 70.105D.050(1) and the authority of chapter 70.105  
5 RCW and WAC 173-303-646(3)(a). This First Amendment of Enforcement Order No.  
6 03TCPHQ-5286 (Order) is issued pursuant to that authority and supercedes all previous  
7 versions.

8  
9 **II. FINDINGS OF FACT**

10 2.1 The Camp Bonneville Military Reservation (“the Site”) is located in Clark  
11 County, Washington, approximately twelve (12) miles northeast of the center of the City of  
12 Vancouver. The term “Site” means the same as “facility” as defined at RCW 70.105D.020(4).  
13 The Site lies along both banks of Lacamas Creek and occupies 3,840 acres, which includes 820  
14 acres leased from the Washington Department of Natural Resources. The Site includes all  
15 potentially contaminated areas within the current and previous property boundaries of the Camp  
16 Bonneville Military Reservation, as well as any areas outside of these property boundaries where  
17 hazardous substances originating from within these property boundaries may have come to be  
18 located. The Site is illustrated in Attachment A, attached hereto.

19 2.2 The United States War Department and its successor agency, the Department of  
20 Defense, has owned and operated the Camp Bonneville Military Reservation for military training  
21 since 1909. Units of the Army, Army Reserve, Marine Corps Reserve, Navy Reserve, Coast  
22 Guard Reserve, and National Guard have trained on the Site. The Site has also been used by  
23 Federal, State, and local law enforcement agencies for small arms training. A small arms range  
24 on the Site is operated by the Federal Bureau of Investigation. The Site was placed on the Base  
25 Realignment and Closure (BRAC) list and closed in 1995. At the present time, the Site is under  
26 the control and authority of the garrison commander of Fort Lewis.

1           2.3     Between 1909 and 1995, unused military munitions, both live and practice, were  
2 stored at the Camp Bonneville Military Reservation. These unused military munitions included  
3 artillery ammunition, mortar ammunition, air-launched rockets, shoulder-fired rockets, guided  
4 missiles, bombs, land mines (practice only), grenades, fuses, and small arms ammunition. Some  
5 of these military munitions were disposed of at the Site by open burning or open detonation  
6 (OB/OD).

7           2.4     Between 1909 and 1995, military munitions, both live and practice, were used at  
8 the Camp Bonneville Military Reservation. These used military munitions included artillery  
9 ammunition, mortar ammunition, shoulder-fired rockets, land mines (practice only), grenades,  
10 and small arms ammunition. These military munitions were primed, fused, armed, or otherwise  
11 prepared for action, and then fired, launched, projected, or placed at or on the Camp Bonneville  
12 Military Reservation.

13           A.     Some of the military munitions used at the Camp Bonneville Military Reservation  
14 exploded, fragmenting the munitions.

15           B.     Some of the military munitions used at the Camp Bonneville Military Reservation  
16 did not explode, either by malfunction, design, or some other cause. These  
17 munitions are referred to as “unexploded ordnance” or “UXO”.

18           2.5     At least eight firing ranges at the Camp Bonneville Military Reservation had  
19 safety fans that extended beyond the property boundary of the Reservation. Between 1909 and  
20 1995, military munitions were used at those firing ranges. Some of the military munitions used  
21 at those firing ranges, including 105 and 155 millimeter artillery and 4.2 mortar projectiles, had  
22 ranges that extended beyond the property boundary of the Reservation. Based on these findings  
23 of fact, there is a possibility that military munitions may have landed off-range, beyond the  
24 property boundary of the Reservation. These used military munitions may include both  
25 unexploded ordnance (UXO) and the fragments and constituents of exploded munitions.  
26

1           2.6     Between 1909 and 1995, some of the used military munitions at the Camp  
2 Bonneville Military Reservation, including both unexploded ordnance (UXO) and munitions  
3 fragments, were recovered and collected, and then disposed of at the Site by open burning or  
4 open detonation (OB/OD).

5           2.7     Several areas throughout the Camp Bonneville Military Reservation were used for  
6 the disposal of military munitions. At least three areas of the Site were used for the disposal of  
7 military munitions by open burning or open detonation (OB/OD).

8           2.8     At the time the Camp Bonneville Military Reservation was closed in 1995, some  
9 of the military munitions used during military activities, including both unexploded ordnance  
10 (UXO) and the fragments and constituents of exploded munitions, were left in place at the Site.

11          2.9     Between 1909 and 1995, diesel fuel, fuel oil, pesticides, solvents, lead and  
12 chromium-containing paint, and other hazardous materials were also used at the Camp  
13 Bonneville Military Reservation.

14          2.10    Investigations since 1995 by the Army and its contractors at the Camp Bonneville  
15 Military Reservation have shown that these historical military and maintenance operations have  
16 resulted in the presence of the following substances at the Site:

- 17           A.     The presence of diesel fuel, fuel oil, pesticides, and xylenes in the soil;
- 18           B.     The presence of volatile organic compounds, including 1,1,1-trichloroethane, in  
19               the soil and ground water;
- 20           C.     The presence of military munitions used or disposed of at the Site, including  
21               explosives, unexploded ordnance (UXO), munitions, and munitions fragments, in  
22               the soil;
- 23           D.     The presence of the constituents of those military munitions, including the  
24               explosive compound RDX, in the soil and ground water.

25          2.11    Military munitions have been found in several areas throughout the Camp  
26 Bonneville Military Reservation. Because of the historical military and maintenance operations

1 described above, including the storage, use, and disposal of military munitions, the presence of  
2 additional military munitions is strongly suspected. Because forests were located within several  
3 of the firing ranges when they were active, Ecology also has reason to believe that some of the  
4 military munitions used at those ranges are embedded in the trees located within those firing  
5 ranges.

6 2.12 People live adjacent to the Camp Bonneville Military Reservation and rely on  
7 ground water as a source of drinking water. The Site is also inhabited by numerous species of  
8 wildlife and borders both sides of Lacamas Creek, which is a tributary of the Columbia River.

9 2.13 The foregoing information is contained in the following documents:

- 10 A. Hart Crowser, Inc., *Petroleum Contaminated Soil Investigation, Former*  
11 *Tank No. 7-CMBPN, Building No. 4475, Camp Bonneville, Vancouver,*  
12 *Washington, Contact No. DACA67-93-D-1004, Delivery Order No. 53,*  
13 *September 11, 1996.*
- 14 B. Woodward-Clyde Federal Services, *Final Environmental Baseline Survey*  
15 *Report, Camp Bonneville, Washington, Contract No. DACA67-95-D-*  
16 *1001, January 30, 1997.*
- 17 C. Hart Crowser, Inc., *Final Lead-Based Paints and Soil-Metals Survey*  
18 *Report, Camp Bonneville, Washington, Contract No. DACA67-93-D-*  
19 *1004, Delivery Order No. 49, February 28, 1997.*
- 20 D. Hart Crowser, Inc., *Pre-Demolition Survey, CS Gas Chamber Building,*  
21 *Camp Bonneville, Vancouver, Washington, Contract No. DACA67-93-D-*  
22 *1004, Delivery Order No. 52, February 28, 1997.*
- 23 E. U.S. Army Corps of Engineers, *U.S. Department of Defense Program*  
24 *Base Realignment and Closure Ordnance, Ammunition and Explosives*  
25 *Final Archives Search Report – Report Plates, Camp Bonneville, Clark*  
26 *County, Washington, July 1997.*

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F. U.S. Army Corps of Engineers, *U.S. Department of Defense Program Base Realignment and Closure Ordnance, Ammunition and Explosives Final Archives Search Report – Conclusions and Recommendations, Camp Bonneville, Clark County, Washington, July 1997.*

G. U.S. Army Corps of Engineers, *U.S. Department of Defense Program Base Realignment and Closure Ordnance, Ammunition and Explosives Final Archives Search Report – References, Camp Bonneville, Clark County, Washington, July 1997.*

H. Prezant Associates, Inc., *Final Asbestos Surveys Report, Camp Bonneville, Vancouver, Washington, Volumes I-III, Contract No. DACA67-95-D-1018, Delivery Order No. 4, November 7, 1997.*

I. Cecon Corporation, *Drain Line and PCS Removal, Final Report, Camp Bonneville, Vancouver, Washington, Contract No. DACA67-96-M-0890, December 1997.*

J. UXB International, Inc., *Removal Report Ordnance and Explosive (OE) Sampling, Camp Bonneville, Vancouver, Washington, Contract No. DACA87-97-D-006, Delivery Order No. 10, August 31, 1998.*

K. Shannon & Wilson, Inc., *Final Multi-Sites Investigation Report, Camp Bonneville, Vancouver, Washington, Volumes 1-5, Contact No. DACA67-94-D-1014, Delivery Order Numbers 10 and 17, July 1999.*

L. URS Greiner Woodward Clyde, *Final Supplemental Archive Search Report, Camp Bonneville, Vancouver, Washington, Contract No. DACA67-98-D-1005, Delivery Order No. 3, August 15, 1999.*

M. Shannon & Wilson, Inc., *Final Landfill 4 Investigation Report, Camp Bonneville, Washington, Contract No. DACA67-94-D-1014, August 1999.*



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- N. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Multi-Sites, Camp Bonneville, Washington*, Contract No. DACA67- 95-G-0001, Task Order 58, February 2001.
- O. Hart Crowser, Inc., *Final Project Completion Report, Surface Water Investigation of Lacamas Creek and Tributaries, Camp Bonneville, Vancouver, Washington*, Contact No. DACA67-98-D-1008, Delivery Order No. 20, March 10, 2000.
- P. U.S. Army Corps of Engineers, *Final GIS-Based Historical Time Sequence Analysis, Camp Bonneville, Washington*, August 2000.
- Q. URS Greiner Woodward Clyde, *BRAC HTRW Site Closure Report for Landfills 1, 2, and 3; Former Burn Area; Buildings 1962 and 1963; Grease Pits at the Camp Bonneville and Camp Killpack Cantonments; Former Sewage Pond; and Hazardous Materials Accumulation Point, Camp Bonneville, Washington*, Contract No. DACA67-98-D-1005, Delivery Order No. 43, September 2000.
- R. UXB International, Inc., *Final Removal Report, Ordnance and Explosive Removal Action, Camp Bonneville, Vancouver, Washington*, Contract No. DACA87-97-D-006, Delivery Order No. 13, October 12, 2000.
- S. Parsons Engineering Science, Inc., *Final Reconnaissance Work Plan, Additional Site Characterization, Camp Bonneville, Vancouver, Washington*, October 2001.
- T. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Pesticide Building #4126 and Ammunition Bunkers #2953, #2951 and #2950, Camp Bonneville, Washington*, Contract No. DACA67-95-G-0001 T.O.58, December 2001.

- 1 U. Parsons Environmental, *Draft Reconnaissance Results, Small Arms*  
2 *Ranges, Camp Bonneville, Vancouver, WA, Contract No. DACA87-95-D-*  
3 *0018, January 2002.*
- 4 V. Gary Struthers Associates, Inc., *Final Closure Report, Environmental*  
5 *Restoration, Drum Burial Area, Camp Bonneville, Washington, Contract*  
6 *No. DACA67-95-G-0001 T.O. 58, April 2002.*
- 7 W. Project Performance Corporation, *Final Field Work Report – Investigation*  
8 *and Monitoring of Site-Wide Ground Water and Ground Water*  
9 *Investigations for Remedial Action Unit 2B, April 2003.*
- 10 X. URS Corp., *Final Report, Landfill Area 4 / Demolition Area 1 Expanded*  
11 *Site Inspection, Camp Bonneville, Washington, Contract No. DACA67-*  
12 *98-D-1005, Delivery Order 0054, May 2003.*
- 13 Y. Parsons Infrastructure & Technology Group, Inc., *Final Reconnaissance*  
14 *Summary Report, Camp Bonneville, Vancouver, Washington, Contract No.*  
15 *DACA87-00-D-0038, Delivery Order 0017, May 2003.*
- 16 Z. Atlanta Environmental Management, Inc., *Final Site Investigation Report,*  
17 *Small Arms Ranges and Demolition Areas 2 and 3, Camp Bonneville,*  
18 *Vancouver, Washington, Contract No. DACA65-03-F-0002, September*  
19 *2003.*
- 20 AA. Project Performance Corporation, *Draft Remedial Investigation Report for*  
21 *Remedial Action Unit 2B, Camp Bonneville, Vancouver, Washington,*  
22 *GSA Contract No. GS-10F-0028J, September 2003.*
- 23 BB. Project Performance Corporation, *Draft Remedial Investigation /*  
24 *Feasibility Study Report for Small Arms Ranges, Camp Bonneville,*  
25 *Vancouver, Washington, GSA Contract No. GS-10F-0028J, October 2003.*
- 26

1 CC. URS Corp., *Draft Final Cleanup Action Plan for Remedial Action Unit 1,*  
2 *Camp Bonneville, Vancouver, Washington, Contract No. DACA67-02-D-*  
3 *2003, February 2004.*

4 DD. PBS Engineering and Environmental, *Final Ground Water Sampling and*  
5 *Analysis Report, 4<sup>th</sup> Quarter 2003, Camp Bonneville, Vancouver,*  
6 *Washington, Contract No. DAAD11-03-F-0115, May 2004.*

7 EE. PBS Engineering and Environmental, *Draft Ground Water Sampling and*  
8 *Analysis Report, 1<sup>st</sup> Quarter 2004, Camp Bonneville, Vancouver,*  
9 *Washington, Contract No. DAAD11-03-F-0115, May 2004.*

10 2.14 On February 4, 2003, Ecology issued Enforcement Order No. 03TCPHQ-5286 to  
11 the Army pursuant to the authority of RCW 70.105D.050(1) and the authority of chapter 70.105  
12 RCW and WAC 173-303-646(3)(a). Enforcement Order No. 03TCPHQ-5286 requires the Army  
13 to conduct remedial actions to facilitate the comprehensive investigation and cleanup of the Site.

14 2.15 This Order constitutes the First Amendment of Enforcement Order No.  
15 03TCPHQ-5286. The amendment divides Remedial Action Unit 3 (RAU 3) into two subunits  
16 (RAU 3A and RAU 3B), modifies the schedule and work to be performed for those two subunits,  
17 and updates the status of remedial actions. This amended Order supercedes all previous  
18 versions.

1 **III. ECOLOGY DETERMINATIONS**

2  
3 **Determinations under the Model Toxics Control Act (MTCA)**

4 3.1 The U.S. Department of the Army (Army) is an "owner or operator" as defined at  
5 RCW 70.105D.020(12) of a "facility" as defined in RCW 70.105D.020(4).

6 3.2 The facility is known as Camp Bonneville Military Reservation ("the Site") and is  
7 located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

8 3.3 The substances found at the facility as described above are "hazardous  
9 substances" as defined at RCW 70.105D.020(7).

10 3.4 Based on the presence of these hazardous substances at the facility and all factors  
11 known to the Department of Ecology (Ecology), there are releases and threatened releases of  
12 hazardous substances from the facility, as defined at RCW 70.105D.020(20).

13 3.5 The releases and threatened releases of hazardous substances from the facility  
14 pose a threat to human health and the environment.

15 3.6 By letter dated July 1, 2002, Ecology notified the Army of its status as a  
16 "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

17 3.7 Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require  
18 potentially liable persons to investigate or conduct other remedial actions with respect to the  
19 releases and threatened releases of hazardous substances, whenever it believes such action to be  
20 in the public interest.

21 3.8 Based on the foregoing facts, Ecology believes the remedial action required by  
22 this Order is in the public interest.

1 **Determinations under the Hazardous Waste Management Act (HWMA)**

2 3.9 The Army is a “person” as defined at RCW 70.105.010(7).

3 3.10 The Army is the “owner” and “operator” as defined in WAC 173-303-040 of a  
4 “facility” as defined at RCW 70.105.010(11) and in WAC 173-303-040.

5 3.11 The facility is known as the Camp Bonneville Military Reservation (“the Site”) and  
6 is located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

7 3.12 The military munitions located at the facility are “solid wastes” as defined in  
8 WAC 173-303-016(3) and Section 7.1 of this Order.

9 3.13 The military munitions located at the facility are also “dangerous wastes” and/or  
10 “dangerous constituents” as defined in RCW 70.105.010(5) and WAC 173-303-040, and in  
11 Section 7.1 of this Order.

12 3.14 Based on the presence of these military munitions at the facility and all factors  
13 known to Ecology, there are releases and threatened releases of dangerous wastes and/or  
14 dangerous constituents from the facility, as defined in WAC 173-303-040.

15 3.15 Based on the releases and threatened releases of dangerous wastes and/or  
16 dangerous constituents from the facility, the military munitions located at the facility are subject  
17 to corrective action under WAC 173-303-646.

18 3.16 Pursuant to WAC 173-303-646, Ecology may require the owners or operators of  
19 the facility to conduct corrective actions with respect to the releases and threatened releases of  
20 dangerous wastes and/or dangerous constituents, as necessary to protect human health and the  
21 environment.

22 3.17 Based on the foregoing facts, Ecology believes the corrective action required by  
23 this Order is necessary to protect human health and the environment.

#### IV. REMEDIAL ACTION UNITS

4.1 For the purpose of directing remedial action at the Site, the Site shall be administratively divided into three remedial action units. The second remedial action unit shall be further administratively divided into three subunits. These remedial action units are described below and illustrated in Attachments B through F, attached hereto.

A. Remedial Action Unit 1 (RAU 1) consists of the 20 areas at the Site identified and illustrated in Attachment B, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

B. Remedial Action Unit 2 (RAU 2) consists of the areas at the Site identified and illustrated in Attachments C through E. RAU 2 shall be administratively divided into three subunits, identified and described below.

(1) Remedial Action Unit 2A (RAU 2A) consists of the 21 small arms range areas identified and illustrated in Attachment C, and addresses any lead or other contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(2) Remedial Action Unit 2B (RAU 2B) consists of Demolition Areas 2 and 3, identified and illustrated in Attachment D, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(3) Remedial Action Unit 2C (RAU 2C) consists of Landfill Area 4 and Demolition Area 1, identified and illustrated in Attachment E, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

C. Remedial Action Unit 3 (RAU 3) consists of any area at the Site where military munitions have come to be located. RAU 3 is identified and illustrated in

1 Attachment F. RAU 3 shall be administratively divided into two subunits,  
2 identified and described below.

3 (1) Remedial Action Unit 3A (RAU 3A) consists of any area within the  
4 western portion of the Site, identified and illustrated in Attachment F,  
5 where military munitions have come to be located, and addresses any  
6 contamination associated with those areas and any risks to human health  
7 and the environment associated with such contamination.

8 (2) Remedial Action Unit 3B (RAU 3B) consists of any area within the  
9 eastern portion of the Site, identified and illustrated in Attachment F,  
10 where military munitions have come to be located, and addresses any  
11 contamination associated with those areas and any risks to human health  
12 and the environment associated with such contamination.

13 4.2 Ecology may require a subdivision or a combination of the remedial action units  
14 defined in this Order. Ecology may also require the creation of additional remedial action units.  
15 Any such requirement will become an integral and enforceable part of this Order.

## 17 V. STATUS OF REMEDIAL ACTIONS

18 5.1 After the BRAC Commission identified the Camp Bonneville Military  
19 Reservation for closure in 1995, the Army conducted several site investigations and archive  
20 searches to identify releases or threatened releases of hazardous substances throughout the Site.

### 22 Remedial Action Unit 1

23 5.2 In 1997, based on the initial site investigations and archive searches, the Army  
24 identified releases and threatened releases of hazardous substances at the 20 areas comprising  
25 RAU 1. From August 1996 to July 1999, the Army conducted several remedial investigations of  
26

1 those areas. In 1999 and 2000, the Army conducted several independent cleanup actions to  
2 address the contamination identified during those remedial investigations.

3 5.3 Under the original Order, the Army submitted to Ecology in April 2003 a draft  
4 Cleanup Action Plan (CAP) for RAU 1. The draft CAP describes the investigations and cleanup  
5 actions conducted and the results of those investigations and actions. The draft CAP also  
6 describes whether further action is required and the nature of any such action. In April 2004,  
7 after the Army revised the draft CAP based on Ecology's comments, the draft CAP was  
8 submitted for public comment. As of the effective date of this Order, the draft CAP had not been  
9 finalized.

#### 10 11 **Remedial Action Unit 2A**

12 5.4 In 1997, based on the initial site investigations and archive searches, the Army  
13 identified releases and threatened releases of hazardous substances at the 21 small arms ranges  
14 comprising RAU 2A. In November 2001, the Army conducted additional investigations to better  
15 define the location and geographic characteristics of the small arms ranges.

16 5.5 Under the original Order, the Army submitted to Ecology in April 2003 a draft  
17 Interim Action Work Plan for RAU 2A. In May 2003, Ecology submitted comments on that  
18 draft Work Plan. In September 2003, the Army submitted to Ecology a draft final Work Plan.  
19 As of the effective date of this Order, the draft Interim Action Work Plan for RAU 2A had not  
20 been submitted for public comment and finalized.

21 5.6 Under the original Order, the Army also completed in April 2003 the remedial  
22 investigation of RAU 2A. The findings of that investigation are presented in the Field Work  
23 Report, which was finalized in September 2003. Based on the results of that investigation, the  
24 Army submitted to Ecology a draft Remedial Investigation / Feasibility Study (RI/FS) Report in  
25 October 2003. Ecology submitted comments on that draft report in December 2003. As of the  
26



1 effective date of this Order, the draft final RI/FS Report for RAU 2A had not been submitted to  
2 Ecology.

3  
4 **Remedial Action Unit 2B**

5 5.7 In 1997, based on the initial site investigations and archive searches, the Army  
6 identified releases and threatened releases of hazardous substances at Demolition Area 2 and  
7 Demolition Area 3, the two open burning / open detonation (OB/OD) areas comprising RAU 2B.

8 5.8 Under the original Order, the Army completed in April 2003 the remedial  
9 investigation of RAU 2B. The findings of that investigation are presented in the Field Work  
10 Report, which was finalized in September 2003. Based on the results of that investigation, the  
11 Army also submitted to Ecology a draft Remedial Investigation Report in September 2003.  
12 Ecology submitted comments on that draft Report in November 2003, including a request that  
13 the Army submit a combined draft Remedial Investigation / Feasibility Study (RI/FS) Report, as  
14 required under the original Order. As of the effective date of this Order, the draft RI/FS Report  
15 for RAU 2B had not been submitted to Ecology.

16  
17 **Remedial Action Unit 2C**

18 5.9 In 1997, based on the initial site investigations and archive searches, the Army  
19 identified releases and threatened releases of hazardous substances at Landfill Area 4 /  
20 Demolition Area 1, the area comprising RAU 2C. In August 1999, the Army conducted several  
21 additional investigations.

22 5.10 Under the original Order, the Army submitted to Ecology in December 2003 a  
23 draft Interim Action Work Plan for RAU 2C. In April 2004, after the Army revised the draft  
24 Work Plan based on Ecology's comments, the draft Work Plan was submitted for public

1 comment. In May 2004, the Army submitted the final Interim Action Work Plan for RAU 2C.<sup>1</sup>  
2 That plan is hereby incorporated by reference and is an integral and enforceable part of this  
3 Order. As of the effective date of this Order, the Army had not completed the work required  
4 under that plan.

5 5.11 Under the original Order, the Army also completed in February 2003 a remedial  
6 investigation of ground water for RAU 2C. The findings of that investigation are presented in  
7 the Field Work Report, which was finalized in May 2003. Based on the results of that  
8 investigation and the impact of the forthcoming interim actions to address soil contamination,  
9 Ecology determined that further investigation of the ground water were required. As of the  
10 effective date of this Order, the draft Remedial Investigation / Feasibility Study Report for RAU  
11 2C had not been submitted to Ecology.

### 13 Remedial Action Unit 3

14 5.12 In 1997, based on the initial site investigations and archive searches, the Army  
15 determined that military munitions, including unexploded ordnance (UXO), are present in  
16 several areas throughout the Site. In 1998, to determine the nature and extent of UXO  
17 throughout the Site, the Army conducted an investigation of the Site using a statistically-based  
18 sampling methodology. As a result of this investigation, the Army conducted a time-critical  
19 removal action on two former ordnance ranges and a surface clearance of Demolition Area 1.

20 5.13 In November 1998, the Army submitted to Ecology and the U.S. Environmental  
21 Protection Agency (EPA) a draft Engineering Evaluation and Cost Analysis (EE/CA) report  
22 based on the findings of the statistically-based investigation. This report identified locations of  
23 UXO, the hazards associated with UXO, the risks posed by UXO to future users of the land, and  
24 risk management alternatives, including a description of the effectiveness and cost of those

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25 <sup>1</sup> Tetra Tech, Inc., *Final Corrective Action Work Plan for Landfill 4 / Demolition Area 1 Interim Cleanup*  
26 *Action, Camp Bonneville, Washington, Contract No. DAAD11-03-F-0102, May 2004.*

1 alternatives. The Army submitted a second draft to Ecology and EPA in April 1999. Based on  
2 the inadequacy of the statistically-based sampling approach, Ecology and EPA determined that  
3 there was insufficient data to support the findings of the draft EE/CA.

4 5.14 In 2001, the Army evaluated the available photographic evidence to help identify  
5 areas of concern (AOCs) and areas of potential concern (AOPCs) throughout the Site. The  
6 Army subsequently conducted an instrument-aided reconnaissance effort to identify ordnance-  
7 related activities, as well as terrain and vegetation characteristics, associated with each of the  
8 previously identified AOCs and AOPCs. In 2002, the Army used this information, along with  
9 previously collected information, to conduct a screening analysis and develop a Conceptual Site  
10 Model (CSM). To test the CSM within designated reuse areas, the Army initiated a second  
11 phase of instrument-aided reconnaissance within the designated reuse areas.

12 5.15 Under the original Order, the Army completed the second phase of the instrument  
13 aided reconnaissance in February 2003. The findings of that reconnaissance effort are presented  
14 in the Field Work Report, which was finalized in May 2003. As of the effective date of this  
15 Order, the draft Remedial Investigation / Feasibility Study Report for RAU 3 had not been  
16 submitted to Ecology.

17 5.16 Under this Order, RAU 3 has been administratively divided into two subunits,  
18 RAU 3A and RAU3B, which are defined in Part IV of this Order.

## 19 20 **Investigation and Monitoring of Site-Wide Ground Water**

21 5.17 In February 2002, the Army developed a Site-Wide Ground Water Investigation  
22 Work Plan to analyze ground water at the property boundary of the Camp Bonneville Military  
23 Reservation using sentinel wells. The Work Plan was designed to help determine whether on-  
24 site ground water contamination has migrated beyond the property boundary of the Camp  
25 Bonneville Military Reservation. In December 2002, the Army installed four monitoring well  
26 pairs at the western property boundary near Lacamas Creek. The findings of that investigation

1 are presented in the Field Work Report, which was finalized in April 2003 under the original  
2 Order. As of the effective date of this Order, the draft Long-Term Monitoring and Contingency  
3 Plan had not been submitted to Ecology.

## 4 5 **VI. WORK TO BE PERFORMED**

6 6.1 Based on the foregoing Facts and Determinations, it is hereby ordered that the  
7 Army take the following remedial actions and that these actions be conducted in accordance with  
8 chapter 173-340 WAC and WAC 173-303-646 unless otherwise specifically provided for herein.

### 9 10 **Deliverables and Schedule – Interim Actions**

11 6.2 For **RAU 2A**, the Army shall conduct interim actions for the purpose of reducing  
12 the threat to human health and the environment associated with lead and other contamination  
13 located in some of the small arms ranges identified and illustrated in Attachment C. Those  
14 interim actions shall include, but shall not be limited to, the following:

15 A. For those ranges with identified target zones with berms, excavate and  
16 appropriately dispose of contaminated soil in those berms.

17 B. For those ranges with identified firing lines, investigate and, if necessary,  
18 excavate and appropriately dispose of contaminated soil in the muzzle blast zone.

19 6.3 In support of the interim actions for **RAU 2A**, the Army shall submit the  
20 following deliverables for Ecology review and approval, in accordance with the schedule shown  
21 below:

22 A. By August 16, 2004, submit to Ecology a draft final Interim Action Work Plan for  
23 **RAU 2A** that reflects public comment. The Work Plan shall meet the submittal  
24 requirements in WAC 173-340-430(7).

1 B. Within thirty (30) calendar days of completing the interim action (demobilization)  
2 for RAU 2A, submit to Ecology a draft Interim Action Report, described in  
3 Section 6.16.

4 6.4 For **RAU 2C**, the Army shall conduct interim actions for the purpose of reducing  
5 the threat to human health and the environment associated with the contamination associated  
6 with Landfill Area 4 / Demolition Area 1. Those interim actions shall include, but shall not be  
7 limited to, the excavation and appropriate disposal of materials contained in and contaminated  
8 soils associated with Landfill Area 4 / Demolition Area 1.

9 6.5 In support of the interim actions for **RAU 2C**, the Army shall submit a draft  
10 Interim Action Report, described in Section 6.16, for Ecology review and approval within thirty  
11 (30) calendar days of completing the interim action (demobilization).

12 6.6 For **RAU 3B**, the Army shall conduct interim actions for the purpose of  
13 completing the remedial investigation and feasibility study for RAU 3B and reducing the threat  
14 to human health and the environment associated with the military munitions located within RAU  
15 3B. Those interim actions shall include, but shall not be limited to, the following:

16 A. Subsurface clearance of UXO to a depth of 2 feet on roads and trails, which are  
17 defined to be 20 feet wide. "Subsurface clearance" means the detection of UXO  
18 using digital geophysics and the removal and/or disposal of UXO.

19 B. Surface clearance of UXO within a 50-foot wide buffer on each side of the 20-  
20 foot wide road or trail.

21 C. Subsurface clearance of UXO to a depth of 2 feet within a 600-foot by 600-foot  
22 area for each known target, and step-out subsurface clearance to a depth of 2 feet  
23 if UXO is found in a boundary grid. "Step-out clearance" means that if UXO is  
24 found in a boundary grid of the designated clearance area, then the clearance area  
25 shall be expanded (stepped-out) by adding new grids adjacent to the grid of  
26 concern. This process shall continue as long as UXO continues to be found in a

1 boundary grid. "Subsurface clearance" means the detection of UXO using digital  
2 geophysics and the removal and/or disposal of UXO.

3 6.7 In support of the interim actions for **RAU 3B**, the Army shall submit the  
4 following deliverables for Ecology review and approval, in accordance with the schedule shown  
5 below:

6 A. By March 1, 2005, submit to Ecology a draft Interim Action Work Plan for RAU  
7 3B. The Work Plan shall meet the submittal requirements in WAC 173-340-  
8 430(7).

9 B. Within sixty (60) calendar days of the issue date of the final Interim Action Work  
10 Plan for RAU 3B, begin implementation of the interim actions set forth in the  
11 final Interim Action Work Plan for RAU 3B (mobilization).

12 C. Within thirty (30) calendar days of completing the interim actions (demobilization)  
13 for RAU 3B, submit to Ecology a draft Interim Action Report, described in  
14 Section 6.16.

15  
16 **Deliverables and Schedule – Final Actions**

17 6.8 For **RAU 1**, the Army shall submit the following deliverables for Ecology review  
18 and approval, in accordance with the schedule shown below:

19 A. Draft final Cleanup Action Plan (CAP) that reflects public comment submitted to  
20 Ecology by July 16, 2004.

21 B. If required pursuant to chapter 173-340 WAC, then a draft Compliance  
22 Monitoring Plan shall be submitted to Ecology within thirty (30) calendar days of  
23 the issue date of the final CAP for RAU 1.

24 C. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
25 Maintenance Plan shall be submitted to Ecology within six (6) months of the  
26 issue date of the final CAP for RAU 1.

1 D. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
2 Plan shall be submitted to Ecology within six (6) months of the issue date of the  
3 final CAP for RAU 1.

4 6.9 For **RAU 2A**, the Army shall submit the following deliverables for Ecology  
5 review and approval, in accordance with the schedule shown below:

6 A. Draft final MTCA Remedial Investigation/Feasibility Study (RI/FS) Report  
7 submitted to Ecology by September 16, 2004.

8 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
9 days of the issue date of the final MTCA RI/FS Report for RAU 2A.

10 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
11 calendar days of the issue date of the final CAP for RAU 2A.

12 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
13 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
14 date of the final CAP for RAU 2A.

15 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
16 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
17 final CAP for RAU 2A.

18 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
19 within thirty (30) calendar days of completion of the cleanup action  
20 (demobilization) for RAU 2A.

21 6.10 For **RAU 2B**, the Army shall submit the following deliverables for Ecology  
22 review and approval, in accordance with the schedule shown below:

23 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
24 to Ecology by September 16, 2004.

25 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
26 days of the issue date of the final MTCA RI/FS Report for RAU 2B.

- 1 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
2 calendar days of the issue date of the final CAP for RAU 2B.
- 3 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
4 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
5 date of the final CAP for RAU 2B.
- 6 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
7 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
8 final CAP for RAU 2B.
- 9 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
10 within thirty (30) calendar days of completion of the cleanup action  
11 (demobilization) for RAU 2B.

12 6.11 For **RAU 2C**, the Army shall submit the following deliverables for Ecology  
13 review and approval, in accordance with the schedule shown below:

- 14 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
15 to Ecology within six (6) months of the issue date of the final Interim Action  
16 Report for RAU 2C.
- 17 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within thirty (30)  
18 calendar days of the issue date of the final MTCA RI/FS Report for RAU 2C.
- 19 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
20 calendar days of the issue date of the final CAP for RAU 2C.
- 21 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
22 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
23 date of the final CAP for RAU 2C.
- 24 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
25 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
26 final CAP for RAU 2C.



1 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
2 within thirty (30) calendar days of completion of the cleanup action  
3 (demobilization) for RAU 2C.

4 6.12 For **RAU 3A**, the Army shall submit the following deliverables for Ecology  
5 review and approval, in accordance with the schedule shown below:

6 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
7 to Ecology by September 16, 2004.

8 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
9 days of the issue date of the final MTCA RI/FS Report for RAU 3A.

10 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
11 calendar days of the issue date of the final CAP for RAU 3A.

12 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
13 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
14 date of the final CAP for RAU 3A.

15 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
16 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
17 final CAP for RAU 3A.

18 F. Draft UXO Findings Report, described in Section 6.18, submitted to Ecology  
19 within ninety (90) calendar days of completion of the cleanup action  
20 (demobilization) for RAU 3A.

21 6.13 For **RAU 3B**, the Army shall submit the following deliverables for Ecology  
22 review and approval, in accordance with the schedule shown below:

23 A. Draft MTCA Remedial Investigation (RI) Work Plan, described in Section 6.15,  
24 submitted to Ecology within thirty (30) calendar days of the issue date of the final  
25 Interim Action Report for RAU 3B.  
26

1 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of  
2 the completion of field work for RAU 3B.

3 C. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
4 to Ecology within sixty (60) calendar days of the issue date of the final Field  
5 Work Report for RAU 3B.

6 D. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
7 days of the issue date of the final MTCA RI/FS Report for RAU 3B.

8 E. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
9 calendar days of the issue date of the final CAP for RAU 3B.

10 F. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
11 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
12 date of the final CAP for RAU 3B.

13 G. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
14 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
15 final CAP for RAU 3B.

16 H. Draft UXO Findings Report, described in Section 6.18, submitted to Ecology  
17 within ninety (90) calendar days of completion of the cleanup action  
18 (demobilization) for RAU 3B.

19 6.14 In support of the **investigation and monitoring of ground water** throughout the  
20 Site, the Army shall submit to Ecology for review and approval a draft Long-Term Monitoring  
21 and Contingency Plan to Ecology by July 16, 2004.

22  
23 **Description of Deliverables**

24 6.15 The **MTCA Remedial Investigation Work Plan** prepared for a RAU shall  
25 conform to the requirements in chapter 173-340 WAC and shall include, but shall not be limited  
26 to, the following plans:

- 1 A. Work Plan;
- 2 B. Health and Safety Plan;
- 3 C. Sampling and Analysis Plan;
- 4 D. Quality Assurance Plan; and
- 5 E. Data Management Plan.

6 6.16 The **Interim Action Report** prepared for a RAU shall include, but shall not be  
7 limited to, the following information:

- 8 A. Summary of any interim actions conducted;
- 9 B. Results of any interim actions conducted; and
- 10 C. Description of each item of UXO found during the interim action, including, but  
11 not limited to, the following information:
  - 12 (1) Identification of the UXO item;
  - 13 (2) Description of the fusing condition of the UXO item; and
  - 14 (3) Description of the location and depth of the UXO item.

15 6.17 The **Cleanup Action Report** prepared for a RAU shall include, but shall not be  
16 limited to, the following information:

- 17 A. Summary of any remedial investigations conducted;
- 18 B. Summary of any interim or cleanup actions conducted;
- 19 C. Results of any interim or cleanup actions conducted;
- 20 D. Results of any compliance monitoring conducted; and
- 21 E. Description of each item of UXO found during the investigation and cleanup of  
22 the RAU, including, but not limited to, the following information:
  - 23 (1) Identification of the UXO item;
  - 24 (2) Description of the fusing condition of the UXO item; and
  - 25 (3) Description of the location and depth of the UXO item.

1           6.18    The **UXO Findings Report** prepared for RAU 3A and RAU 3B shall include a  
2 description of each item of UXO found at the Site during the investigation and cleanup of the  
3 Site, including items of UXO found during an investigation or cleanup conducted under a RAU  
4 other than RAU 3. The description of each item of UXO shall include, but shall not be limited  
5 to, the following information:

- 6           A.     Identification of the UXO item;
- 7           B.     Description of the fusing condition of the UXO item; and
- 8           C.     Description of the location and depth of the UXO item.

9  
10 **Due Dates for Deliverables**

11           6.19    If the final day of any time period falls on a Saturday, Sunday, or a state or  
12 federal legal holiday, the time period shall be extended to the next working day. Any time  
13 period scheduled to begin on the occurrence of an act or event shall begin on the day after the act  
14 or event. The deliverable due date shall be considered satisfied if the deliverable is received  
15 electronically on the date due, and the “original” hard copy is received within two (2) working  
16 days.

17  
18 **Submittal of Deliverables**

19           6.20    In accordance with WAC 173-340-840(2), the Army shall submit to Ecology an  
20 electronic copy and three (3) hard copies of each deliverable identified in this Order (including  
21 both draft and draft final documents). The electronic copy must be submitted in a format  
22 compatible with, and approved by, Ecology. Ecology may require additional copies to meet  
23 public participation and interagency coordination needs.

1 **Review, Comment, and Approval Process for Deliverables**

2 6.21 The Army shall submit deliverables to Ecology in accordance with the schedule  
3 set forth herein. From the date Ecology receives the draft document, the following process will  
4 ensue:

- 5 A. Within thirty (30) calendar days of receiving the Army’s draft document, Ecology  
6 will provide the Army with comments.
- 7 B. Within thirty (30) calendar days of receiving Ecology’s comments, the Army will  
8 submit to Ecology a “draft final” document along with a response to comments  
9 identifying how comments were addressed.
- 10 C. Within thirty (30) calendar days of receiving the Army’s draft final document and  
11 response to comments on the draft document, Ecology will notify the Army in  
12 writing of whether the draft final document adequately addresses Ecology’s  
13 comments on the draft document.
- 14 D. If Ecology identifies inadequacies in the draft final document and/or the response  
15 to comments, then Ecology will, at its discretion, either revise and approve the  
16 document or require the Army to revise and resubmit the document within a  
17 specified period of time for approval.
- 18 E. If Ecology does not identify inadequacies in the draft final document or the  
19 response to comments, then Ecology will, at its discretion, approve the draft final  
20 document. A draft final document only becomes “final” upon Ecology approval.
- 21 F. In accordance with WAC 173-340-430(6), prior to the approval of a draft final  
22 interim action work plan, Ecology will provide public notice and opportunity for  
23 comment on the document and proposed interim action as required under WAC  
24 173-340-600(16). After review and consideration of the comments received  
25 during the public comment period, Ecology will, at its discretion, either approve  
26

1 the document or require the Army to revise and resubmit the document within a  
2 specified period of time for approval.

3 G. In accordance with WAC 173-340-350(5), prior to approval of a draft final  
4 MTCA remedial investigation or feasibility study report, Ecology will provide or  
5 require public notice and opportunity to comment on the document, as required  
6 under WAC 173-340-600(13). After review and consideration of the comments  
7 received during the public comment period, Ecology will, at its discretion, either  
8 approve the document or require the Army to revise and resubmit the document  
9 within a specified period of time for approval.

10 H. In accordance with WAC 173-340-380(2), prior to approval of a draft final CAP,  
11 Ecology will provide public notice and opportunity for comment on the  
12 document, as required under WAC 173-340-600(14). After review and  
13 consideration of the comments received during the public comment period,  
14 Ecology will, at its discretion, either approve the document or require the Army to  
15 revise and resubmit the document within a specified period of time for approval.

16 6.22 Ecology may extend the thirty (30) calendar day period for reviewing and  
17 commenting on a document by providing oral or written notification to the Army, prior to  
18 expiration of the thirty (30) calendar day period. Ecology will provide an estimate of the time  
19 required for completion of its review.

20 6.23 The Army may request an extension of the thirty (30) calendar day period for  
21 submitting a document and responses to comments by providing written notification to Ecology  
22 prior to expiration of the thirty (30) calendar day period. Any request for an extension by the  
23 Army shall specify:

- 24 A. The deadline that is sought to be extended;  
25 B. The length of the extension sought;  
26 C. The cause(s) for the extension; and

1 D. Any related deadline or schedule that would be affected if the extension were  
2 granted.

3 6.24 The burden will be on the Army to demonstrate to the satisfaction of Ecology that  
4 good cause exists for granting an extension. Good cause includes, but is not limited to, an event  
5 of force majeure. An event of force majeure shall include, but is not limited to, the following:

6 A. Circumstances beyond the reasonable control and despite the due diligence of the  
7 Army, including delays caused by unrelated third parties or Ecology, such as (but  
8 not limited to) delays by Ecology in reviewing, approving, or modifying  
9 documents submitted by the Army; or

10 B. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other  
11 unavoidable casualty.

12 6.25 An extension shall only be granted for such period of time as Ecology determines  
13 is reasonable under the circumstances. A requested extension shall not be effective until approved  
14 by Ecology. Ecology shall act upon any written request for an extension in a timely fashion and  
15 provide the Army written notification of any extensions granted pursuant to this Order. It shall  
16 not be necessary to formally amend this Order when a schedule extension is granted.

17  
18 **Enforceability and Implementation of Deliverables**

19 6.26 Upon approval by Ecology, each of the deliverables identified in this Order shall  
20 be incorporated by reference and become an integral and enforceable part of this Order, and shall  
21 be implemented by the Army in accordance with its terms and schedules, and in accordance with  
22 the applicable laws and CAPs.

23  
24 **Sampling**

25 6.27 The Army shall allow split or replicate samples to be taken by Ecology and shall  
26 provide Ecology notification ten (10) working days before any sampling activity, except during

1 an emergency. If an emergency exists, prompt oral notification shall be given of the emergency  
2 and of the Army's intent to collect samples. A written summary of actions taken during the  
3 emergency shall be provided to Ecology within ten (10) working days.  
4

#### 5 **Laboratory Accreditation**

6 6.28 In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses  
7 shall be conducted by a laboratory accredited under chapter 173-50 WAC for the specific  
8 analyses to be conducted, unless otherwise approved by Ecology.  
9

#### 10 **Sampling Data Submittal**

11 6.29 The Army shall submit validated analytical data to Ecology within thirty (30)  
12 calendar days of the initial receipt by the Army, its consultants, contractor, or subcontractor of  
13 non-validated analytical data from the laboratory. The submittal of validated analytical data  
14 shall also include a list of hazardous substances analyzed for, but not detected. The Army shall  
15 submit both an electronic copy and a hard copy of the validated analytical data to Ecology. The  
16 electronic copy shall be submitted in a format compatible with Ecology's data management  
17 system. The Army shall submit analytical backup documentation to Ecology within ten (10)  
18 working days after receipt of Ecology's written request. If preliminary analysis of samples  
19 indicates a potential imminent and substantial endangerment to the public health, then the Army  
20 shall notify Ecology immediately.

21 6.30 The Army may request an extension of the thirty (30) calendar day period for  
22 submitting validated laboratory data by providing written notification to Ecology prior to the  
23 expiration of the thirty (30) calendar day period, specifying the following:

- 24 A. The deadline that is sought to be extended;
- 25 B. The length of the extension sought;
- 26 C. The cause(s) for the extension; and



1 D. Any related deadline or schedule that would be affected.

2 6.31 Ecology may grant the requested extension if Ecology determines that good cause  
3 exists and if the Army submits non-validated analytical data with ten (10) working days after  
4 receipt of Ecology's written request.

5  
6 **Field Data Submittal**

7 6.32 The Army shall provide to Ecology within five (5) working days after receipt of  
8 Ecology's written request a copy of all field investigation notes covering the specified task and  
9 period of field activity.

10  
11 **Records Submittal**

12 6.33 In accordance with WAC 173-340-850, the Army shall submit a copy of any  
13 requested records relevant to this Order within thirty (30) calendar days after receipt of  
14 Ecology's written request.

15 6.34 The Army may extend the thirty (30) calendar day period for an additional thirty  
16 (30) calendar days by providing written notification to Ecology, prior to the expiration of the  
17 initial thirty (30) calendar day period.

18  
19 **Reporting of Releases**

20 6.35 In accordance with WAC 173-340-300, the Army shall notify Ecology in writing  
21 of any discovery of a release, including the discovery of any previously unidentified area of  
22 military munitions, within thirty (30) calendar days of the discovery. In accordance with WAC  
23 173-340-310, Ecology shall conduct an initial investigation within ninety (90) calendar days of  
24 notice of the release to determine whether further remedial action is required to address the  
25 release. Within thirty (30) calendar days of the completion of the initial investigation, Ecology  
26 shall notify the Army of its determination. If Ecology determines that further remedial action is

1 required, then Ecology shall also notify the Army of what remedial action is required to address  
2 the release. Ecology may require any release discovered after the effective date of this Order to  
3 be addressed as part of an existing remedial action unit or as a separate remedial action unit.  
4 Any such requirement will become an integral and enforceable part of this Order.  
5

## 6 **Interim Actions**

7 6.36 In accordance with WAC 173-340-310 and 173-340-430, Ecology may require  
8 the Army to conduct other interim actions at the Site in the future based on information obtained  
9 from remedial actions conducted under this Order. The Army may also propose any interim  
10 action consistent with WAC 173-340-430.  
11

## 12 **Progress Reports**

13 6.37 The Army shall submit to Ecology written quarterly progress reports that briefly  
14 describe:

- 15 A. The actions it has taken during the previous quarter to implement the  
16 requirements of this Order and to otherwise address the human health and  
17 environmental concerns at the Site;
  - 18 B. The actions scheduled to be taken during the next quarter;
  - 19 C. All field and laboratory data packages received or generated by the Army, its  
20 consultant, contractor, or subcontractor during the previous quarter, including all  
21 validated and non-validated data;
  - 22 D. The status of the schedule compliance;
  - 23 E. Deliverables submitted and the dates of submittal;
  - 24 F. Deliverables anticipated for submittal during the next quarter and the anticipated  
25 dates of submittal;
- 26

- 1 G. Anticipated problems and proposed solutions, including technical, budget, and
- 2 scheduling implications;
- 3 H. Problems encountered and proposed solutions, including technical, budget, and
- 4 scheduling implications;
- 5 I. Problems resolved and the method of resolution, including technical, budget, and
- 6 scheduling implications; and
- 7 J. Key staffing changes

8

9 **Project Coordinator Meetings**

10 6.38 Project Coordinator meetings shall be held on a monthly basis. Additional

11 Project Coordinator meetings may be held by agreement of both Ecology and the Army. Project

12 Coordinator meetings shall include a discussion of the topics required to be addressed as part of

13 the Quarterly Progress Reports (see Section 6.37).

14

15 **Periodic Reviews**

16 6.39 In accordance with WAC 173-340-420(3), if a periodic review of a remedial

17 action unit at the Site is required under WAC 173-340-420(2), then Ecology will conduct a

18 periodic review of that remedial action unit at least every five years after the initiation of the

19 cleanup action for that remedial action unit to ensure that human health and the environment are

20 being protected. When evaluating whether human health and the environment are being

21 protected, Ecology will consider the factors specified in WAC 173-340-420(4).

22 6.40 In accordance with WAC 173-340-420(3), the Army shall submit information

23 required by Ecology to conduct a periodic review and to make determinations, based on the

24 periodic review, as to whether additional action or modification of the cleanup action is required

25 and whether future periodic reviews are required.

1 **VII. TERMS AND CONDITIONS OF THIS ORDER**

2 7.1 Definitions.

3 Unless otherwise specified, the definitions set forth in chapter 70.105D RCW and chapter  
4 173-340 WAC shall control the meanings of the terms used in this Order.

5 Additional definitions are as follows:

6 A. “Dangerous wastes” means any dangerous waste as defined at RCW  
7 70.105.010(5) and any dangerous waste designated by rule pursuant to chapter 70.105 RCW,  
8 including, as defined in WAC 173-303-040, any solid waste designated in WAC 173-303-070  
9 through 173-303-100 as dangerous waste, extremely hazardous waste, or mixed waste.

10 Dangerous wastes are “hazardous substances” under RCW 70.105D.020(7)(a).

11 B. “Dangerous constituents” means, as defined in WAC 173-303-040 and 173-303-  
12 646(1)(d), any constituent identified in WAC 173-303-9905 or 40 CFR Part 264 Appendix IX;  
13 any constituent that caused a solid waste to be listed as a dangerous waste or to exhibit a  
14 dangerous characteristic under chapter 173-303 WAC or to meet a dangerous waste criteria  
15 under chapter 173-303 WAC; and any constituent defined as a hazardous substance under RCW  
16 70.105D.020(7).

17 C. “Military munitions” means, as defined in WAC 173-303-040, all ammunition  
18 products and components produced or used by or for the U.S. Department of Defense or the U.S.  
19 Armed Services for national defense or security, including military munitions under the control  
20 of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy, and  
21 National Guard personnel. As further defined in WAC 173-303-040, the term “military  
22 munitions” includes: Confined gaseous, liquid, and solid propellants, explosives, pyrotechnics,  
23 chemical and riot control agents, smokes and incendiaries used by Department of Defense  
24 components, including bulk explosives and chemical warfare agents, chemical munitions,  
25 rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition,  
26 small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and

1 dispensers, demolition charges, and devices and components thereof.

2 D. “Solid waste” means, as defined at WAC 173-303-016(3), any discarded material  
3 that is not excluded by WAC 173-303-017(2) or that is not excluded by variance granted under  
4 WAC 173-303-017(5), and includes military munitions identified as a solid waste at WAC 173-  
5 303-578(2).

6 E. “Unexploded ordnance” or “UXO” means, as defined in WAC 173-303-040,  
7 military munitions that have been primed, fused, armed, or otherwise prepared for action, and  
8 have been fired, dropped, launched, projected, or placed in such a manner as to constitute a  
9 hazard to operations, installation personnel, or material, and remain unexploded either by  
10 malfunction, design, or any other cause.

11 7.2 Public Notices.

12 RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent  
13 public notice. Ecology shall be responsible for providing such public notice and reserves the  
14 right to modify or withdraw any provisions of this Order should public comment disclose facts  
15 or considerations which indicate to Ecology that the Order is inadequate or improper in any  
16 respect.

17 7.3 Remedial Action Costs.

18 A. Costs billed by Ecology pursuant to this Order shall be consistent with the  
19 provisions of the Defense-State Memorandum of Agreement (DSMOA) entered into by the State  
20 of Washington and Department of Defense on February 3, 1994, as amended.

21 B. In the event Ecology services/oversight activities are not fully funded by the  
22 DSMOA, the Army shall pay to Ecology costs incurred by Ecology pursuant to this Order as  
23 required by RCW 70.105D.040(2). These costs shall include work performed by Ecology or its  
24 contractors for investigations, remedial actions, and Order preparation, oversight and  
25 administration. Ecology costs shall include costs of direct activities and support costs of direct  
26 activities as defined in WAC 173-340-550(2). The Army shall pay the required amount within

1 90 calendar days of receiving from Ecology an itemized statement of costs that includes a  
2 summary of costs incurred, an identification of involved staff, and the amount of time spent by  
3 involved staff members on the project. A general description of work performed will be  
4 provided upon request. Itemized statements shall be prepared quarterly. Failure to pay  
5 Ecology's costs within ninety (90) calendar days of receipt of the itemized statement of costs will  
6 result in interest charges.

7 7.4 Designated Project Coordinators.

8 The project coordinator for Ecology is:

9 Name: Ben Forson  
10 Address: Toxics Cleanup Program  
P.O. Box 47600  
Olympia, WA 98504-7600  
11 Telephone: (360) 407-7227  
12 Fax: (360) 407-7154  
E-mail: bfor461@ecy.wa.gov

13 The project coordinator for the Army is:

14 Name: Eric Waehling  
15 Address: Public Works  
AFZH-PWE (MS-17)  
P.O. Box 339500  
Fort Lewis, WA 98433-9500  
16 Telephone: (253) 966-1732  
17 Fax: (253) 964-2488  
18 E-mail: waehline@lewis.army.mil

19 The project coordinator(s) shall be responsible for overseeing the implementation of this  
20 Order. To the maximum extent possible, communications between Ecology and the Army, and  
21 all documents, including reports, approvals, and other correspondence concerning the activities  
22 performed pursuant to the terms and conditions of this Order, shall be directed through the  
23 project coordinator(s). Should Ecology or the Army change project coordinator(s), written  
24 notification shall be provided to Ecology or the Army at least ten (10) calendar days prior to the  
25 change.

1           7.5    Performance.

2           All work performed pursuant to this Order shall be under the direction and supervision,  
3 as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate  
4 training, experience and expertise in hazardous waste site investigation and cleanup. The Army  
5 shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any  
6 contractors and subcontractors to be used in carrying out the terms of this Order, in advance of  
7 their involvement at the Site. The Army shall provide a copy of this Order to all agents,  
8 contractors and subcontractors retained to perform work required by this Order and shall ensure  
9 that all work undertaken by such agents, contractors and subcontractors will be in compliance  
10 with this Order.

11           Except where necessary to abate an emergency situation, the Army shall not perform any  
12 remedial actions at the Site outside that required by this Order unless Ecology concurs, in  
13 writing, with such additional remedial actions.

14           WAC 173-340-400(6)(b)(i) requires that "construction" performed on the Site must be  
15 under the supervision of a professional engineer or a qualified technician under the direct  
16 supervision of a professional engineer. The professional engineer must be registered in the State  
17 of Washington, except as provided in RCW 18.43.130.

18           Removal and/or disposal of UXO performed pursuant to this Order shall be under the  
19 supervision of a site UXO supervisor (SUXOS) identified by the Army. The SUXOS must be an  
20 "explosives or munitions emergency response specialist" as defined in WAC 173-303-040. The  
21 Army shall notify Ecology as to the identity of the SUXOS. The Army shall provide a copy of  
22 this Order to the SUXOS and shall ensure that all work undertaken to remove and/or dispose of  
23 UXO will be in compliance with this Order.

24           7.6    Access.

25           Ecology or any Ecology authorized representative shall have the authority to enter and  
26 freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting

1 records, operation logs, and contracts related to the work being performed pursuant to this Order;  
2 reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting  
3 samples as Ecology or the project coordinator may deem necessary; using a camera, sound  
4 recording, or other documentary type equipment to record work done pursuant to this Order; and  
5 verifying the data submitted to Ecology by the Army. When entering the Site under chapter  
6 70.105D RCW, Ecology shall provide reasonable notice prior to entering the Site unless an  
7 emergency prevents notice. Where access to the Site is restricted due to the presence of military  
8 munitions, the Army shall supply sufficient personnel trained in ordnance recognition and  
9 avoidance to enable Ecology or any Ecology authorized representative to carry out the purposes  
10 of this paragraph. Ecology shall allow split or replicate samples to be taken by the Army during  
11 an inspection unless doing so interferes with Ecology's sampling. The Army shall allow split or  
12 replicate samples to be taken by Ecology and shall provide Ecology notification ten (10) working  
13 days before any sampling activity.

14 7.7 Public Participation.

15 In April 2004, Ecology finalized the Public Participation Plan for the Site.<sup>2</sup> That plan is  
16 hereby incorporated by reference and is an integral and enforceable part of this Order. Ecology  
17 shall maintain the responsibility for public participation at the Site. The Army shall help  
18 coordinate and implement public participation for the Site.

19 7.8 Retention of Records.

20 The Army shall preserve in a readily retrievable fashion, during the pendency of this  
21 Order and for ten (10) years from the date of completion of the work performed pursuant to this  
22 Order, all records, reports, documents, and underlying data in its possession relevant to this  
23 Order. Should any portion of the work performed hereunder be undertaken through contractors  
24

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25 <sup>2</sup> Washington State Department of Ecology, *Public Participation Plan for Camp Bonneville, Vancouver,*  
26 *Washington*, Pub. No. #04-09-045, April 2004.



1 or agents of the Army, a record retention requirement meeting the terms of this paragraph shall  
2 be required of such contractors and/or agents.

3 7.9 Dispute Resolution.

4 The Army may request Ecology to resolve disputes which may arise during  
5 implementation of this Order. The procedures for resolving disputes are set forth below.

- 6 A. Upon receipt of the Ecology project manager's decision, the Army has fourteen  
7 (14) calendar days within which to submit to the Ecology project manager a  
8 written objection to the decision.
- 9 B. After receipt of the Army's written objection, the project managers will confer in  
10 an effort to resolve the dispute. If the project managers cannot resolve the dispute  
11 within fourteen (14) calendar days of Ecology's receipt of the Army's written  
12 objection, the Ecology project manager will issue a written decision.
- 13 C. After receipt of the Ecology project manager's written decision, the Army may  
14 request review of the decision by Ecology management. The request must be  
15 submitted in writing to Ecology's signatory, or his/her successor(s), to this Order  
16 within seven (7) calendar days of receipt of the Ecology project manager's  
17 decision.
- 18 D. Upon receipt of the Army's written request for review, Ecology's signatory to this  
19 Order, or his/her successor(s), will conduct a review of the dispute, confer with  
20 the Fort Lewis Garrison Commander or his/her local designate, and issue a  
21 written decision regarding the dispute within thirty (30) calendar days. The  
22 signatory's decision will be Ecology's final decision on the disputed matter.  
23 Ecology resolution of the dispute shall be binding and final.

24 The Army is not relieved of any requirement of this Order during the pendency of the  
25 dispute and remains responsible for timely compliance with the terms of the Order unless  
26 otherwise provided by Ecology in writing. The Army may request that the time periods for

1 completing actions that could be affected by the outcome of the dispute be tolled during the  
2 pendency of the dispute. Any such request shall be submitted in writing with the request for  
3 dispute resolution.

4 7.10 Reservation of Rights/No Settlement.

5 Ecology reserves all rights to issue additional orders or take any action authorized by law  
6 in the event or upon the discovery of a release or threatened release of hazardous substances not  
7 addressed by this Order, upon discovery of any factors not known at the time of issuance of this  
8 Order, in order to abate an emergency, or under any other circumstances deemed appropriate by  
9 Ecology.

10 Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural  
11 resources resulting from the releases or threatened releases of hazardous substances from the  
12 Site.

13 In the event Ecology determines that conditions at the Site are creating or have the  
14 potential to create a danger to the health or welfare of the people on the Site or in the  
15 surrounding area or to the environment, Ecology may order the Army to stop further  
16 implementation of this Order for such period of time as needed to abate the danger.

17 7.11 Transference of Property.

18 No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold,  
19 or other interest in any portion of the Site shall be consummated by the Army without provision  
20 for continued implementation of all requirements of this Order and implementation of any  
21 remedial actions found to be necessary as a result of this Order.

22 Prior to transfer of any legal or equitable interest the Army may have in the Site or any  
23 portions thereof, the Army shall serve a copy of this Order upon any prospective purchaser,  
24 lessee, transferee, assignee, or other successor in such interest. At least thirty (30) calendar days  
25 prior to finalization of any transfer, the Army shall notify Ecology of the contemplated transfer.

1           7.12 Compliance with Other Applicable Laws.

2           A.     All actions carried out by the Army pursuant to this Order shall be done in  
3 accordance with all applicable federal, state, and local requirements, including requirements to  
4 obtain necessary permits, except as provided in paragraph B of this section.

5           B.     Pursuant to RCW 70.105D.090(1), the substantive requirements of chapters 70.94,  
6 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local  
7 government permits or approvals for the remedial action under this Order that are known to be  
8 applicable at the time of the issuance of any Cleanup Action Plan for any RAU shall be included  
9 in the Cleanup Action Plan for that RAU and shall be binding and enforceable requirements of  
10 the Order.

11           The Army has a continuing obligation to determine whether additional permits or  
12 approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial  
13 action under this Order. In the event the Army determines that additional permits or approvals  
14 addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under  
15 this Order, it shall promptly notify Ecology of this determination. Ecology shall determine  
16 whether Ecology or the Army shall be responsible to contact the appropriate state and/or local  
17 agencies. If Ecology so requires, the Army shall promptly consult with the appropriate state  
18 and/or local agencies and provide Ecology with written documentation from those agencies of  
19 the substantive requirements those agencies believe are applicable to the remedial action.  
20 Ecology shall make the final determination on the additional substantive requirements that must  
21 be met by the Army and on how the Army must meet those requirements. Ecology shall inform  
22 the Army in writing of these requirements. Once established by Ecology, the additional  
23 requirements shall be enforceable requirements of this Order. The Army shall not begin or  
24 continue the remedial action potentially subject to the additional requirements until Ecology  
25 makes its final determination.

1 Ecology shall ensure that notice and opportunity for comment is provided to the public  
2 and appropriate agencies prior to establishing the substantive requirements under this section.

3 C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the  
4 exemption from complying with the procedural requirements of the laws referenced in RCW  
5 70.105D.090(1) would result in the loss of approval from a federal agency which is necessary for  
6 the State to administer any federal law, the exemption shall not apply and the Army shall comply  
7 with both the procedural and substantive requirements of the laws referenced in RCW  
8 70.105D.090(1), including any requirements to obtain permits.

#### 9 10 **VIII. SATISFACTION OF THIS ORDER**

11 8.1 The provisions of this Order shall be deemed satisfied upon the Army's receipt of  
12 written notification from Ecology that the Army has completed the remedial activity required by  
13 this Order, as amended by any modifications, and that all other provisions of this Order have  
14 been complied with.

#### 15 16 **IX. ENFORCEMENT**

17 9.1 Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

18 A. The Attorney General may bring an action to enforce this Order in a state  
19 or federal court.

20 B. The Attorney General may seek, by filing an action, if necessary, to  
21 recover amounts spent by Ecology for investigative and remedial actions  
22 and orders related to the Site.

23 C. In the event the Army refuses, without sufficient cause, to comply with  
24 any term of this Order, the Army will be liable for:

25 (1) up to three times the amount of any costs incurred by the state of  
26 Washington as a result of its refusal to comply; and

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(2) civil penalties of up to \$25,000 per day for each day it refuses to  
comply.

D. This Order is not appealable to the Washington Pollution Control  
Hearings Board. This Order may be reviewed only as provided under  
RCW 70.105D.060.

9.2 Effective date of this Order: June 16, 2004.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Tim Nord, Section Manager  
Toxics Cleanup Program  
Washington Department of Ecology



# **NOTE TO REVIEWERS**

**Attachments are included  
with the Signed Copy**

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:	ENFORCEMENT ORDER
The U.S. Department of the Army,	No. 03TCPHQ-5286
Camp Bonneville Military Reservation Proebstel, Washington	FIRST AMENDMENT

TO: U.S. Department of the Army  
c/o Col. M.K. Stephenson  
Garrison Commander  
I Corps and Fort Lewis  
MS 1AA, Box 339500  
Fort Lewis, WA 98433-9500

**TABLE OF CONTENTS**

I. JURISDICTION .....2

II. FINDINGS OF FACT .....2

III. ECOLOGY DETERMINATIONS .....10

IV. REMEDIAL ACTION UNITS .....12

V. STATUS OF REMEDIAL ACTIONS.....13

VI. WORK TO BE PERFORMED .....18

VII. TERMS AND CONDITIONS OF THIS ORDER .....34

VIII. SATISFACTION OF THIS ORDER .....42

IX. ENFORCEMENT .....42



1 **I. JURISDICTION**

2 1.1 On February 4, 2003, the State of Washington, Department of Ecology (Ecology)  
3 issued Enforcement Order No. 03TCPHQ-5286 to the United States Department of the Army  
4 (Army) pursuant to the authority of RCW 70.105D.050(1) and the authority of chapter 70.105  
5 RCW and WAC 173-303-646(3)(a). This First Amendment of Enforcement Order No.  
6 03TCPHQ-5286 (Order) is issued pursuant to that authority and supercedes all previous  
7 versions.

8 **II. FINDINGS OF FACT**

9 2.1 The Camp Bonneville Military Reservation (“the Site”) is located in Clark  
10 County, Washington, approximately twelve (12) miles northeast of the center of the City of  
11 Vancouver. The term “Site” means the same as “facility” as defined at RCW 70.105D.020(4).  
12 The Site lies along both banks of Lacamas Creek and occupies 3,840 acres, which includes 820  
13 acres leased from the Washington Department of Natural Resources. The Site includes all  
14 potentially contaminated areas within the current and previous property boundaries of the Camp  
15 Bonneville Military Reservation, as well as any areas outside of these property boundaries where  
16 hazardous substances originating from within these property boundaries may have come to be  
17 located. The Site is illustrated in Attachment A, attached hereto.

18 2.2 The United States War Department and its successor agency, the Department of  
19 Defense, has owned and operated the Camp Bonneville Military Reservation for military training  
20 since 1909. Units of the Army, Army Reserve, Marine Corps Reserve, Navy Reserve, Coast  
21 Guard Reserve, and National Guard have trained on the Site. The Site has also been used by  
22 Federal, State, and local law enforcement agencies for small arms training. A small arms range  
23 on the Site is operated by the Federal Bureau of Investigation. The Site was placed on the Base  
24 Realignment and Closure (BRAC) list and closed in 1995. At the present time, the Site is under  
25 the control and authority of the garrison commander of Fort Lewis.  
26

1           2.3     Between 1909 and 1995, unused military munitions, both live and practice, were  
2 stored at the Camp Bonneville Military Reservation. These unused military munitions included  
3 artillery ammunition, mortar ammunition, air-launched rockets, shoulder-fired rockets, guided  
4 missiles, bombs, land mines (practice only), grenades, fuses, and small arms ammunition. Some  
5 of these military munitions were disposed of at the Site by open burning or open detonation  
6 (OB/OD).

7           2.4     Between 1909 and 1995, military munitions, both live and practice, were used at  
8 the Camp Bonneville Military Reservation. These used military munitions included artillery  
9 ammunition, mortar ammunition, shoulder-fired rockets, land mines (practice only), grenades,  
10 and small arms ammunition. These military munitions were primed, fused, armed, or otherwise  
11 prepared for action, and then fired, launched, projected, or placed at or on the Camp Bonneville  
12 Military Reservation.

13           A.     Some of the military munitions used at the Camp Bonneville Military Reservation  
14 exploded, fragmenting the munitions.

15           B.     Some of the military munitions used at the Camp Bonneville Military Reservation  
16 did not explode, either by malfunction, design, or some other cause. These  
17 munitions are referred to as “unexploded ordnance” or “UXO”.

18           2.5     At least eight firing ranges at the Camp Bonneville Military Reservation had  
19 safety fans that extended beyond the property boundary of the Reservation. Between 1909 and  
20 1995, military munitions were used at those firing ranges. Some of the military munitions used  
21 at those firing ranges, including 105 and 155 millimeter artillery and 4.2 mortar projectiles, had  
22 ranges that extended beyond the property boundary of the Reservation. Based on these findings  
23 of fact, there is a possibility that military munitions may have landed off-range, beyond the  
24 property boundary of the Reservation. These used military munitions may include both  
25 unexploded ordnance (UXO) and the fragments and constituents of exploded munitions.

26

1           2.6     Between 1909 and 1995, some of the used military munitions at the Camp  
2 Bonneville Military Reservation, including both unexploded ordnance (UXO) and munitions  
3 fragments, were recovered and collected, and then disposed of at the Site by open burning or  
4 open detonation (OB/OD).

5           2.7     Several areas throughout the Camp Bonneville Military Reservation were used for  
6 the disposal of military munitions. At least three areas of the Site were used for the disposal of  
7 military munitions by open burning or open detonation (OB/OD).

8           2.8     At the time the Camp Bonneville Military Reservation was closed in 1995, some  
9 of the military munitions used during military activities, including both unexploded ordnance  
10 (UXO) and the fragments and constituents of exploded munitions, were left in place at the Site.

11          2.9     Between 1909 and 1995, diesel fuel, fuel oil, pesticides, solvents, lead and  
12 chromium-containing paint, and other hazardous materials were also used at the Camp  
13 Bonneville Military Reservation.

14          2.10    Investigations since 1995 by the Army and its contractors at the Camp Bonneville  
15 Military Reservation have shown that these historical military and maintenance operations have  
16 resulted in the presence of the following substances at the Site:

- 17           A.     The presence of diesel fuel, fuel oil, pesticides, and xylenes in the soil;
- 18           B.     The presence of volatile organic compounds, including 1,1,1-trichloroethane, in  
19               the soil and ground water;
- 20           C.     The presence of military munitions used or disposed of at the Site, including  
21               explosives, unexploded ordnance (UXO), munitions, and munitions fragments, in  
22               the soil;
- 23           D.     The presence of the constituents of those military munitions, including the  
24               explosive compound RDX, in the soil and ground water.

25          2.11    Military munitions have been found in several areas throughout the Camp  
26 Bonneville Military Reservation. Because of the historical military and maintenance operations

1 described above, including the storage, use, and disposal of military munitions, the presence of  
2 additional military munitions is strongly suspected. Because forests were located within several  
3 of the firing ranges when they were active, Ecology also has reason to believe that some of the  
4 military munitions used at those ranges are embedded in the trees located within those firing  
5 ranges.

6 2.12 People live adjacent to the Camp Bonneville Military Reservation and rely on  
7 ground water as a source of drinking water. The Site is also inhabited by numerous species of  
8 wildlife and borders both sides of Lacamas Creek, which is a tributary of the Columbia River.

9 2.13 The foregoing information is contained in the following documents:

- 10 A. Hart Crowser, Inc., *Petroleum Contaminated Soil Investigation, Former*  
11 *Tank No. 7-CMBPN, Building No. 4475, Camp Bonneville, Vancouver,*  
12 *Washington, Contact No. DACA67-93-D-1004, Delivery Order No. 53,*  
13 *September 11, 1996.*
- 14 B. Woodward-Clyde Federal Services, *Final Environmental Baseline Survey*  
15 *Report, Camp Bonneville, Washington, Contract No. DACA67-95-D-*  
16 *1001, January 30, 1997.*
- 17 C. Hart Crowser, Inc., *Final Lead-Based Paints and Soil-Metals Survey*  
18 *Report, Camp Bonneville, Washington, Contract No. DACA67-93-D-*  
19 *1004, Delivery Order No. 49, February 28, 1997.*
- 20 D. Hart Crowser, Inc., *Pre-Demolition Survey, CS Gas Chamber Building,*  
21 *Camp Bonneville, Vancouver, Washington, Contract No. DACA67-93-D-*  
22 *1004, Delivery Order No. 52, February 28, 1997.*
- 23 E. U.S. Army Corps of Engineers, *U.S. Department of Defense Program*  
24 *Base Realignment and Closure Ordnance, Ammunition and Explosives*  
25 *Final Archives Search Report – Report Plates, Camp Bonneville, Clark*  
26 *County, Washington, July 1997.*

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F. U.S. Army Corps of Engineers, *U.S. Department of Defense Program Base Realignment and Closure Ordnance, Ammunition and Explosives Final Archives Search Report – Conclusions and Recommendations, Camp Bonneville, Clark County, Washington, July 1997.*

G. U.S. Army Corps of Engineers, *U.S. Department of Defense Program Base Realignment and Closure Ordnance, Ammunition and Explosives Final Archives Search Report – References, Camp Bonneville, Clark County, Washington, July 1997.*

H. Prezant Associates, Inc., *Final Asbestos Surveys Report, Camp Bonneville, Vancouver, Washington, Volumes I-III, Contract No. DACA67-95-D-1018, Delivery Order No. 4, November 7, 1997.*

I. Cecon Corporation, *Drain Line and PCS Removal, Final Report, Camp Bonneville, Vancouver, Washington, Contract No. DACA67-96-M-0890, December 1997.*

J. UXB International, Inc., *Removal Report Ordnance and Explosive (OE) Sampling, Camp Bonneville, Vancouver, Washington, Contract No. DACA87-97-D-006, Delivery Order No. 10, August 31, 1998.*

K. Shannon & Wilson, Inc., *Final Multi-Sites Investigation Report, Camp Bonneville, Vancouver, Washington, Volumes 1-5, Contact No. DACA67-94-D-1014, Delivery Order Numbers 10 and 17, July 1999.*

L. URS Greiner Woodward Clyde, *Final Supplemental Archive Search Report, Camp Bonneville, Vancouver, Washington, Contract No. DACA67-98-D-1005, Delivery Order No. 3, August 15, 1999.*

M. Shannon & Wilson, Inc., *Final Landfill 4 Investigation Report, Camp Bonneville, Washington, Contract No. DACA67-94-D-1014, August 1999.*

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- N. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Multi-Sites, Camp Bonneville, Washington*, Contract No. DACA67- 95-G-0001, Task Order 58, February 2001.
- O. Hart Crowser, Inc., *Final Project Completion Report, Surface Water Investigation of Lacamas Creek and Tributaries, Camp Bonneville, Vancouver, Washington*, Contact No. DACA67-98-D-1008, Delivery Order No. 20, March 10, 2000.
- P. U.S. Army Corps of Engineers, *Final GIS-Based Historical Time Sequence Analysis, Camp Bonneville, Washington*, August 2000.
- Q. URS Greiner Woodward Clyde, *BRAC HTRW Site Closure Report for Landfills 1, 2, and 3; Former Burn Area; Buildings 1962 and 1963; Grease Pits at the Camp Bonneville and Camp Killpack Cantonments; Former Sewage Pond; and Hazardous Materials Accumulation Point, Camp Bonneville, Washington*, Contract No. DACA67-98-D-1005, Delivery Order No. 43, September 2000.
- R. UXB International, Inc., *Final Removal Report, Ordnance and Explosive Removal Action, Camp Bonneville, Vancouver, Washington*, Contract No. DACA87-97-D-006, Delivery Order No. 13, October 12, 2000.
- S. Parsons Engineering Science, Inc., *Final Reconnaissance Work Plan, Additional Site Characterization, Camp Bonneville, Vancouver, Washington*, October 2001.
- T. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Pesticide Building #4126 and Ammunition Bunkers #2953, #2951 and #2950, Camp Bonneville, Washington*, Contract No. DACA67-95-G-0001 T.O.58, December 2001.

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- U. Parsons Environmental, *Draft Reconnaissance Results, Small Arms Ranges, Camp Bonneville, Vancouver, WA*, Contract No. DACA87-95-D-0018, January 2002.
- V. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Drum Burial Area, Camp Bonneville, Washington*, Contract No. DACA67-95-G-0001 T.O. 58, April 2002.
- W. Project Performance Corporation, *Final Field Work Report – Investigation and Monitoring of Site-Wide Ground Water and Ground Water Investigations for Remedial Action Unit 2B*, April 2003.
- X. URS Corp., *Final Report, Landfill Area 4 / Demolition Area 1 Expanded Site Inspection, Camp Bonneville, Washington*, Contract No. DACA67-98-D-1005, Delivery Order 0054, May 2003.
- Y. Parsons Infrastructure & Technology Group, Inc., *Final Reconnaissance Summary Report, Camp Bonneville, Vancouver, Washington*, Contract No. DACA87-00-D-0038, Delivery Order 0017, May 2003.
- Z. Atlanta Environmental Management, Inc., *Final Site Investigation Report, Small Arms Ranges and Demolition Areas 2 and 3, Camp Bonneville, Vancouver, Washington*, Contract No. DACA65-03-F-0002, September 2003.
- AA. Project Performance Corporation, *Draft Remedial Investigation Report for Remedial Action Unit 2B, Camp Bonneville, Vancouver, Washington*, GSA Contract No. GS-10F-0028J, September 2003.
- BB. Project Performance Corporation, *Draft Remedial Investigation / Feasibility Study Report for Small Arms Ranges, Camp Bonneville, Vancouver, Washington*, GSA Contract No. GS-10F-0028J, October 2003.

1 CC. URS Corp., *Draft Final Cleanup Action Plan for Remedial Action Unit 1,*  
2 *Camp Bonneville, Vancouver, Washington,* Contract No. DACA67-02-D-  
3 2003, February 2004.

4 DD. PBS Engineering and Environmental, *Final Ground Water Sampling and*  
5 *Analysis Report, 4<sup>th</sup> Quarter 2003, Camp Bonneville, Vancouver,*  
6 *Washington,* Contract No. DAAD11-03-F-0115, May 2004.

7 EE. PBS Engineering and Environmental, *Draft Ground Water Sampling and*  
8 *Analysis Report, 1<sup>st</sup> Quarter 2004, Camp Bonneville, Vancouver,*  
9 *Washington,* Contract No. DAAD11-03-F-0115, May 2004.

10 2.14 On February 4, 2003, Ecology issued Enforcement Order No. 03TCPHQ-5286 to  
11 the Army pursuant to the authority of RCW 70.105D.050(1) and the authority of chapter 70.105  
12 RCW and WAC 173-303-646(3)(a). Enforcement Order No. 03TCPHQ-5286 requires the Army  
13 to conduct remedial actions to facilitate the comprehensive investigation and cleanup of the Site.

14 2.15 This Order constitutes the First Amendment of Enforcement Order No.  
15 03TCPHQ-5286. The amendment divides Remedial Action Unit 3 (RAU 3) into two subunits  
16 (RAU 3A and RAU 3B), modifies the schedule and work to be performed for those two subunits,  
17 and updates the status of remedial actions. This amended Order supercedes all previous  
18 versions.



1 **III. ECOLOGY DETERMINATIONS**

2  
3 **Determinations under the Model Toxics Control Act (MTCA)**

4 3.1 The U.S. Department of the Army (Army) is an "owner or operator" as defined at  
5 RCW 70.105D.020(12) of a "facility" as defined in RCW 70.105D.020(4).

6 3.2 The facility is known as Camp Bonneville Military Reservation ("the Site") and is  
7 located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

8 3.3 The substances found at the facility as described above are "hazardous  
9 substances" as defined at RCW 70.105D.020(7).

10 3.4 Based on the presence of these hazardous substances at the facility and all factors  
11 known to the Department of Ecology (Ecology), there are releases and threatened releases of  
12 hazardous substances from the facility, as defined at RCW 70.105D.020(20).

13 3.5 The releases and threatened releases of hazardous substances from the facility  
14 pose a threat to human health and the environment.

15 3.6 By letter dated July 1, 2002, Ecology notified the Army of its status as a  
16 "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

17 3.7 Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require  
18 potentially liable persons to investigate or conduct other remedial actions with respect to the  
19 releases and threatened releases of hazardous substances, whenever it believes such action to be  
20 in the public interest.

21 3.8 Based on the foregoing facts, Ecology believes the remedial action required by  
22 this Order is in the public interest.

1 **Determinations under the Hazardous Waste Management Act (HWMA)**

2 3.9 The Army is a “person” as defined at RCW 70.105.010(7).

3 3.10 The Army is the “owner” and “operator” as defined in WAC 173-303-040 of a  
4 “facility” as defined at RCW 70.105.010(11) and in WAC 173-303-040.

5 3.11 The facility is known as the Camp Bonneville Military Reservation (“the Site”) and  
6 is located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

7 3.12 The military munitions located at the facility are “solid wastes” as defined in  
8 WAC 173-303-016(3) and Section 7.1 of this Order.

9 3.13 The military munitions located at the facility are also “dangerous wastes” and/or  
10 “dangerous constituents” as defined in RCW 70.105.010(5) and WAC 173-303-040, and in  
11 Section 7.1 of this Order.

12 3.14 Based on the presence of these military munitions at the facility and all factors  
13 known to Ecology, there are releases and threatened releases of dangerous wastes and/or  
14 dangerous constituents from the facility, as defined in WAC 173-303-040.

15 3.15 Based on the releases and threatened releases of dangerous wastes and/or  
16 dangerous constituents from the facility, the military munitions located at the facility are subject  
17 to corrective action under WAC 173-303-646.

18 3.16 Pursuant to WAC 173-303-646, Ecology may require the owners or operators of  
19 the facility to conduct corrective actions with respect to the releases and threatened releases of  
20 dangerous wastes and/or dangerous constituents, as necessary to protect human health and the  
21 environment.

22 3.17 Based on the foregoing facts, Ecology believes the corrective action required by  
23 this Order is necessary to protect human health and the environment.

#### IV. REMEDIAL ACTION UNITS

4.1 For the purpose of directing remedial action at the Site, the Site shall be administratively divided into three remedial action units. The second remedial action unit shall be further administratively divided into three subunits. These remedial action units are described below and illustrated in Attachments B through F, attached hereto.

A. Remedial Action Unit 1 (RAU 1) consists of the 20 areas at the Site identified and illustrated in Attachment B, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

B. Remedial Action Unit 2 (RAU 2) consists of the areas at the Site identified and illustrated in Attachments C through E. RAU 2 shall be administratively divided into three subunits, identified and described below.

(1) Remedial Action Unit 2A (RAU 2A) consists of the 21 small arms range areas identified and illustrated in Attachment C, and addresses any lead or other contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(2) Remedial Action Unit 2B (RAU 2B) consists of Demolition Areas 2 and 3, identified and illustrated in Attachment D, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(3) Remedial Action Unit 2C (RAU 2C) consists of Landfill Area 4 and Demolition Area 1, identified and illustrated in Attachment E, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

C. Remedial Action Unit 3 (RAU 3) consists of any area at the Site where military munitions have come to be located. RAU 3 is identified and illustrated in

1 Attachment F. RAU 3 shall be administratively divided into two subunits,  
2 identified and described below.

3 (1) Remedial Action Unit 3A (RAU 3A) consists of any area within the  
4 western portion of the Site, identified and illustrated in Attachment F,  
5 where military munitions have come to be located, and addresses any  
6 contamination associated with those areas and any risks to human health  
7 and the environment associated with such contamination.

8 (2) Remedial Action Unit 3B (RAU 3B) consists of any area within the  
9 eastern portion of the Site, identified and illustrated in Attachment F,  
10 where military munitions have come to be located, and addresses any  
11 contamination associated with those areas and any risks to human health  
12 and the environment associated with such contamination.

13 4.2 Ecology may require a subdivision or a combination of the remedial action units  
14 defined in this Order. Ecology may also require the creation of additional remedial action units.  
15 Any such requirement will become an integral and enforceable part of this Order.

## 17 V. STATUS OF REMEDIAL ACTIONS

18 5.1 After the BRAC Commission identified the Camp Bonneville Military  
19 Reservation for closure in 1995, the Army conducted several site investigations and archive  
20 searches to identify releases or threatened releases of hazardous substances throughout the Site.

### 22 Remedial Action Unit 1

23 5.2 In 1997, based on the initial site investigations and archive searches, the Army  
24 identified releases and threatened releases of hazardous substances at the 20 areas comprising  
25 RAU 1. From August 1996 to July 1999, the Army conducted several remedial investigations of  
26

1 those areas. In 1999 and 2000, the Army conducted several independent cleanup actions to  
2 address the contamination identified during those remedial investigations.

3 5.3 Under the original Order, the Army submitted to Ecology in April 2003 a draft  
4 Cleanup Action Plan (CAP) for RAU 1. The draft CAP describes the investigations and cleanup  
5 actions conducted and the results of those investigations and actions. The draft CAP also  
6 describes whether further action is required and the nature of any such action. In April 2004,  
7 after the Army revised the draft CAP based on Ecology's comments, the draft CAP was  
8 submitted for public comment. As of the effective date of this Order, the draft CAP had not been  
9 finalized.

#### 10 11 **Remedial Action Unit 2A**

12 5.4 In 1997, based on the initial site investigations and archive searches, the Army  
13 identified releases and threatened releases of hazardous substances at the 21 small arms ranges  
14 comprising RAU 2A. In November 2001, the Army conducted additional investigations to better  
15 define the location and geographic characteristics of the small arms ranges.

16 5.5 Under the original Order, the Army submitted to Ecology in April 2003 a draft  
17 Interim Action Work Plan for RAU 2A. In May 2003, Ecology submitted comments on that  
18 draft Work Plan. In September 2003, the Army submitted to Ecology a draft final Work Plan.  
19 As of the effective date of this Order, the draft Interim Action Work Plan for RAU 2A had not  
20 been submitted for public comment and finalized.

21 5.6 Under the original Order, the Army also completed in April 2003 the remedial  
22 investigation of RAU 2A. The findings of that investigation are presented in the Field Work  
23 Report, which was finalized in September 2003. Based on the results of that investigation, the  
24 Army submitted to Ecology a draft Remedial Investigation / Feasibility Study (RI/FS) Report in  
25 October 2003. Ecology submitted comments on that draft report in December 2003. As of the  
26

1 effective date of this Order, the draft final RI/FS Report for RAU 2A had not been submitted to  
2 Ecology.

3  
4 **Remedial Action Unit 2B**

5 5.7 In 1997, based on the initial site investigations and archive searches, the Army  
6 identified releases and threatened releases of hazardous substances at Demolition Area 2 and  
7 Demolition Area 3, the two open burning / open detonation (OB/OD) areas comprising RAU 2B.

8 5.8 Under the original Order, the Army completed in April 2003 the remedial  
9 investigation of RAU 2B. The findings of that investigation are presented in the Field Work  
10 Report, which was finalized in September 2003. Based on the results of that investigation, the  
11 Army also submitted to Ecology a draft Remedial Investigation Report in September 2003.  
12 Ecology submitted comments on that draft Report in November 2003, including a request that  
13 the Army submit a combined draft Remedial Investigation / Feasibility Study (RI/FS) Report, as  
14 required under the original Order. As of the effective date of this Order, the draft RI/FS Report  
15 for RAU 2B had not been submitted to Ecology.

16  
17 **Remedial Action Unit 2C**

18 5.9 In 1997, based on the initial site investigations and archive searches, the Army  
19 identified releases and threatened releases of hazardous substances at Landfill Area 4 /  
20 Demolition Area 1, the area comprising RAU 2C. In August 1999, the Army conducted several  
21 additional investigations.

22 5.10 Under the original Order, the Army submitted to Ecology in December 2003 a  
23 draft Interim Action Work Plan for RAU 2C. In April 2004, after the Army revised the draft  
24 Work Plan based on Ecology's comments, the draft Work Plan was submitted for public  
25  
26

1 comment. In May 2004, the Army submitted the final Interim Action Work Plan for RAU 2C.<sup>1</sup>  
2 That plan is hereby incorporated by reference and is an integral and enforceable part of this  
3 Order. As of the effective date of this Order, the Army had not completed the work required  
4 under that plan.

5 5.11 Under the original Order, the Army also completed in February 2003 a remedial  
6 investigation of ground water for RAU 2C. The findings of that investigation are presented in  
7 the Field Work Report, which was finalized in May 2003. Based on the results of that  
8 investigation and the impact of the forthcoming interim actions to address soil contamination,  
9 Ecology determined that further investigation of the ground water were required. As of the  
10 effective date of this Order, the draft Remedial Investigation / Feasibility Study Report for RAU  
11 2C had not been submitted to Ecology.

### 12 13 **Remedial Action Unit 3**

14 5.12 In 1997, based on the initial site investigations and archive searches, the Army  
15 determined that military munitions, including unexploded ordnance (UXO), are present in  
16 several areas throughout the Site. In 1998, to determine the nature and extent of UXO  
17 throughout the Site, the Army conducted an investigation of the Site using a statistically-based  
18 sampling methodology. As a result of this investigation, the Army conducted a time-critical  
19 removal action on two former ordnance ranges and a surface clearance of Demolition Area 1.

20 5.13 In November 1998, the Army submitted to Ecology and the U.S. Environmental  
21 Protection Agency (EPA) a draft Engineering Evaluation and Cost Analysis (EE/CA) report  
22 based on the findings of the statistically-based investigation. This report identified locations of  
23 UXO, the hazards associated with UXO, the risks posed by UXO to future users of the land, and  
24 risk management alternatives, including a description of the effectiveness and cost of those

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25 <sup>1</sup> Tetra Tech, Inc., *Final Corrective Action Work Plan for Landfill 4 / Demolition Area 1 Interim Cleanup*  
26 *Action, Camp Bonneville, Washington*, Contract No. DAAD11-03-F-0102, May 2004.

1 alternatives. The Army submitted a second draft to Ecology and EPA in April 1999. Based on  
2 the inadequacy of the statistically-based sampling approach, Ecology and EPA determined that  
3 there was insufficient data to support the findings of the draft EE/CA.

4 5.14 In 2001, the Army evaluated the available photographic evidence to help identify  
5 areas of concern (AOCs) and areas of potential concern (AOPCs) throughout the Site. The  
6 Army subsequently conducted an instrument-aided reconnaissance effort to identify ordnance-  
7 related activities, as well as terrain and vegetation characteristics, associated with each of the  
8 previously identified AOCs and AOPCs. In 2002, the Army used this information, along with  
9 previously collected information, to conduct a screening analysis and develop a Conceptual Site  
10 Model (CSM). To test the CSM within designated reuse areas, the Army initiated a second  
11 phase of instrument-aided reconnaissance within the designated reuse areas.

12 5.15 Under the original Order, the Army completed the second phase of the instrument  
13 aided reconnaissance in February 2003. The findings of that reconnaissance effort are presented  
14 in the Field Work Report, which was finalized in May 2003. As of the effective date of this  
15 Order, the draft Remedial Investigation / Feasibility Study Report for RAU 3 had not been  
16 submitted to Ecology.

17 5.16 Under this Order, RAU 3 has been administratively divided into two subunits,  
18 RAU 3A and RAU3B, which are defined in Part IV of this Order.

## 19 20 **Investigation and Monitoring of Site-Wide Ground Water**

21 5.17 In February 2002, the Army developed a Site-Wide Ground Water Investigation  
22 Work Plan to analyze ground water at the property boundary of the Camp Bonneville Military  
23 Reservation using sentinel wells. The Work Plan was designed to help determine whether on-  
24 site ground water contamination has migrated beyond the property boundary of the Camp  
25 Bonneville Military Reservation. In December 2002, the Army installed four monitoring well  
26 pairs at the western property boundary near Lacamas Creek. The findings of that investigation



1 are presented in the Field Work Report, which was finalized in April 2003 under the original  
2 Order. As of the effective date of this Order, the draft Long-Term Monitoring and Contingency  
3 Plan had not been submitted to Ecology.  
4

## 5 **VI. WORK TO BE PERFORMED**

6 6.1 Based on the foregoing Facts and Determinations, it is hereby ordered that the  
7 Army take the following remedial actions and that these actions be conducted in accordance with  
8 chapter 173-340 WAC and WAC 173-303-646 unless otherwise specifically provided for herein.  
9

### 10 **Deliverables and Schedule – Interim Actions**

11 6.2 For **RAU 2A**, the Army shall conduct interim actions for the purpose of reducing  
12 the threat to human health and the environment associated with lead and other contamination  
13 located in some of the small arms ranges identified and illustrated in Attachment C. Those  
14 interim actions shall include, but shall not be limited to, the following:

- 15 A. For those ranges with identified target zones with berms, excavate and  
16 appropriately dispose of contaminated soil in those berms.
- 17 B. For those ranges with identified firing lines, investigate and, if necessary,  
18 excavate and appropriately dispose of contaminated soil in the muzzle blast zone.

19 6.3 In support of the interim actions for **RAU 2A**, the Army shall submit the  
20 following deliverables for Ecology review and approval, in accordance with the schedule shown  
21 below:

- 22 A. By August 16, 2004, submit to Ecology a draft final Interim Action Work Plan for  
23 RAU 2A that reflects public comment. The Work Plan shall meet the submittal  
24 requirements in WAC 173-340-430(7).  
25  
26

1 B. Within thirty (30) calendar days of completing the interim action (demobilization)  
2 for RAU 2A, submit to Ecology a draft Interim Action Report, described in  
3 Section 6.16.

4 6.4 For **RAU 2C**, the Army shall conduct interim actions for the purpose of reducing  
5 the threat to human health and the environment associated with the contamination associated  
6 with Landfill Area 4 / Demolition Area 1. Those interim actions shall include, but shall not be  
7 limited to, the excavation and appropriate disposal of materials contained in and contaminated  
8 soils associated with Landfill Area 4 / Demolition Area 1.

9 6.5 In support of the interim actions for **RAU 2C**, the Army shall submit a draft  
10 Interim Action Report, described in Section 6.16, for Ecology review and approval within thirty  
11 (30) calendar days of completing the interim action (demobilization).

12 6.6 For **RAU 3B**, the Army shall conduct interim actions for the purpose of  
13 completing the remedial investigation and feasibility study for RAU 3B and reducing the threat  
14 to human health and the environment associated with the military munitions located within RAU  
15 3B. Those interim actions shall include, but shall not be limited to, the following:

16 A. Subsurface clearance of UXO to a depth of 2 feet on roads and trails, which are  
17 defined to be 20 feet wide. "Subsurface clearance" means the detection of UXO  
18 using digital geophysics and the removal and/or disposal of UXO.

19 B. Surface clearance of UXO within a 50-foot wide buffer on each side of the 20-  
20 foot wide road or trail.

21 C. Subsurface clearance of UXO to a depth of 2 feet within a 600-foot by 600-foot  
22 area for each known target, and step-out subsurface clearance to a depth of 2 feet  
23 if UXO is found in a boundary grid. "Step-out clearance" means that if UXO is  
24 found in a boundary grid of the designated clearance area, then the clearance area  
25 shall be expanded (stepped-out) by adding new grids adjacent to the grid of  
26 concern. This process shall continue as long as UXO continues to be found in a

1 boundary grid. "Subsurface clearance" means the detection of UXO using digital  
2 geophysics and the removal and/or disposal of UXO.

3 6.7 In support of the interim actions for **RAU 3B**, the Army shall submit the  
4 following deliverables for Ecology review and approval, in accordance with the schedule shown  
5 below:

- 6 A. By March 1, 2005, submit to Ecology a draft Interim Action Work Plan for RAU  
7 3B. The Work Plan shall meet the submittal requirements in WAC 173-340-  
8 430(7).
- 9 B. Within sixty (60) calendar days of the issue date of the final Interim Action Work  
10 Plan for RAU 3B, begin implementation of the interim actions set forth in the  
11 final Interim Action Work Plan for RAU 3B (mobilization).
- 12 C. Within thirty (30) calendar days of completing the interim actions (demobilization)  
13 for RAU 3B, submit to Ecology a draft Interim Action Report, described in  
14 Section 6.16.

15  
16 **Deliverables and Schedule – Final Actions**

17 6.8 For **RAU 1**, the Army shall submit the following deliverables for Ecology review  
18 and approval, in accordance with the schedule shown below:

- 19 A. Draft final Cleanup Action Plan (CAP) that reflects public comment submitted to  
20 Ecology by July 16, 2004.
- 21 B. If required pursuant to chapter 173-340 WAC, then a draft Compliance  
22 Monitoring Plan shall be submitted to Ecology within thirty (30) calendar days of  
23 the issue date of the final CAP for RAU 1.
- 24 C. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
25 Maintenance Plan shall be submitted to Ecology within six (6) months of the  
26 issue date of the final CAP for RAU 1.

1 D. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
2 Plan shall be submitted to Ecology within six (6) months of the issue date of the  
3 final CAP for RAU 1.

4 6.9 For **RAU 2A**, the Army shall submit the following deliverables for Ecology  
5 review and approval, in accordance with the schedule shown below:

6 A. Draft final MTCA Remedial Investigation/Feasibility Study (RI/FS) Report  
7 submitted to Ecology by September 16, 2004.

8 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
9 days of the issue date of the final MTCA RI/FS Report for RAU 2A.

10 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
11 calendar days of the issue date of the final CAP for RAU 2A.

12 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
13 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
14 date of the final CAP for RAU 2A.

15 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
16 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
17 final CAP for RAU 2A.

18 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
19 within thirty (30) calendar days of completion of the cleanup action  
20 (demobilization) for RAU 2A.

21 6.10 For **RAU 2B**, the Army shall submit the following deliverables for Ecology  
22 review and approval, in accordance with the schedule shown below:

23 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
24 to Ecology by September 16, 2004.

25 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
26 days of the issue date of the final MTCA RI/FS Report for RAU 2B.

- 1 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
2 calendar days of the issue date of the final CAP for RAU 2B.
- 3 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
4 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
5 date of the final CAP for RAU 2B.
- 6 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
7 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
8 final CAP for RAU 2B.
- 9 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
10 within thirty (30) calendar days of completion of the cleanup action  
11 (demobilization) for RAU 2B.

12 6.11 For **RAU 2C**, the Army shall submit the following deliverables for Ecology  
13 review and approval, in accordance with the schedule shown below:

- 14 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
15 to Ecology within six (6) months of the issue date of the final Interim Action  
16 Report for RAU 2C.
- 17 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within thirty (30)  
18 calendar days of the issue date of the final MTCA RI/FS Report for RAU 2C.
- 19 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
20 calendar days of the issue date of the final CAP for RAU 2C.
- 21 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
22 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
23 date of the final CAP for RAU 2C.
- 24 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
25 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
26 final CAP for RAU 2C.

1 F. Draft Cleanup Action Report, described in Section 6.17, submitted to Ecology  
2 within thirty (30) calendar days of completion of the cleanup action  
3 (demobilization) for RAU 2C.

4 6.12 For **RAU 3A**, the Army shall submit the following deliverables for Ecology  
5 review and approval, in accordance with the schedule shown below:

- 6 A. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
7 to Ecology by September 16, 2004.
- 8 B. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
9 days of the issue date of the final MTCA RI/FS Report for RAU 3A.
- 10 C. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
11 calendar days of the issue date of the final CAP for RAU 3A.
- 12 D. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
13 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
14 date of the final CAP for RAU 3A.
- 15 E. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
16 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
17 final CAP for RAU 3A.
- 18 F. Draft UXO Findings Report, described in Section 6.18, submitted to Ecology  
19 within ninety (90) calendar days of completion of the cleanup action  
20 (demobilization) for RAU 3A.

21 6.13 For **RAU 3B**, the Army shall submit the following deliverables for Ecology  
22 review and approval, in accordance with the schedule shown below:

- 23 A. Draft MTCA Remedial Investigation (RI) Work Plan, described in Section 6.15,  
24 submitted to Ecology within thirty (30) calendar days of the issue date of the final  
25 Interim Action Report for RAU 3B.

26

- 1 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of  
2 the completion of field work for RAU 3B.
- 3 C. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted  
4 to Ecology within sixty (60) calendar days of the issue date of the final Field  
5 Work Report for RAU 3B.
- 6 D. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar  
7 days of the issue date of the final MTCA RI/FS Report for RAU 3B.
- 8 E. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)  
9 calendar days of the issue date of the final CAP for RAU 3B.
- 10 F. If required pursuant to chapter 173-340 WAC, then a draft Operation and  
11 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue  
12 date of the final CAP for RAU 3B.
- 13 G. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control  
14 Plan shall be submitted to Ecology within one (1) year of the issue date of the  
15 final CAP for RAU 3B.
- 16 H. Draft UXO Findings Report, described in Section 6.18, submitted to Ecology  
17 within ninety (90) calendar days of completion of the cleanup action  
18 (demobilization) for RAU 3B.

19 6.14 In support of the **investigation and monitoring of ground water** throughout the  
20 Site, the Army shall submit to Ecology for review and approval a draft Long-Term Monitoring  
21 and Contingency Plan to Ecology by July 16, 2004.

22

23 **Description of Deliverables**

24 6.15 The **MTCA Remedial Investigation Work Plan** prepared for a RAU shall  
25 conform to the requirements in chapter 173-340 WAC and shall include, but shall not be limited  
26 to, the following plans:

- 1 A. Work Plan;
- 2 B. Health and Safety Plan;
- 3 C. Sampling and Analysis Plan;
- 4 D. Quality Assurance Plan; and
- 5 E. Data Management Plan.

6 6.16 The **Interim Action Report** prepared for a RAU shall include, but shall not be  
7 limited to, the following information:

- 8 A. Summary of any interim actions conducted;
- 9 B. Results of any interim actions conducted; and
- 10 C. Description of each item of UXO found during the interim action, including, but  
11 not limited to, the following information:
  - 12 (1) Identification of the UXO item;
  - 13 (2) Description of the fusing condition of the UXO item; and
  - 14 (3) Description of the location and depth of the UXO item.

15 6.17 The **Cleanup Action Report** prepared for a RAU shall include, but shall not be  
16 limited to, the following information:

- 17 A. Summary of any remedial investigations conducted;
- 18 B. Summary of any interim or cleanup actions conducted;
- 19 C. Results of any interim or cleanup actions conducted;
- 20 D. Results of any compliance monitoring conducted; and
- 21 E. Description of each item of UXO found during the investigation and cleanup of  
22 the RAU, including, but not limited to, the following information:
  - 23 (1) Identification of the UXO item;
  - 24 (2) Description of the fusing condition of the UXO item; and
  - 25 (3) Description of the location and depth of the UXO item.



1           6.18    The **UXO Findings Report** prepared for RAU 3A and RAU 3B shall include a  
2 description of each item of UXO found at the Site during the investigation and cleanup of the  
3 Site, including items of UXO found during an investigation or cleanup conducted under a RAU  
4 other than RAU 3. The description of each item of UXO shall include, but shall not be limited  
5 to, the following information:

- 6           A.     Identification of the UXO item;
- 7           B.     Description of the fusing condition of the UXO item; and
- 8           C.     Description of the location and depth of the UXO item.

9  
10   **Due Dates for Deliverables**

11           6.19    If the final day of any time period falls on a Saturday, Sunday, or a state or  
12 federal legal holiday, the time period shall be extended to the next working day. Any time  
13 period scheduled to begin on the occurrence of an act or event shall begin on the day after the act  
14 or event. The deliverable due date shall be considered satisfied if the deliverable is received  
15 electronically on the date due, and the “original” hard copy is received within two (2) working  
16 days.

17  
18   **Submittal of Deliverables**

19           6.20    In accordance with WAC 173-340-840(2), the Army shall submit to Ecology an  
20 electronic copy and three (3) hard copies of each deliverable identified in this Order (including  
21 both draft and draft final documents). The electronic copy must be submitted in a format  
22 compatible with, and approved by, Ecology. Ecology may require additional copies to meet  
23 public participation and interagency coordination needs.

1 **Review, Comment, and Approval Process for Deliverables**

2 6.21 The Army shall submit deliverables to Ecology in accordance with the schedule  
3 set forth herein. From the date Ecology receives the draft document, the following process will  
4 ensue:

- 5 A. Within thirty (30) calendar days of receiving the Army’s draft document, Ecology  
6 will provide the Army with comments.
- 7 B. Within thirty (30) calendar days of receiving Ecology’s comments, the Army will  
8 submit to Ecology a “draft final” document along with a response to comments  
9 identifying how comments were addressed.
- 10 C. Within thirty (30) calendar days of receiving the Army’s draft final document and  
11 response to comments on the draft document, Ecology will notify the Army in  
12 writing of whether the draft final document adequately addresses Ecology’s  
13 comments on the draft document.
- 14 D. If Ecology identifies inadequacies in the draft final document and/or the response  
15 to comments, then Ecology will, at its discretion, either revise and approve the  
16 document or require the Army to revise and resubmit the document within a  
17 specified period of time for approval.
- 18 E. If Ecology does not identify inadequacies in the draft final document or the  
19 response to comments, then Ecology will, at its discretion, approve the draft final  
20 document. A draft final document only becomes “final” upon Ecology approval.
- 21 F. In accordance with WAC 173-340-430(6), prior to the approval of a draft final  
22 interim action work plan, Ecology will provide public notice and opportunity for  
23 comment on the document and proposed interim action as required under WAC  
24 173-340-600(16). After review and consideration of the comments received  
25 during the public comment period, Ecology will, at its discretion, either approve  
26

1 the document or require the Army to revise and resubmit the document within a  
2 specified period of time for approval.

3 G. In accordance with WAC 173-340-350(5), prior to approval of a draft final  
4 MTCA remedial investigation or feasibility study report, Ecology will provide or  
5 require public notice and opportunity to comment on the document, as required  
6 under WAC 173-340-600(13). After review and consideration of the comments  
7 received during the public comment period, Ecology will, at its discretion, either  
8 approve the document or require the Army to revise and resubmit the document  
9 within a specified period of time for approval.

10 H. In accordance with WAC 173-340-380(2), prior to approval of a draft final CAP,  
11 Ecology will provide public notice and opportunity for comment on the  
12 document, as required under WAC 173-340-600(14). After review and  
13 consideration of the comments received during the public comment period,  
14 Ecology will, at its discretion, either approve the document or require the Army to  
15 revise and resubmit the document within a specified period of time for approval.

16 6.22 Ecology may extend the thirty (30) calendar day period for reviewing and  
17 commenting on a document by providing oral or written notification to the Army, prior to  
18 expiration of the thirty (30) calendar day period. Ecology will provide an estimate of the time  
19 required for completion of its review.

20 6.23 The Army may request an extension of the thirty (30) calendar day period for  
21 submitting a document and responses to comments by providing written notification to Ecology  
22 prior to expiration of the thirty (30) calendar day period. Any request for an extension by the  
23 Army shall specify:

- 24 A. The deadline that is sought to be extended;  
25 B. The length of the extension sought;  
26 C. The cause(s) for the extension; and

1 D. Any related deadline or schedule that would be affected if the extension were  
2 granted.

3 6.24 The burden will be on the Army to demonstrate to the satisfaction of Ecology that  
4 good cause exists for granting an extension. Good cause includes, but is not limited to, an event  
5 of force majeure. An event of force majeure shall include, but is not limited to, the following:

6 A. Circumstances beyond the reasonable control and despite the due diligence of the  
7 Army, including delays caused by unrelated third parties or Ecology, such as (but  
8 not limited to) delays by Ecology in reviewing, approving, or modifying  
9 documents submitted by the Army; or

10 B. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other  
11 unavoidable casualty.

12 6.25 An extension shall only be granted for such period of time as Ecology determines  
13 is reasonable under the circumstances. A requested extension shall not be effective until approved  
14 by Ecology. Ecology shall act upon any written request for an extension in a timely fashion and  
15 provide the Army written notification of any extensions granted pursuant to this Order. It shall  
16 not be necessary to formally amend this Order when a schedule extension is granted.

17  
18 **Enforceability and Implementation of Deliverables**

19 6.26 Upon approval by Ecology, each of the deliverables identified in this Order shall  
20 be incorporated by reference and become an integral and enforceable part of this Order, and shall  
21 be implemented by the Army in accordance with its terms and schedules, and in accordance with  
22 the applicable laws and CAPs.

23  
24 **Sampling**

25 6.27 The Army shall allow split or replicate samples to be taken by Ecology and shall  
26 provide Ecology notification ten (10) working days before any sampling activity, except during

1 an emergency. If an emergency exists, prompt oral notification shall be given of the emergency  
2 and of the Army's intent to collect samples. A written summary of actions taken during the  
3 emergency shall be provided to Ecology within ten (10) working days.  
4

#### 5 **Laboratory Accreditation**

6 6.28 In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses  
7 shall be conducted by a laboratory accredited under chapter 173-50 WAC for the specific  
8 analyses to be conducted, unless otherwise approved by Ecology.  
9

#### 10 **Sampling Data Submittal**

11 6.29 The Army shall submit validated analytical data to Ecology within thirty (30)  
12 calendar days of the initial receipt by the Army, its consultants, contractor, or subcontractor of  
13 non-validated analytical data from the laboratory. The submittal of validated analytical data  
14 shall also include a list of hazardous substances analyzed for, but not detected. The Army shall  
15 submit both an electronic copy and a hard copy of the validated analytical data to Ecology. The  
16 electronic copy shall be submitted in a format compatible with Ecology's data management  
17 system. The Army shall submit analytical backup documentation to Ecology within ten (10)  
18 working days after receipt of Ecology's written request. If preliminary analysis of samples  
19 indicates a potential imminent and substantial endangerment to the public health, then the Army  
20 shall notify Ecology immediately.

21 6.30 The Army may request an extension of the thirty (30) calendar day period for  
22 submitting validated laboratory data by providing written notification to Ecology prior to the  
23 expiration of the thirty (30) calendar day period, specifying the following:

- 24 A. The deadline that is sought to be extended;
- 25 B. The length of the extension sought;
- 26 C. The cause(s) for the extension; and

1 D. Any related deadline or schedule that would be affected.

2 6.31 Ecology may grant the requested extension if Ecology determines that good cause  
3 exists and if the Army submits non-validated analytical data with ten (10) working days after  
4 receipt of Ecology's written request.

5  
6 **Field Data Submittal**

7 6.32 The Army shall provide to Ecology within five (5) working days after receipt of  
8 Ecology's written request a copy of all field investigation notes covering the specified task and  
9 period of field activity.

10  
11 **Records Submittal**

12 6.33 In accordance with WAC 173-340-850, the Army shall submit a copy of any  
13 requested records relevant to this Order within thirty (30) calendar days after receipt of  
14 Ecology's written request.

15 6.34 The Army may extend the thirty (30) calendar day period for an additional thirty  
16 (30) calendar days by providing written notification to Ecology, prior to the expiration of the  
17 initial thirty (30) calendar day period.

18  
19 **Reporting of Releases**

20 6.35 In accordance with WAC 173-340-300, the Army shall notify Ecology in writing  
21 of any discovery of a release, including the discovery of any previously unidentified area of  
22 military munitions, within thirty (30) calendar days of the discovery. In accordance with WAC  
23 173-340-310, Ecology shall conduct an initial investigation within ninety (90) calendar days of  
24 notice of the release to determine whether further remedial action is required to address the  
25 release. Within thirty (30) calendar days of the completion of the initial investigation, Ecology  
26 shall notify the Army of its determination. If Ecology determines that further remedial action is

1 required, then Ecology shall also notify the Army of what remedial action is required to address  
2 the release. Ecology may require any release discovered after the effective date of this Order to  
3 be addressed as part of an existing remedial action unit or as a separate remedial action unit.  
4 Any such requirement will become an integral and enforceable part of this Order.  
5

## 6 **Interim Actions**

7 6.36 In accordance with WAC 173-340-310 and 173-340-430, Ecology may require  
8 the Army to conduct other interim actions at the Site in the future based on information obtained  
9 from remedial actions conducted under this Order. The Army may also propose any interim  
10 action consistent with WAC 173-340-430.  
11

## 12 **Progress Reports**

13 6.37 The Army shall submit to Ecology written quarterly progress reports that briefly  
14 describe:

- 15 A. The actions it has taken during the previous quarter to implement the  
16 requirements of this Order and to otherwise address the human health and  
17 environmental concerns at the Site;
- 18 B. The actions scheduled to be taken during the next quarter;
- 19 C. All field and laboratory data packages received or generated by the Army, its  
20 consultant, contractor, or subcontractor during the previous quarter, including all  
21 validated and non-validated data;
- 22 D. The status of the schedule compliance;
- 23 E. Deliverables submitted and the dates of submittal;
- 24 F. Deliverables anticipated for submittal during the next quarter and the anticipated  
25 dates of submittal;

- 1 G. Anticipated problems and proposed solutions, including technical, budget, and
- 2 scheduling implications;
- 3 H. Problems encountered and proposed solutions, including technical, budget, and
- 4 scheduling implications;
- 5 I. Problems resolved and the method of resolution, including technical, budget, and
- 6 scheduling implications; and
- 7 J. Key staffing changes

8

9 **Project Coordinator Meetings**

10 6.38 Project Coordinator meetings shall be held on a monthly basis. Additional

11 Project Coordinator meetings may be held by agreement of both Ecology and the Army. Project

12 Coordinator meetings shall include a discussion of the topics required to be addressed as part of

13 the Quarterly Progress Reports (see Section 6.37).

14

15 **Periodic Reviews**

16 6.39 In accordance with WAC 173-340-420(3), if a periodic review of a remedial

17 action unit at the Site is required under WAC 173-340-420(2), then Ecology will conduct a

18 periodic review of that remedial action unit at least every five years after the initiation of the

19 cleanup action for that remedial action unit to ensure that human health and the environment are

20 being protected. When evaluating whether human health and the environment are being

21 protected, Ecology will consider the factors specified in WAC 173-340-420(4).

22 6.40 In accordance with WAC 173-340-420(3), the Army shall submit information

23 required by Ecology to conduct a periodic review and to make determinations, based on the

24 periodic review, as to whether additional action or modification of the cleanup action is required

25 and whether future periodic reviews are required.

26



1 **VII. TERMS AND CONDITIONS OF THIS ORDER**

2 7.1 Definitions.

3 Unless otherwise specified, the definitions set forth in chapter 70.105D RCW and chapter  
4 173-340 WAC shall control the meanings of the terms used in this Order.

5 Additional definitions are as follows:

6 A. “Dangerous wastes” means any dangerous waste as defined at RCW  
7 70.105.010(5) and any dangerous waste designated by rule pursuant to chapter 70.105 RCW,  
8 including, as defined in WAC 173-303-040, any solid waste designated in WAC 173-303-070  
9 through 173-303-100 as dangerous waste, extremely hazardous waste, or mixed waste.

10 Dangerous wastes are “hazardous substances” under RCW 70.105D.020(7)(a).

11 B. “Dangerous constituents” means, as defined in WAC 173-303-040 and 173-303-  
12 646(1)(d), any constituent identified in WAC 173-303-9905 or 40 CFR Part 264 Appendix IX;  
13 any constituent that caused a solid waste to be listed as a dangerous waste or to exhibit a  
14 dangerous characteristic under chapter 173-303 WAC or to meet a dangerous waste criteria  
15 under chapter 173-303 WAC; and any constituent defined as a hazardous substance under RCW  
16 70.105D.020(7).

17 C. “Military munitions” means, as defined in WAC 173-303-040, all ammunition  
18 products and components produced or used by or for the U.S. Department of Defense or the U.S.  
19 Armed Services for national defense or security, including military munitions under the control  
20 of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy, and  
21 National Guard personnel. As further defined in WAC 173-303-040, the term “military  
22 munitions” includes: Confined gaseous, liquid, and solid propellants, explosives, pyrotechnics,  
23 chemical and riot control agents, smokes and incendiaries used by Department of Defense  
24 components, including bulk explosives and chemical warfare agents, chemical munitions,  
25 rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition,  
26 small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and

1 dispensers, demolition charges, and devices and components thereof.

2 D. “Solid waste” means, as defined at WAC 173-303-016(3), any discarded material  
3 that is not excluded by WAC 173-303-017(2) or that is not excluded by variance granted under  
4 WAC 173-303-017(5), and includes military munitions identified as a solid waste at WAC 173-  
5 303-578(2).

6 E. “Unexploded ordnance” or “UXO” means, as defined in WAC 173-303-040,  
7 military munitions that have been primed, fused, armed, or otherwise prepared for action, and  
8 have been fired, dropped, launched, projected, or placed in such a manner as to constitute a  
9 hazard to operations, installation personnel, or material, and remain unexploded either by  
10 malfunction, design, or any other cause.

11 7.2 Public Notices.

12 RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent  
13 public notice. Ecology shall be responsible for providing such public notice and reserves the  
14 right to modify or withdraw any provisions of this Order should public comment disclose facts  
15 or considerations which indicate to Ecology that the Order is inadequate or improper in any  
16 respect.

17 7.3 Remedial Action Costs.

18 A. Costs billed by Ecology pursuant to this Order shall be consistent with the  
19 provisions of the Defense-State Memorandum of Agreement (DSMOA) entered into by the State  
20 of Washington and Department of Defense on February 3, 1994, as amended.

21 B. In the event Ecology services/oversight activities are not fully funded by the  
22 DSMOA, the Army shall pay to Ecology costs incurred by Ecology pursuant to this Order as  
23 required by RCW 70.105D.040(2). These costs shall include work performed by Ecology or its  
24 contractors for investigations, remedial actions, and Order preparation, oversight and  
25 administration. Ecology costs shall include costs of direct activities and support costs of direct  
26 activities as defined in WAC 173-340-550(2). The Army shall pay the required amount within

1 90 calendar days of receiving from Ecology an itemized statement of costs that includes a  
2 summary of costs incurred, an identification of involved staff, and the amount of time spent by  
3 involved staff members on the project. A general description of work performed will be  
4 provided upon request. Itemized statements shall be prepared quarterly. Failure to pay  
5 Ecology's costs within ninety (90) calendar days of receipt of the itemized statement of costs will  
6 result in interest charges.

7 7.4 Designated Project Coordinators.

8 The project coordinator for Ecology is:

9 Name: Ben Forson  
10 Address: Toxics Cleanup Program  
P.O. Box 47600  
Olympia, WA 98504-7600  
11 Telephone: (360) 407-7227  
12 Fax: (360) 407-7154  
E-mail: bfor461@ecy.wa.gov

13 The project coordinator for the Army is:

14 Name: Eric Waehling  
15 Address: Public Works  
AFZH-PWE (MS-17)  
P.O. Box 339500  
Fort Lewis, WA 98433-9500  
16 Telephone: (253) 966-1732  
17 Fax: (253) 964-2488  
18 E-mail: waehline@lewis.army.mil

19 The project coordinator(s) shall be responsible for overseeing the implementation of this  
20 Order. To the maximum extent possible, communications between Ecology and the Army, and  
21 all documents, including reports, approvals, and other correspondence concerning the activities  
22 performed pursuant to the terms and conditions of this Order, shall be directed through the  
23 project coordinator(s). Should Ecology or the Army change project coordinator(s), written  
24 notification shall be provided to Ecology or the Army at least ten (10) calendar days prior to the  
25 change.

1           7.5    Performance.

2           All work performed pursuant to this Order shall be under the direction and supervision,  
3 as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate  
4 training, experience and expertise in hazardous waste site investigation and cleanup. The Army  
5 shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any  
6 contractors and subcontractors to be used in carrying out the terms of this Order, in advance of  
7 their involvement at the Site. The Army shall provide a copy of this Order to all agents,  
8 contractors and subcontractors retained to perform work required by this Order and shall ensure  
9 that all work undertaken by such agents, contractors and subcontractors will be in compliance  
10 with this Order.

11           Except where necessary to abate an emergency situation, the Army shall not perform any  
12 remedial actions at the Site outside that required by this Order unless Ecology concurs, in  
13 writing, with such additional remedial actions.

14           WAC 173-340-400(6)(b)(i) requires that "construction" performed on the Site must be  
15 under the supervision of a professional engineer or a qualified technician under the direct  
16 supervision of a professional engineer. The professional engineer must be registered in the State  
17 of Washington, except as provided in RCW 18.43.130.

18           Removal and/or disposal of UXO performed pursuant to this Order shall be under the  
19 supervision of a site UXO supervisor (SUXOS) identified by the Army. The SUXOS must be an  
20 "explosives or munitions emergency response specialist" as defined in WAC 173-303-040. The  
21 Army shall notify Ecology as to the identity of the SUXOS. The Army shall provide a copy of  
22 this Order to the SUXOS and shall ensure that all work undertaken to remove and/or dispose of  
23 UXO will be in compliance with this Order.

24           7.6    Access.

25           Ecology or any Ecology authorized representative shall have the authority to enter and  
26 freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting

1 records, operation logs, and contracts related to the work being performed pursuant to this Order;  
2 reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting  
3 samples as Ecology or the project coordinator may deem necessary; using a camera, sound  
4 recording, or other documentary type equipment to record work done pursuant to this Order; and  
5 verifying the data submitted to Ecology by the Army. When entering the Site under chapter  
6 70.105D RCW, Ecology shall provide reasonable notice prior to entering the Site unless an  
7 emergency prevents notice. Where access to the Site is restricted due to the presence of military  
8 munitions, the Army shall supply sufficient personnel trained in ordnance recognition and  
9 avoidance to enable Ecology or any Ecology authorized representative to carry out the purposes  
10 of this paragraph. Ecology shall allow split or replicate samples to be taken by the Army during  
11 an inspection unless doing so interferes with Ecology's sampling. The Army shall allow split or  
12 replicate samples to be taken by Ecology and shall provide Ecology notification ten (10) working  
13 days before any sampling activity.

14       7.7     Public Participation.

15       In April 2004, Ecology finalized the Public Participation Plan for the Site.<sup>2</sup> That plan is  
16 hereby incorporated by reference and is an integral and enforceable part of this Order. Ecology  
17 shall maintain the responsibility for public participation at the Site. The Army shall help  
18 coordinate and implement public participation for the Site.

19       7.8     Retention of Records.

20       The Army shall preserve in a readily retrievable fashion, during the pendency of this  
21 Order and for ten (10) years from the date of completion of the work performed pursuant to this  
22 Order, all records, reports, documents, and underlying data in its possession relevant to this  
23 Order. Should any portion of the work performed hereunder be undertaken through contractors  
24

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25       <sup>2</sup> Washington State Department of Ecology, *Public Participation Plan for Camp Bonneville, Vancouver,*  
26 *Washington*, Pub. No. #04-09-045, April 2004.

1 or agents of the Army, a record retention requirement meeting the terms of this paragraph shall  
2 be required of such contractors and/or agents.

3 7.9 Dispute Resolution.

4 The Army may request Ecology to resolve disputes which may arise during  
5 implementation of this Order. The procedures for resolving disputes are set forth below.

- 6 A. Upon receipt of the Ecology project manager's decision, the Army has fourteen  
7 (14) calendar days within which to submit to the Ecology project manager a  
8 written objection to the decision.
- 9 B. After receipt of the Army's written objection, the project managers will confer in  
10 an effort to resolve the dispute. If the project managers cannot resolve the dispute  
11 within fourteen (14) calendar days of Ecology's receipt of the Army's written  
12 objection, the Ecology project manager will issue a written decision.
- 13 C. After receipt of the Ecology project manager's written decision, the Army may  
14 request review of the decision by Ecology management. The request must be  
15 submitted in writing to Ecology's signatory, or his/her successor(s), to this Order  
16 within seven (7) calendar days of receipt of the Ecology project manager's  
17 decision.
- 18 D. Upon receipt of the Army's written request for review, Ecology's signatory to this  
19 Order, or his/her successor(s), will conduct a review of the dispute, confer with  
20 the Fort Lewis Garrison Commander or his/her local designate, and issue a  
21 written decision regarding the dispute within thirty (30) calendar days. The  
22 signatory's decision will be Ecology's final decision on the disputed matter.  
23 Ecology resolution of the dispute shall be binding and final.

24 The Army is not relieved of any requirement of this Order during the pendency of the  
25 dispute and remains responsible for timely compliance with the terms of the Order unless  
26 otherwise provided by Ecology in writing. The Army may request that the time periods for

1 completing actions that could be affected by the outcome of the dispute be tolled during the  
2 pendency of the dispute. Any such request shall be submitted in writing with the request for  
3 dispute resolution.

4 7.10 Reservation of Rights/No Settlement.

5 Ecology reserves all rights to issue additional orders or take any action authorized by law  
6 in the event or upon the discovery of a release or threatened release of hazardous substances not  
7 addressed by this Order, upon discovery of any factors not known at the time of issuance of this  
8 Order, in order to abate an emergency, or under any other circumstances deemed appropriate by  
9 Ecology.

10 Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural  
11 resources resulting from the releases or threatened releases of hazardous substances from the  
12 Site.

13 In the event Ecology determines that conditions at the Site are creating or have the  
14 potential to create a danger to the health or welfare of the people on the Site or in the  
15 surrounding area or to the environment, Ecology may order the Army to stop further  
16 implementation of this Order for such period of time as needed to abate the danger.

17 7.11 Transference of Property.

18 No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold,  
19 or other interest in any portion of the Site shall be consummated by the Army without provision  
20 for continued implementation of all requirements of this Order and implementation of any  
21 remedial actions found to be necessary as a result of this Order.

22 Prior to transfer of any legal or equitable interest the Army may have in the Site or any  
23 portions thereof, the Army shall serve a copy of this Order upon any prospective purchaser,  
24 lessee, transferee, assignee, or other successor in such interest. At least thirty (30) calendar days  
25 prior to finalization of any transfer, the Army shall notify Ecology of the contemplated transfer.

1           7.12 Compliance with Other Applicable Laws.

2           A.     All actions carried out by the Army pursuant to this Order shall be done in  
3 accordance with all applicable federal, state, and local requirements, including requirements to  
4 obtain necessary permits, except as provided in paragraph B of this section.

5           B.     Pursuant to RCW 70.105D.090(1), the substantive requirements of chapters 70.94,  
6 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local  
7 government permits or approvals for the remedial action under this Order that are known to be  
8 applicable at the time of the issuance of any Cleanup Action Plan for any RAU shall be included  
9 in the Cleanup Action Plan for that RAU and shall be binding and enforceable requirements of  
10 the Order.

11           The Army has a continuing obligation to determine whether additional permits or  
12 approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial  
13 action under this Order. In the event the Army determines that additional permits or approvals  
14 addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under  
15 this Order, it shall promptly notify Ecology of this determination. Ecology shall determine  
16 whether Ecology or the Army shall be responsible to contact the appropriate state and/or local  
17 agencies. If Ecology so requires, the Army shall promptly consult with the appropriate state  
18 and/or local agencies and provide Ecology with written documentation from those agencies of  
19 the substantive requirements those agencies believe are applicable to the remedial action.  
20 Ecology shall make the final determination on the additional substantive requirements that must  
21 be met by the Army and on how the Army must meet those requirements. Ecology shall inform  
22 the Army in writing of these requirements. Once established by Ecology, the additional  
23 requirements shall be enforceable requirements of this Order. The Army shall not begin or  
24 continue the remedial action potentially subject to the additional requirements until Ecology  
25 makes its final determination.



1 Ecology shall ensure that notice and opportunity for comment is provided to the public  
2 and appropriate agencies prior to establishing the substantive requirements under this section.

3 C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the  
4 exemption from complying with the procedural requirements of the laws referenced in RCW  
5 70.105D.090(1) would result in the loss of approval from a federal agency which is necessary for  
6 the State to administer any federal law, the exemption shall not apply and the Army shall comply  
7 with both the procedural and substantive requirements of the laws referenced in RCW  
8 70.105D.090(1), including any requirements to obtain permits.

### 9 10 **VIII. SATISFACTION OF THIS ORDER**

11 8.1 The provisions of this Order shall be deemed satisfied upon the Army's receipt of  
12 written notification from Ecology that the Army has completed the remedial activity required by  
13 this Order, as amended by any modifications, and that all other provisions of this Order have  
14 been complied with.

### 15 16 **IX. ENFORCEMENT**

17 9.1 Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

18 A. The Attorney General may bring an action to enforce this Order in a state  
19 or federal court.

20 B. The Attorney General may seek, by filing an action, if necessary, to  
21 recover amounts spent by Ecology for investigative and remedial actions  
22 and orders related to the Site.

23 C. In the event the Army refuses, without sufficient cause, to comply with  
24 any term of this Order, the Army will be liable for:


25 (1) up to three times the amount of any costs incurred by the state of  
26 Washington as a result of its refusal to comply; and

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(2) civil penalties of up to \$25,000 per day for each day it refuses to  
comply.

D. This Order is not appealable to the Washington Pollution Control  
Hearings Board. This Order may be reviewed only as provided under  
RCW 70.105D.060.

9.2 Effective date of this Order: June 16, 2004.

BY: 

DATE: June 16, 2004

Tim Nord, Section Manager  
Toxics Cleanup Program  
Washington Department of Ecology

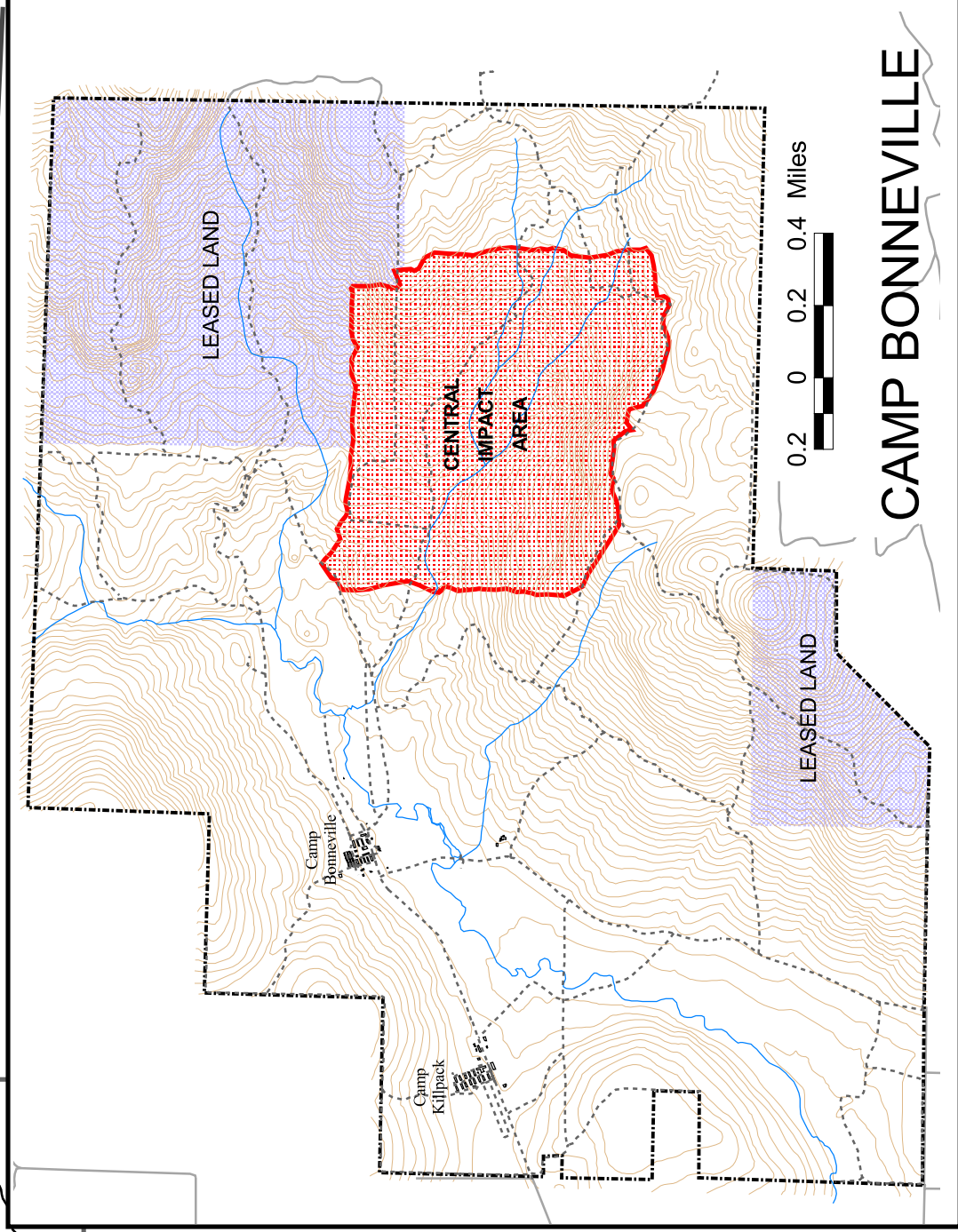
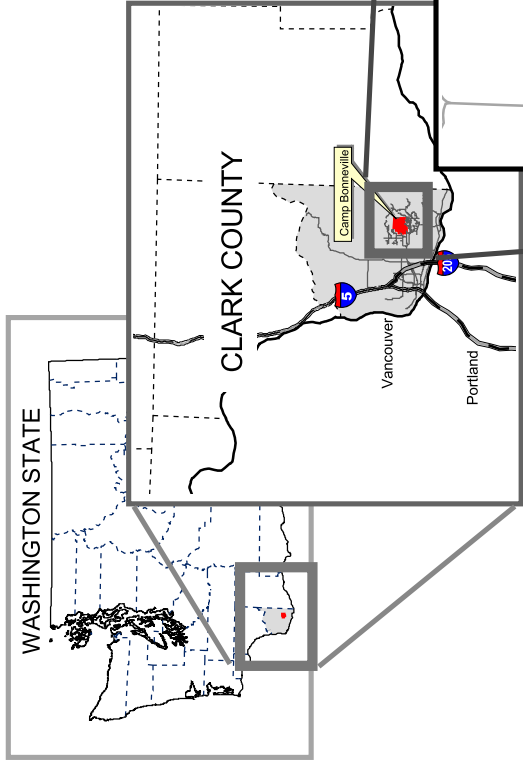
# **Attachment A**

## **Regional Map**



# REGIONAL MAP

## Camp Bonneville





**Attachment B**

**Map of RAU 1**

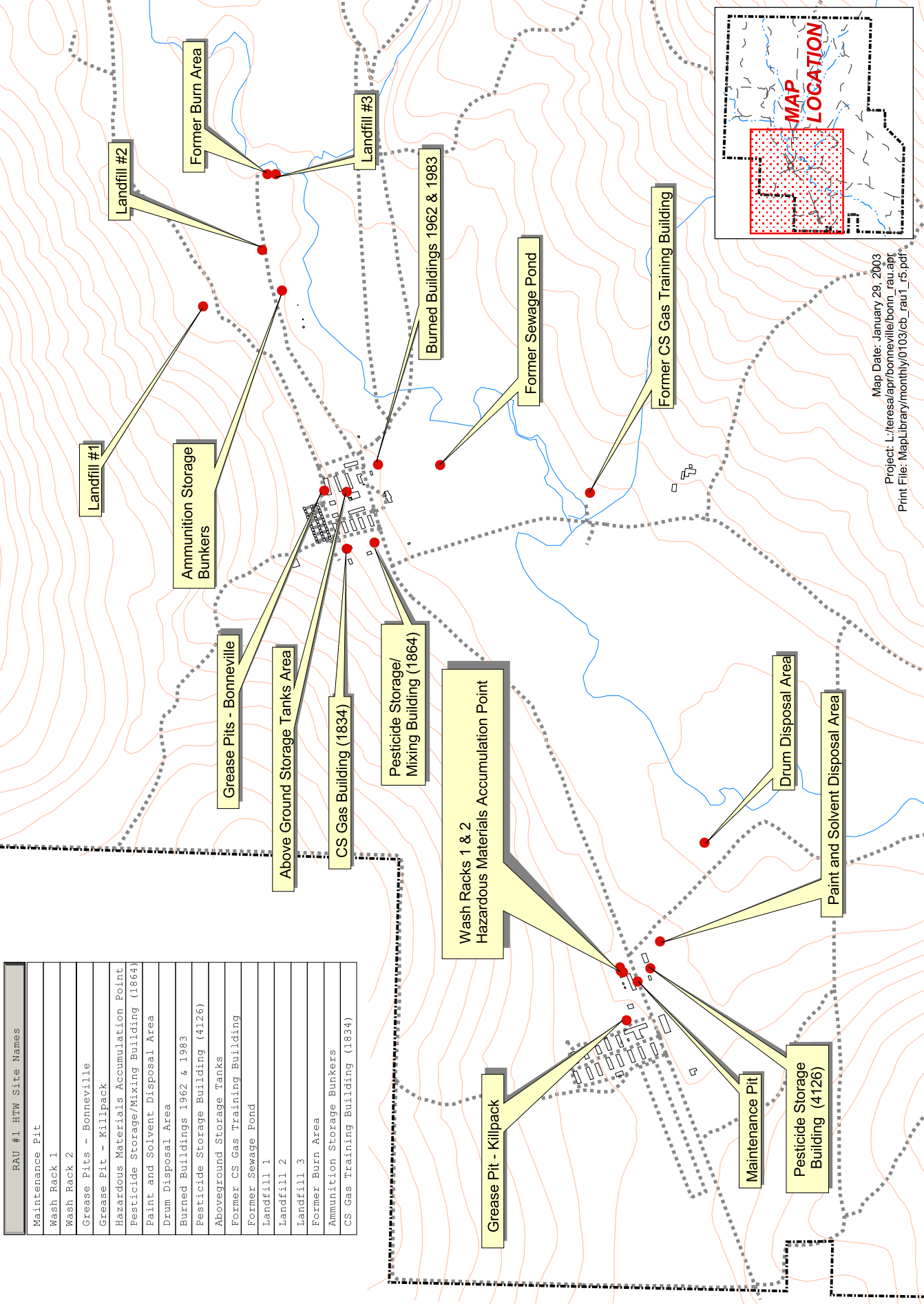




# REMEDIAL ACTION UNIT #1

## Camp Bonneville

RAU #1 HTW Site Names
Maintenance Pit
Wash Rack 1
Wash Rack 2
Grease Pits - Bonneville
Grease Pit - Killpack
Hazardous Materials Accumulation Point
Pesticide Storage/Mixing Building (1864)
Paint and Solvent Disposal Area
Drum Disposal Area
Burned Buildings 1962 & 1983
Pesticide Storage Building (4126)
Aboveground Storage Tanks
Former CS Gas Training Building
Former Sewage Pond
Landfill #1
Landfill #2
Landfill #3
Former Burn Area
Ammunition Storage Bunkers
CS Gas Training Building (1834)





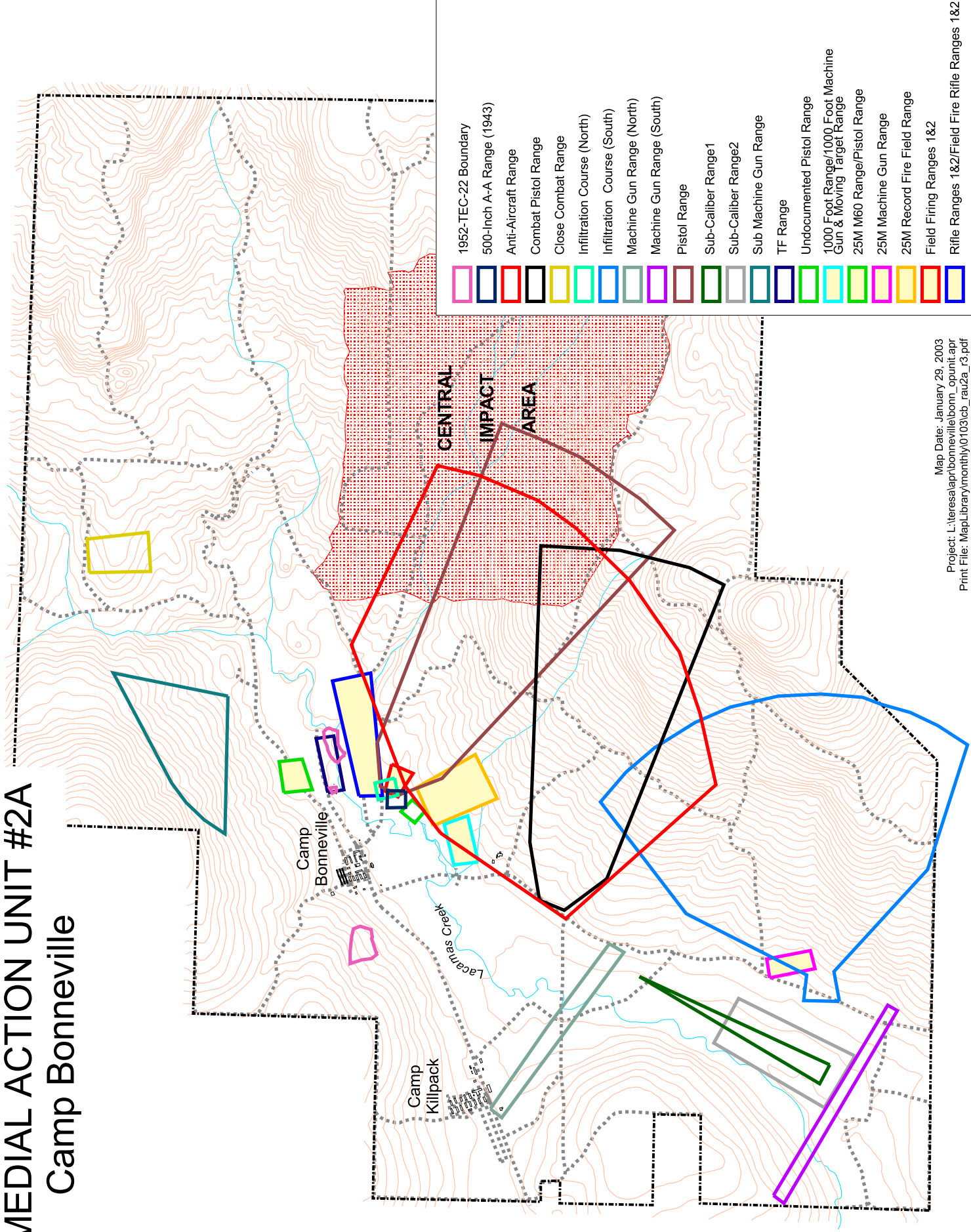
**Attachment C**

**Map of RAU 2A**



# REMEDIAL ACTION UNIT #2A

## Camp Bonneville



	1952-TEC-22 Boundary
	500-Inch A-A Range (1943)
	Anti-Aircraft Range
	Combat Pistol Range
	Close Combat Range
	Infiltration Course (North)
	Infiltration Course (South)
	Machine Gun Range (North)
	Machine Gun Range (South)
	Pistol Range
	Sub-Caliber Range1
	Sub-Caliber Range2
	Sub Machine Gun Range
	TF Range
	Undocumented Pistol Range
	1000 Foot Range/1000 Foot Machine Gun & Moving Target Range
	25M M60 Range/Pistol Range
	25M Machine Gun Range
	25M Record Fire Field Range
	Field Firing Ranges 1&2
	Rifle Ranges 1&2/Field Fire Rifle Ranges 1&2



**Attachment D**

**Map of RAU 2B**





# REMEDIAL ACTION UNIT #2B

## Camp Bonneville

Camp Bonneville

Camp Killpack

Lacamas Creek

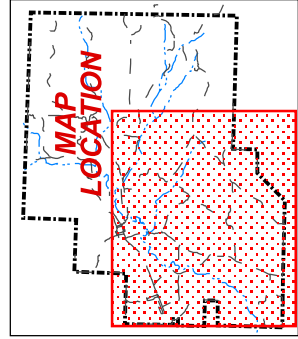
CENTRAL  
IMPACT  
AREA

4 Wells

Demo Area #2

Demo Area #3

GAS PIPELINE





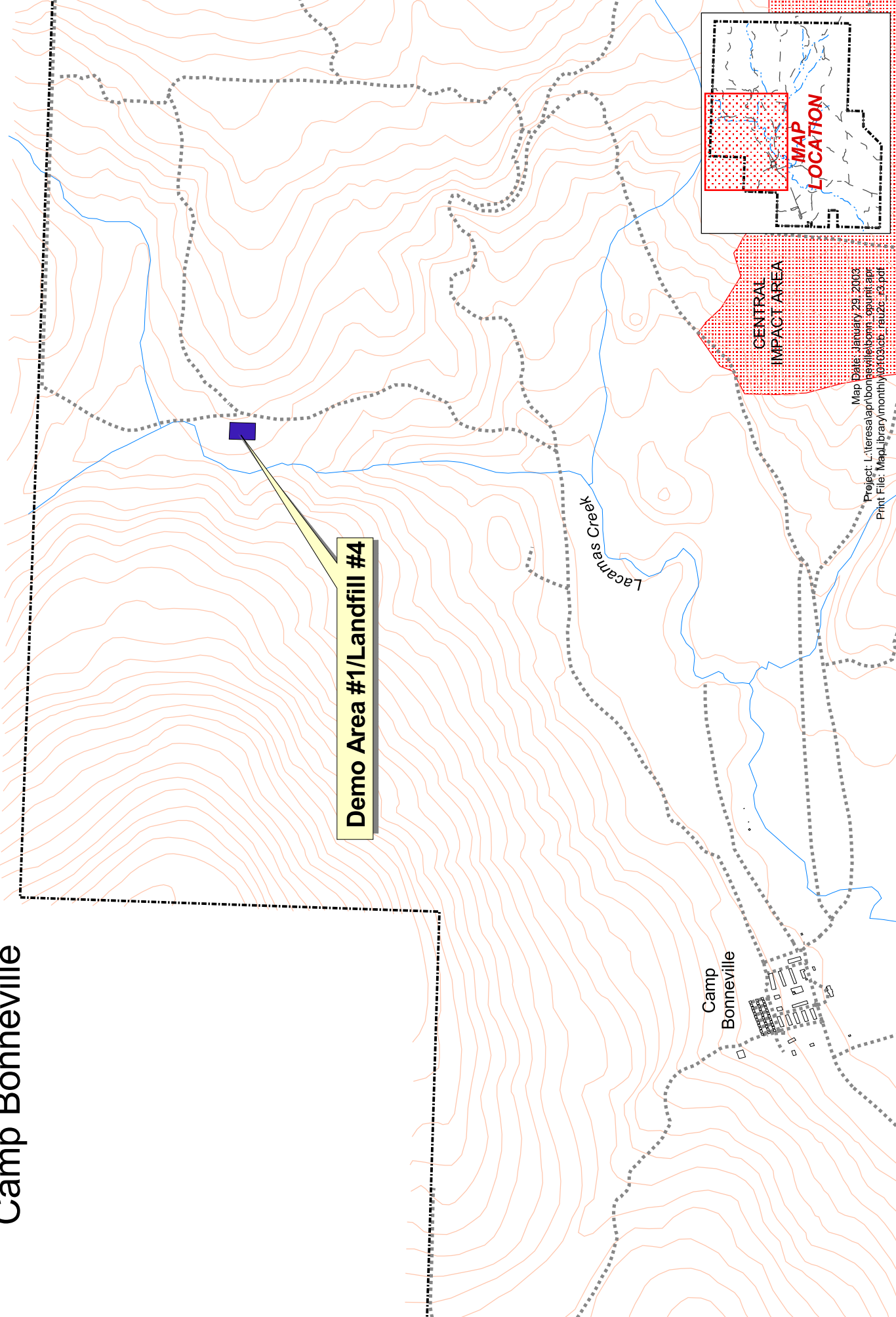
**Attachment E**

**Map of RAU 2C**



# REMEDIAL ACTION UNIT #2C

## Camp Bonneville



Map Date: January 29, 2003  
Project: L:\eresalapr\bonneville\geom\sp\print\rap  
Print File: MapLibrary\Month\0103\lab\_rau2c\_r3.pdf



# **Attachment F**

## **Map of RAU 3**

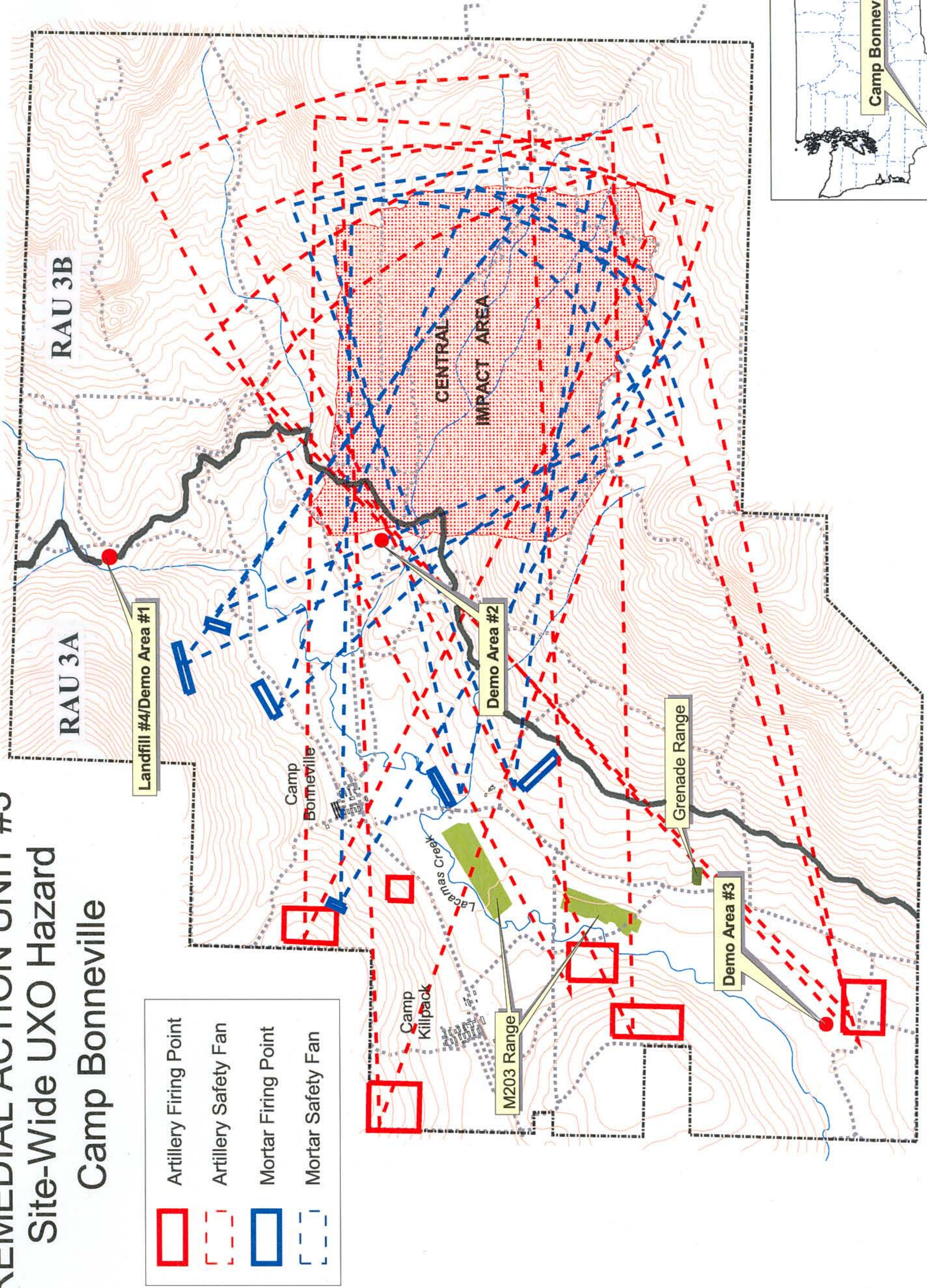




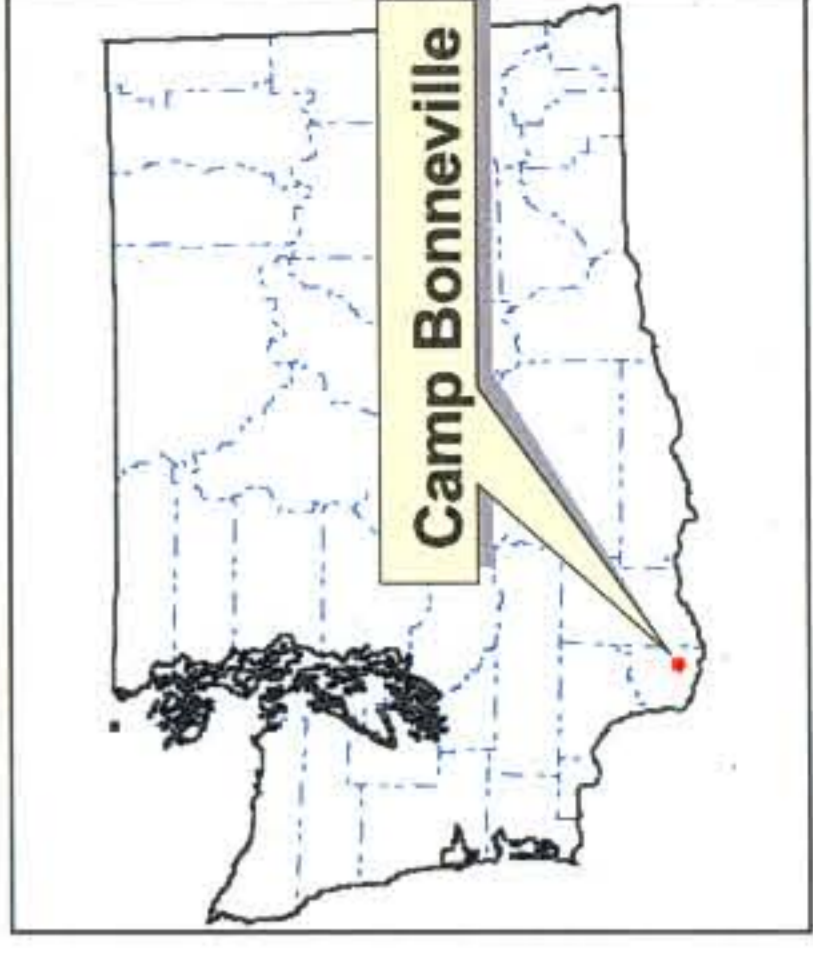
# REMEDIAL ACTION UNIT #3

## Site-Wide UXO Hazard

### Camp Bonneville



	Artillery Firing Point
	Artillery Safety Fan
	Mortar Firing Point
	Mortar Safety Fan





## Schedule by Remedial Action Unit

Document Deliverable	Submittal Date
<b>Remedial Action Unit 1</b>	
• Draft Final CAP (post public comment)	By July 16, 2004
• *Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 6 months of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 6 months of the issue date of the final CAP
<b>Remedial Action Unit 2A (Small Arms Ranges)</b>	
Interim Actions	
• Draft Final Interim Action Work Plan	By August 16, 2004
• Draft Interim Action Report	Within 30 days of the completion of the interim action (demobilization)
Final Actions	
• Draft Final RI/FS Report	By September 16, 2004
• Draft CAP	Within 60 days of the issue date of the final RI/FS Report
• Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 1 year of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 1 year of the issue date of the final CAP
• Draft Cleanup Action Report	Within 30 days of the completion of the cleanup action (demobilization)
<b>Remedial Action Unit 2B (Demolition Areas 2 &amp; 3)</b>	
• Draft RI/FS Report	By September 16, 2004
• Draft CAP	Within 60 days of the issue date of the final RI/FS Report
• Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 1 year of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 1 year of the issue date of the final CAP
• Draft Cleanup Action Report	Within 30 days of the completion of the cleanup action (demobilization)
<b>Remedial Action Unit 2C (Landfill Area 4 / Demolition Area 1)</b>	
Interim Actions	
• Draft Interim Action Report	Within 30 days of the completion of the interim action (demobilization)
Final Actions	
• Draft RI/FS Report	Within 6 months of the issue date of the final Interim Action Report
• Draft CAP	Within 30 days of the issue date of the final RI/FS Report
• Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 1 year of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 1 year of the issue date of the final CAP
• Draft Cleanup Action Report	Within 30 days of the completion of the cleanup action (demobilization)
<b>Remedial Action Unit 3A (Military Munitions – West)</b>	
• Draft RI/FS Report	By September 16, 2004
• Draft CAP	Within 60 days of the issue date of the final RI/FS Report
• Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 1 year of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 1 year of the issue date of the final CAP
• Draft UXO Findings Report	Within 90 days of the completion of the cleanup action (demobilization)

<b>Remedial Action Unit 3B (Military Munitions – East)</b>	
<b>Interim Actions</b>	
• Draft Interim Action Work Plan	By March 1, 2005
• Begin Interim Action	Within 60 days of the issue date of the final Interim Action Work Plan
• Draft Interim Action Report	Within 30 days of the completion of the interim action (demobilization)
<b>Final Actions</b>	
• Draft Remedial Investigation Work Plan	Within 30 days of the issue date of the final Interim Action Report
• Draft Field Work Report	Within 30 days of the completion of field work
• Draft RI/FS Report	Within 60 days of the issue date of the final Field Work Report
• Draft CAP	Within 60 days of the issue date of the final RI/FS Report
• Draft Compliance Monitoring Plan	Within 30 days of the issue date of the final CAP
• *Draft Operation and Maintenance Plan	Within 1 year of the issue date of the final CAP
• *Draft Institutional Control Plan	Within 1 year of the issue date of the final CAP
• Draft UXO Findings Report	Within 90 days of the completion of the cleanup action (demobilization)
<b>Investigation and Monitoring of Site-Wide Ground Water</b>	
• Draft Long-Term Monitoring and Contingency Plan	By July 16, 2004

\* If required pursuant to chapter 173-340 WAC.