



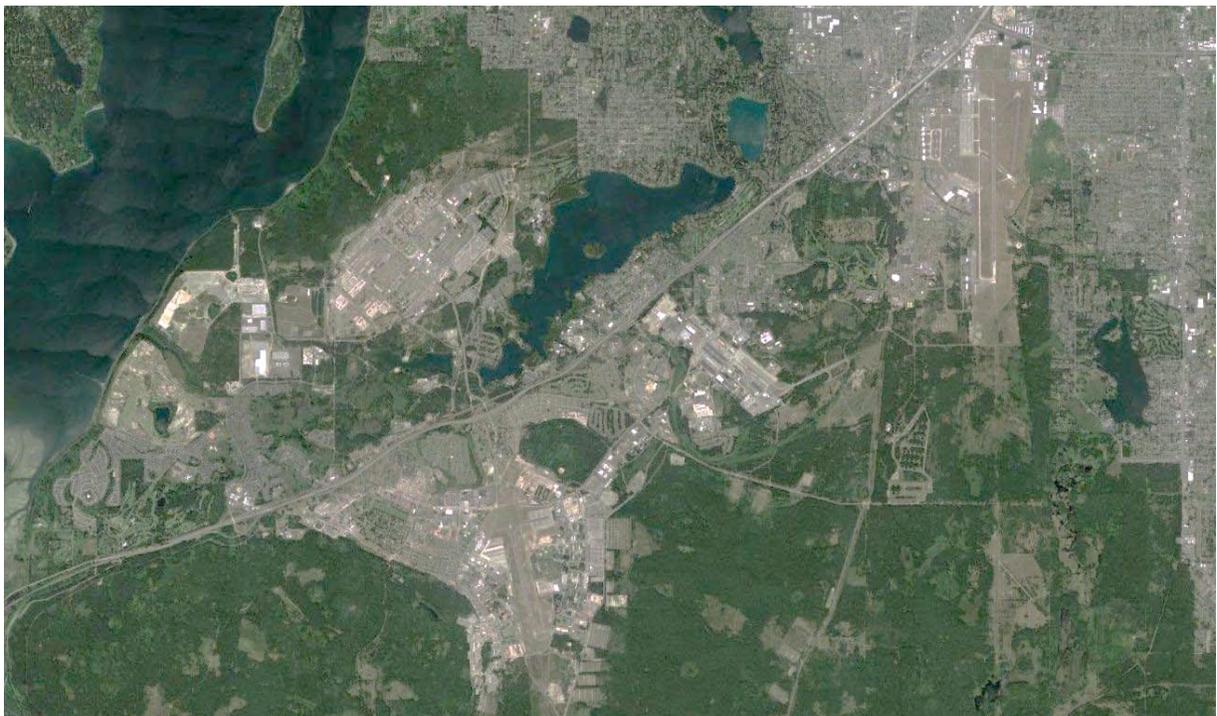
FINAL
March 2024

2022 COMPREHENSIVE LAND USE CONTROLS PLAN

Joint Base Lewis-McChord

Pierce County, Washington

Joint Base Lewis-McChord Public Works – Environmental Division
IMLM-PWE
MS 17 Box 339500
Joint Base Lewis-McChord, Washington 98433



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FINAL

2022 COMPREHENSIVE LAND USE CONTROLS PLAN

CONTRACT NO. W912DW19D1022, TASK ORDER W912DW22F0025

MARCH 2024

JOINT BASE LEWIS-MCCHORD
PIERCE COUNTY, WASHINGTON

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March 2024
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CONTENTS

1	INTRODUCTION.....	1-1
1.1	PURPOSE AND SCOPE.....	1-1
1.2	RELATION TO INSTITUTIONAL CONTROLS.....	1-1
1.3	NEED FOR LUCS.....	1-2
2	PLAN APPROACH AND ORGANIZATION.....	2-1
2.1	CURRENT LUC SITES.....	2-1
2.2	LUC SITE LOCATIONS.....	2-1
2.3	LUC INSPECTION CHECKLISTS.....	2-1
3	REFERENCES.....	3-1

TABLES

Table 1	Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center
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FIGURES

Figure 1	Joint Base Lewis-McChord Location Map
Figure 2	Land Use Controls – Fort Lewis
Figure 3	Land Use Controls – D Building Underground Storage Tanks
Figure 4	Land Use Controls – McChord Field
Figure 5	Land Use Controls – Yakima Training Center

APPENDICES

Appendix A Land Use Controls Process Information and Background

Appendix B Real Property Master Plan Brochure

Appendix C Army Regulation 210-20

Appendix D Fort Lewis Regulation 200-1

Appendix E Land Use Deconfliction Process

Appendix F JBLM Public Works Project Review Procedures

Appendix G Fort Lewis Regulation 350-30

Appendix H Land Use Control Monitoring Checklists and Figures

ACRONYMS AND ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Ecology	Washington State Department of Ecology
JBLM	Joint Base Lewis-McChord
LUC	Land Use Control
RCRA	Resource Conservation and Recovery Act
WAC	Washington Administrative Code
YTC	Yakima Training Center

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1 INTRODUCTION

This plan presents the Land Use Controls (LUCs) that are being implemented and monitored by the Joint Base Lewis-McChord (JBLM) Installation Restoration Program under the Environmental Remediation Program Services Contract at JBLM, Pierce County, Washington ([Figure 1](#)). LUCs are engineering, institutional, and other governmental or administrative controls that restrict use or limit access of property, including subsurface portions such as groundwater.

The original Fort Lewis Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) LUC Plan was first published in 2007 and serves as a template for all succeeding plans. This plan updates and replaces the 2021 Comprehensive Land Use Controls Plan, Joint Base Lewis-McChord (JBLM 2018).

1.1 PURPOSE AND SCOPE

The purpose of the Comprehensive Land Use Controls Plan is to document LUCs at environmental restoration sites which:

- Have formally been implemented;
- Are informally implemented, but require formal application; and
- Need to be implemented but are not currently implemented.

The environmental restoration LUCs do not include:

- Historic preservation sites
- Cultural resource sites
- Threatened and endangered species
- Soil stability restrictions
- Gray Army Airfield and McChord Field airspace restrictions
- Privatized housing restrictions
- Operational Range Areas (outside the cantonment areas)
- Noise restrictions
- Other Master Planning land use restrictions.

1.2 RELATION TO INSTITUTIONAL CONTROLS

As defined above, LUCs include engineering, institutional, and other governmental or administrative controls that restrict use or limit access of property, including subsurface portions such as groundwater. Thus, LUCs are a broader range of controls that include institutional

controls. Since the controls being implemented are governmental and administrative in nature, the term ‘LUC’ is used in this plan.

1.3 NEED FOR LUCS

Over the past 30 years, JBLM has undergone extensive environmental investigation and cleanup. In many instances the contaminated sites were evaluated and do not require further action. Other sites required remediation and were cleaned up to federal and state standards. These sites also do not require further action and are available for unrestricted use. In some instances, sites were cleaned up to the extent practicable, but still have some contamination remaining. These sites are available for reuse with some restrictions. LUCs are necessary to ensure that these restrictions are implemented and maintained into the future.

In general, LUCs at JBLM and Yakima Training Center (YTC) are the result of the following legal drivers, which are also referenced in Section 2:

- CERCLA
- Resource Conservation and Recovery Act (RCRA)
- Washington State Department of Ecology (Ecology) Agreed Order, 2001
- Ecology Consent Decree, 1992
- Ecology Model Toxics Control Act (Washington Administrative Code [WAC] 173-340)
- Washington State Landfill Regulations (WAC 173-303, WAC 173-350, and WAC 173-351)
- Washington State Minimum Standards for Construction of Wells (WAC 173-160)

2 PLAN APPROACH AND ORGANIZATION

This Comprehensive LUC Plan incorporates several LUC Plans for sites currently under the JBLM LUC program including sites at JBLM and the YTC. For simplicity and ease of use, the main text of this plan only provides basic information on the LUC program. More details on the LUC process, nomenclature, and information on the different types of sites (CERCLA, Agreed Order, etc.) are included in Appendix A. Additional appendices provide supporting regulations, information, and checklists for LUC inspections. The appendices include:

- [Appendix A](#), Land Use Controls Process Information and Background
- [Appendix B](#), Real Property Master Plan Brochure
- [Appendix C](#), Army Regulation 210-20
- [Appendix D](#), Fort Lewis Regulation 200-1
- [Appendix E](#), Land Use Deconflictation Process
- [Appendix F](#), JBLM Public Works Project Review Procedures
- [Appendix G](#), Fort Lewis Regulation 350-30
- [Appendix H](#), Land Use Control Monitoring Checklists and Figures.

2.1 CURRENT LUC SITES

JBLM LUC program sites are presented in [Table 1](#). This table includes a list of the relevant decision documents and the associated LUC objectives for each site. This table also indicates if the LUCs are enforceable (as established by Decision Documents or WAC regulations) or informational (i.e., not established by Decision Documents or WAC regulations). This table is provided electronically as a Microsoft Excel spreadsheet on the disc that accompanies this plan.

2.2 LUC SITE LOCATIONS

The locations of all current LUC sites are shown in the following figures.

- [Figure 2](#): Land Use Controls – Fort Lewis
- [Figure 3](#): Land Use Controls – D Building Underground Storage Tanks
- [Figure 4](#): Land Use Controls – McChord Field
- [Figure 5](#): Land Use Controls – Yakima Training Center

2.3 LUC INSPECTION CHECKLISTS

LUC inspections are completed annually. Checklists for completing these inspections are provided in [Appendix H](#). Checklists and associated figures to be used for the various inspections include:

- JBLM CERCLA LUC Monitoring Checklist

- Figure H1 – Fort Lewis CERCLA Sites
- Figure H2 – McChord Field CERCLA Sites
- JBLM Agreed Order LUC Monitoring Checklist
 - Figure H3 – JBLM Agreed Order Sites
- JBLM Independent LUC Monitoring Checklist
 - Figure H4 – JBLM Independent Land Use Controls
 - Figure H5 – JBLM Independent Land Use Controls - Lewis North
 - Figure H6 – JBLM Independent Land-Use Controls - D Building Underground Storage Tanks
- McChord Other Non-CERLA LUC Monitoring Checklist
 - Figure H7 – McChord Non-CERCLA Sites
- YTC LUC Monitoring Checklist
 - Figure H8 – Yakima Training Center Sites.

Additional information regarding LUC inspections and associated reporting is provided in [Appendix A](#), Section 3.

3 REFERENCES

- Air Force and U.S. Environmental Protection Agency (EPA). 1992. Record of Decision, McChord Air Force Base, Washington. Washrack Treatment Area. U. S. EPA Region 10, McChord Air Force Base, Washington State Department of Ecology. September.
- . 2006a. Decision Document for Selected Remedy: Direct Contact with Landfill 2 Soil. Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord, Washington. April.
- . 2006b. Decision Document for Selected Remedy at Battery Acid Pit, Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord, Washington. April.
- . 2006c. Decision Document for Selected Remedy at DRMO Yard. Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord, Washington. April.
- . 2006d. Decision Document for Selected Remedy at Illicit PCB Dump Site, Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord, Washington. April.
- . 2006e. Decision Document for Selected Remedy at Landfill 1. Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord Washington. April.
- . 2007a. Draft Decision Document for Selected Remedy at Industrial Wastewater Treatment Plant Site. Prepared by the Public Works Environmental Division, Public Works, Joint Base Lewis-McChord, Washington. December.
- . 2007b. Decision Document for Selected Remedy at Former Pesticide Handling Area (SWMU 5). March.
- . 2007c. Decision Document for Selected Remedy at ASP Burn Pits Site (SWMU 27). March.
- . 2007d. Decision Document for Selected Remedy at 1954 – 1968 Landfill/Burn Pits (SWMU 57). March.
- . 2007e. Decision Document for Selected Remedy at Former Fire Training Pit (SWMU 59). March.
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- Joint Base Lewis-McChord (JBLM). 2013a. Land Use Control Plan, B-Range, Joint Base Lewis-McChord, Washington. Munitions Response Program. April.
- . 2013b. Decision Document for Selected Remedy at the Centralized Fueling Facility. December.
- . 2018. 2017 Comprehensive Land Use Control Plan, Joint Base Lewis-McChord, Washington. Prepared by Sealaska Environmental Services, LLC. January.
- Kemron. 2010a. Final Draft Explanation of Significant Differences Logistics Center NPL Site, Joint Base Lewis-McChord, Washington. (Pertains to Sites DRMO Yard, Landfill 6, Stormwater Outfall #7/Settling Basin [IWTP], Battery Acid Pit, Well LC-6, and Pit Area). October.
- . 2010b. Joint Base Lewis-McChord Agreed Order Interim Action Plan. Prepared by Kemron, Inc. for JBLM Public Works – ED, Building 2012, JBLM, WA 98433. November.
- . 2012. Final Initial Investigation Report. Prepared by Kemron, Inc. for JBLM Public Works and ACA Aberdeen Proving Ground. JBLM, WA. May 2012.

Pacific Northwest National Laboratory (PNNL). 2000. Decision Document for the Storm Water Outfalls/Industrial Wastewater Treatment Plant, Pesticide Rinse Area, Old Fire Fighting Training Pit, Illicit PCB Dump Site, and the Battery Acid Pit. Prepared by Pacific Northwest National Laboratory for the Public Works Environmental Division, Joint Base Lewis-McChord, Washington. December.

Sealaska Environmental Services (Sealaska). 2018. Draft Final Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report. November.

Versar, Inc. 2009. Fort Lewis Agreed Order Feasibility Study for Seven Sites. Prepared by Versar, Inc. for the Public Works Environmental Division, Joint Base Lewis-McChord, Washington. November.

Versar, Inc. 2015. RCRA Corrective Action Completion Report, Yakima Training Center, Washington. Prepared by Versar, Inc. for the Public Works Environmental Division, Joint Base Lewis-McChord, Washington. September.

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TABLES

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Fort Lewis								
Logistics Center	Landfill 2		Former landfill complex	April 2006 Decision Document (Section 3)	Army 2006a	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access. Maintain boundary fence and signs.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
	FTLE 33	Residual TCE contamination	September 1990 ROD (Section 10)	Army and EPA 1990	Prevent residential land use. Prevent installation of new drinking water well unless regulator approved variance obtained.	Site boundary (20 ug/L)	Enforceable	
Landfill 4	N/A		Former landfill complex	September 1993 ROD (Section 3)	Army and EPA 1993	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
SRCPP	N/A		Spill area; Solvent Refined Coal Pilot Plant	September 1993 ROD (Section 4)	Army and EPA 1993	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Battery Acid Pit Site	FTLE 16		Spill area	April 2006 Decision Document (Section 3)	Army 2006b	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Maintain asphalt cap.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
DRMO Yard Site	FTLE 31		Spill area; Defense Reutilization & Marketing Office	April 2006 Decision Document (Section 3)	Army 2006c	Prevent residential land use.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Illicit PCB Dump Site	FTLE 46		Former dump site	April 2006 Decision Document (Section 3)	Army 2006d	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Maintain clay cap. Maintain boundary fence and signs. Prevent unauthorized training access.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
IWTP Site	FTLE 51		Former settling pond for wastewater	December 2007 Decision Document (Section 3)	Army 2007a	Prevent residential land use.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) aH20:H21round site boundary	Enforceable
Landfill 1	FTLE 54		Former landfill complex	April 2006 Decision Document (Section 3)	Army 2006e	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around site boundary	Enforceable
Pesticide Rinse Area	N/A		Former rinse site	December 2000 Decision Document (Section 3)	PNNL 2000	Prevent residential land use.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
B Range MRA	MRS 1		Residential and undeveloped areas outside cantonment area; Munitions response area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				B Range Land Use Control Plan (Section 3)	JBLM 2013a	Prevent residential land use. Prevent unplanned excavation of contaminated soil; dig permits required. UXO awareness training required for all planned excavations. Prepare and maintain emergency response plan within construction Site Safety and Health Plan, and brief construction employees. Housing contractor annually notifies the B-Range family housing residents of the potential explosives and chemical agent hazards in the subsurface footprint of the property.	Site boundary	Informational
	MRS 2		Industrial and Troop area; Munitions response area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				B Range Land Use Control Plan (Section 3)	JBLM 2013a	Prevent unplanned excavation of contaminated soil; dig permits required. UXO awareness training required for all planned excavations. Prepare and maintain emergency response plan within construction Site Safety and Health Plan, and brief construction employees.	Site boundary	Informational
Landfill 9	SWMU-40		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				FLAO Feasibility Study (Section 7.1.1)	Versar 2009	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized access. Maintain boundary fence.	Landfill boundary	Informational
Building 4131	AOC 8-2		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Site boundary	Informational
Building 5101; Military Motor Pool	AOC 9-4		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				FLAO Feasibility Study (Section 7.1.6)	Versar 2009	Address potential contamination source under the dispenser island if removed.	Dispenser island	Informational
				N/A	N/A	Prevent residential land use.	Site boundary	Informational
Building 5115; Rainier Inn	AOC 8-3		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				FLAO Feasibility Study (Section 7.1.3)	Versar 2009	Prevent residential land use.	Site boundary	Informational
Building A0111; Chemical Battalion	AOC 8-4		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Site boundary	Informational
Former Building A1033; Domino's/America's Credit Union Bank	AOC 9-2		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Site boundary	Informational
GAAF Fuel Facility	AOC 10-8		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Miller Hill	AOC 4-2-2		Former arms range	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary (Residential Buffer Zone, Steep Hillside, and Flatland)	Enforceable
			Former arms range; Residential buffer zone	Interim Action Plan (Section 6)	Kemron 2010b	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary - Residential Buffer Zone	Informational
			Former arms range; Steep Hillside	Interim Action Plan (Section 6)	Kemron 2010b	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized access. Maintain boundary fence and signs.	Site boundary - Steep Hillside	Informational
			Former arms range; Flatland	Interim Action Plan (Section 6)	Kemron 2010b	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary - Flatland	Informational
Landfill 3	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Landfill 5	N/A		Landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Landfill 7	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Landfill 8	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Landfill 11b	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Park Marsh Landfill	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.	Landfill boundary	Informational
Building 2162	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.2)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 2202	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.3)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building 2609	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.4)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 2610	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.5)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 3152	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.7)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 3292	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.8)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 4043	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.9)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 4170	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Section 4.10)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 6071	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 9654	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building 9785	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0403	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0410	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0412	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0432	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0434	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0534	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0630	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building D0703	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
					Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0727	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0803	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0810	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0822	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0827	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0833	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0834	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0920	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building D0932	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0933	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0951	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1006	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1102	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1107	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1108	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1132	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination in impacted soils if accessible.	Site boundary	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building D1135	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building T6195	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building T6228	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-Fort Lewis Agreed Order Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 03075	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 4.2)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building 03945	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 4.2)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building B0910	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.5)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building B0912	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.5)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building C0204	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.8)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building C0214	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.9)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building C1008	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.12)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Building D0219	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.18)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0303	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.19)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0312	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.20)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0334	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.21)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0406	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.22)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0622	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.25)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D0634	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.26)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1002	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.27)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1152	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.28)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Building D1156	N/A		Former UST and residual contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Initial Investigation Report Non-FLAO Leaking Tank Sites (Section 5.29)	Kemron 2012	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
McChord								
Landfill 1	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 2	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 4	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Landfill boundary	Informational
Landfill 5	N/A		Former landfill complex	September 1991 ROD (Section 7)	EPA 1991	Prevent residential land use.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
Landfill 6	NA		Former landfill complex	September 1991 ROD (Section 7)	EPA 1991	Prevent residential land use.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
Landfill 7	N/A		Former landfill complex	September 1991 ROD (Section 7)	EPA 1991	Prevent residential land use.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
Landfill OT-26	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use.	Landfill boundary	Informational
Landfill OT-39	N/A		Former landfill complex	September 1991 ROD (Section 7)	EPA 1991	Prevent residential land use.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
Landfill 10	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 13	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 14	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 19	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Landfill 20	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Landfill 22	N/A		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Spill Site 34	SS-34		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Spill Site 34N	SS-34N		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Motor Pool Spill Site	SS-38		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
POL Spill/Disposal Site	SS-40		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Waste Pit 44	WP-44		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Surface Spill Area	SS-55		Spill area	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				N/A	N/A	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Leach Pits at WTA	SD-54		Former leach pits	WTA ROD (Section 9)	Air Force and EPA 1992	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
WTA Spill Area	DP-60		Spill area	WTA ROD (Section 9)	Air Force and EPA 1992	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Building 841	N/A		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
				Non-FLAO Former Tank Sites Investigation Report (Table 5-1)	Sealaska 2018	Address potential contamination source under the building if the building is removed.	Building 841	Informational
						Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site boundary	Informational
Area D/ALGT	N/A		Former waste disposal sites	September 1991 ROD (Section 9)	EPA 1991	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Plume boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around plume boundary	Enforceable

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
Yakima Training Center								
1954 - 1968 Landfill / Burn Pits	SWMU 57		Former landfill complex	March 2007 Decision Document (Section 3); June 2020 RI/FS (Figure 5)	Army 2007d; EA 2020	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Enforceable
				WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
1969 - 1994 Landfill	SWMU 51		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable
				September 2015 RCRA Corrective Action Completion Report (Section 21)	Versar 2015	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Landfill boundary	Informational
Building 218	AOC 7		Discarded military munitions	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around Building 218	Enforceable
				September 2015 RCRA Corrective Action Completion Report (Section 41)	Versar 2015	Address potential contamination source under the building if the building is removed.	Building 218	Informational
Building 301	AOC 14		Former UST removal and residual petroleum contamination	WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around Building 301	Enforceable
				September 2015 RCRA Corrective Action Completion Report (Section 43)	Versar 2015	Address potential contamination source under the building if the building is removed.	Building 301	Informational
Centralized Fueling Point	AOC 40		Fuel distribution point	January 2013 Decision Document (Section 3)	JBLM 2013b	Address potential contamination source under the building if the concrete slab is removed. Prevent unplanned excavation of contaminated soil.	Concrete Slab	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around concrete slab	Enforceable
Former ASP Burn Pits	SWMU 27		Ammunition Storage Point (ASP); former burn pits for ammunition packing materials	March 2007 Decision Document (Section 3)	Army 2007c	Prevent residential land use. Prevent unplanned excavation of contaminated soil.	Site Boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Former Fire Training Pit	SWMU 59		Former fire training pit	March 2007 Decision Document (Section 3)	Army 2007e	Prevent residential land use.	Site Boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Former Pesticide Handling Area	SWMU 5		Former storage and mixing of pesticides	March 2007 Decision Document (Section 3)	Army 2007b	Prevent residential land use.	Site Boundary	Enforceable
				WAC 173-160-171(b)(v)	N/A	Prevent installation of new drinking water well within 100 ft of the site boundary unless regulator approved variance obtained.	Buffer (100 ft) around site boundary	Enforceable
Pre-1954 Landfill	SWMU 54		Former landfill complex	WAC 173-160-171(b)(vi)	N/A	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around landfill boundary	Enforceable

Table 1. Land Use Controls Summary for Fort Lewis, McChord, and Yakima Training Center

Site Name	AEDB-R Site ID	HQAES Site ID	Site Description	Document Requiring LUC	Document Reference	LUC Objective	Applicable Area of Site	Category
TVR/Old MATES	Building 843		Residual petroleum contamination	March 2007 Decision Document (Section 3)	Army 2007fe	Address potential contamination source under the building if the building is removed.	Building 843	Enforceable
	SWMU 43; SWMU 44		Residual TCE contamination	March 2007 Decision Document (Section 3)	Army 2007f	Prohibit residential land use that may create an unacceptable risk. Incorporate use restrictions into all site leases. Notify Ecology of any proposal to use the site for residential purposes.	Site boundary	Enforceable
					Army 2007f	Prevent installation of new drinking water well within 1000 ft of the site boundary unless regulator approved variance obtained.	Buffer (1000 ft) around site boundary	Enforceable

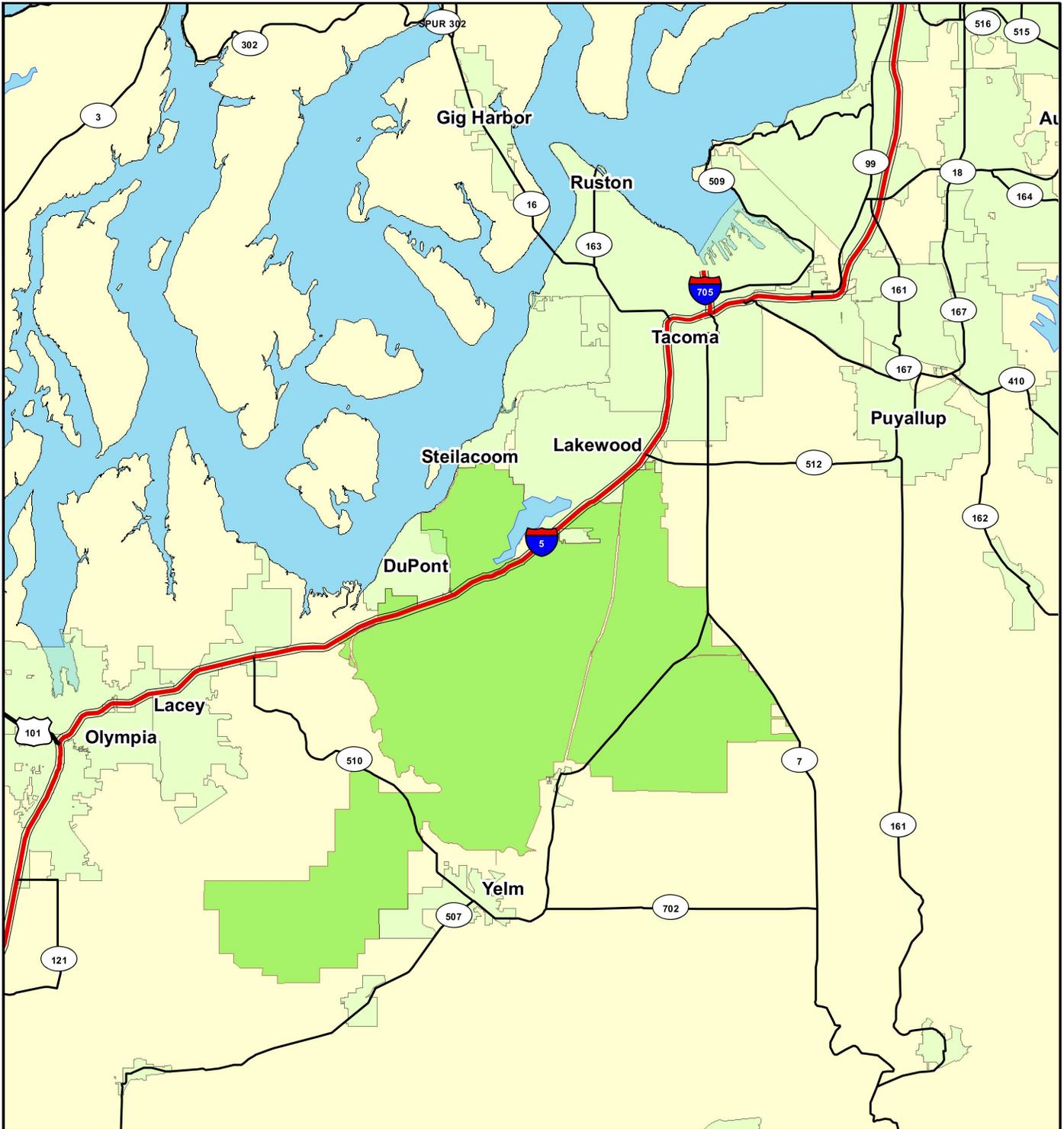
Notes:

- Fort Lewis Sites
- McChord Sites
- Yakima Training Center Sites

- ALGT - American Lake Garden Tract
- AOC - area of concern
- ASP - ammunition storage point
- DRMO - Defense Reutilization & Marketing Office
- EA - EA Engineering, Science, and Technology, Inc., PBC
- EPA - United States Environmental Protection Agency
- FLAO - Fort Lewis Agreed Order
- ft - feet
- GAAF - Gray Army Airfield
- IWTP - industrial wastewater treatment plant
- JBLM - Joint Base Lewis-McChord
- MATES - Mobilization and Training Equipment Site
- MRA - munitions response area
- N/A - not applicable
- PCB - polychlorinated biphenyl
- PNNL - Pacific Northwest National Laboratory
- POL - petroleum, oil, and lubricant
- RCRA - Resource Conservation and Recovery Act
- ROD - Record of Decision
- SRCPP - Solvent Refined Coal Pilot Plant
- SWMU - solid waste management unit
- TCE - trichloroethylene
- TVR - tracked vehicle repair
- UST - underground storage tank
- UXO - unexploded ordnance
- WAC - Washington Administrative Code
- WTA - Washrack Treatment Area

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FIGURES



LEGEND

- Joint Base Lewis-McChord
- City Limit
- Interstate
- State Route
- US Route
- Waterbody

DESIGNED BY

Innovex Environmental
Anna Jordan

DRAWN BY

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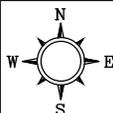
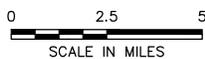
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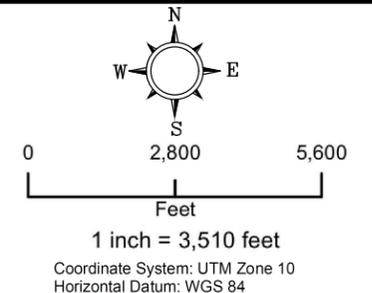
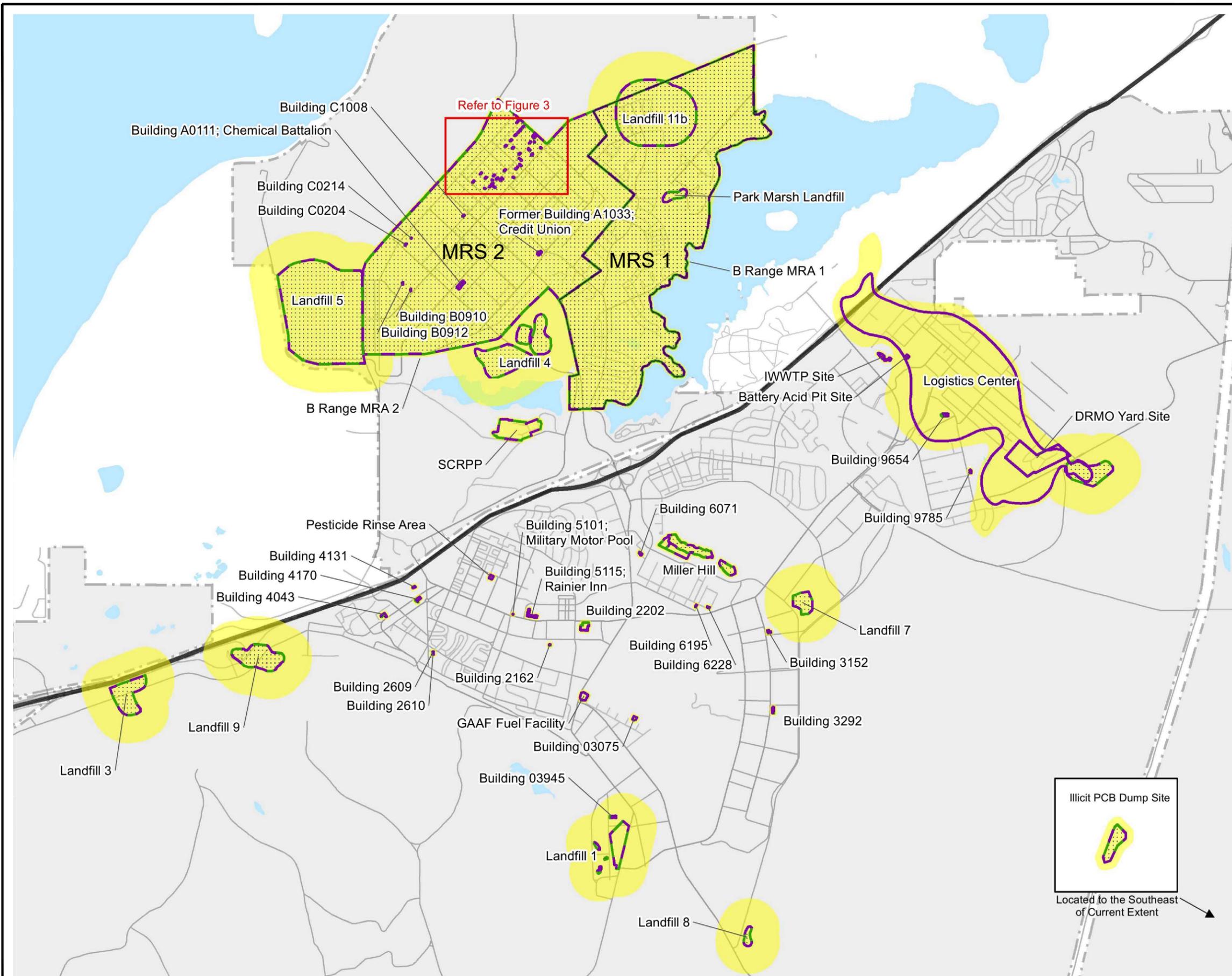
FIGURE 1

2022 Comprehensive Land Use Controls

Location Map

**Joint Base Lewis-McChord
Pierce County, WASHINGTON**

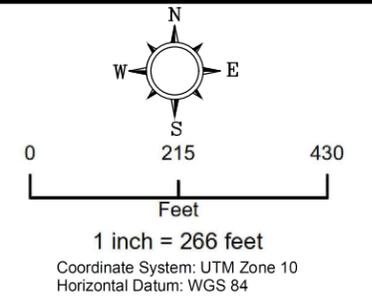
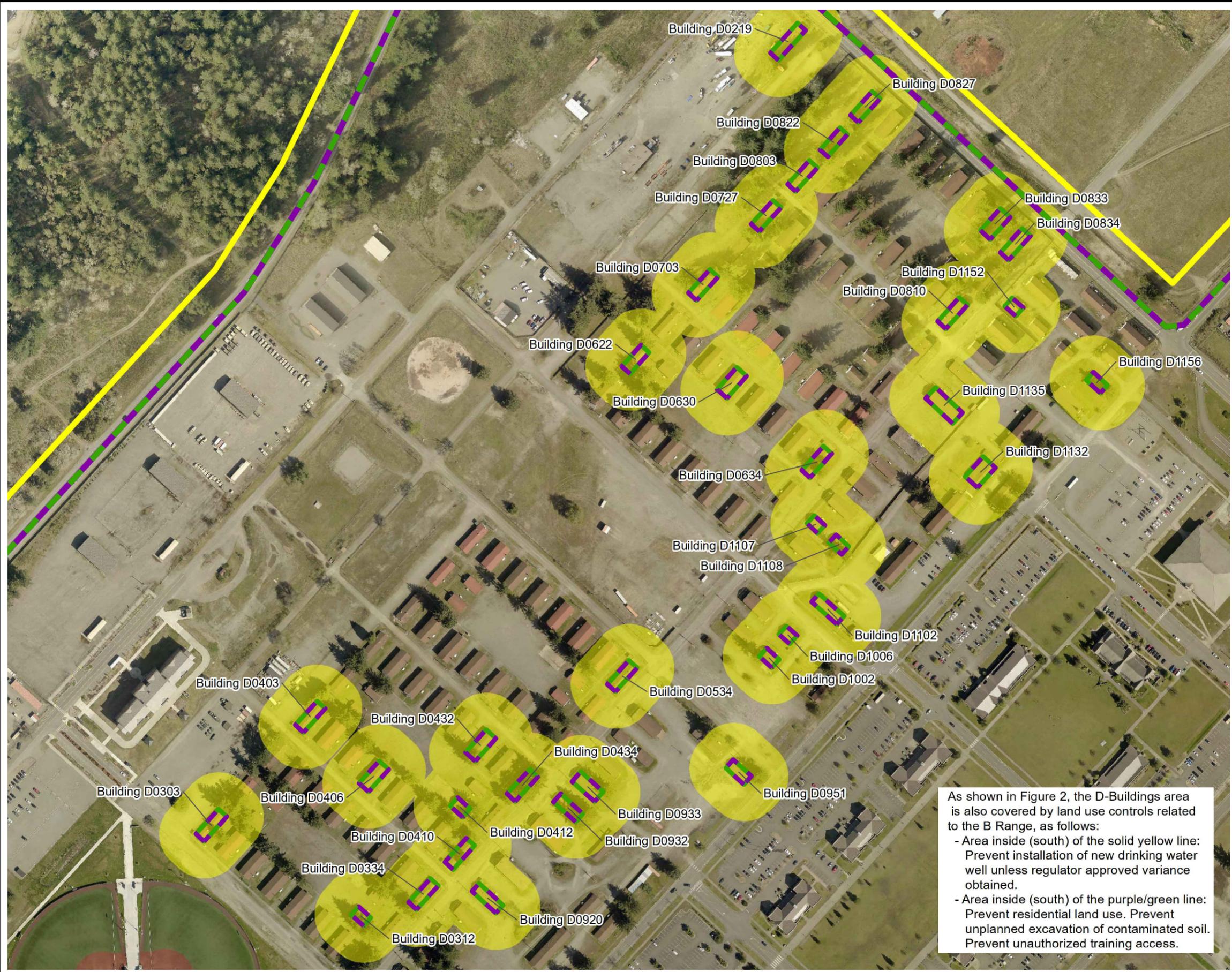




- LEGEND**
- Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.
 - Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 - Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 - Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 - Prevent unauthorized training access.
 - Prevent installation of new drinking water well unless regulator approved variance is obtained.
 - JBLM Boundary

FIGURE 2
2022 Comprehensive Land Use Controls Plan
Land Use Controls - Fort Lewis
Joint Base Lewis-McChord
Pierce County
WASHINGTON

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- LEGEND**
-  Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 -  Prevent installation of new drinking water well unless regulator approved variance is obtained.

FIGURE 3

2022 Comprehensive Land Use Control Plan

Land Use Controls - D Building Underground Storage Tanks

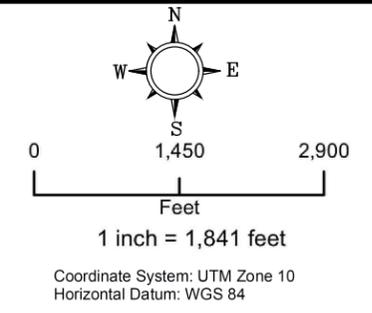
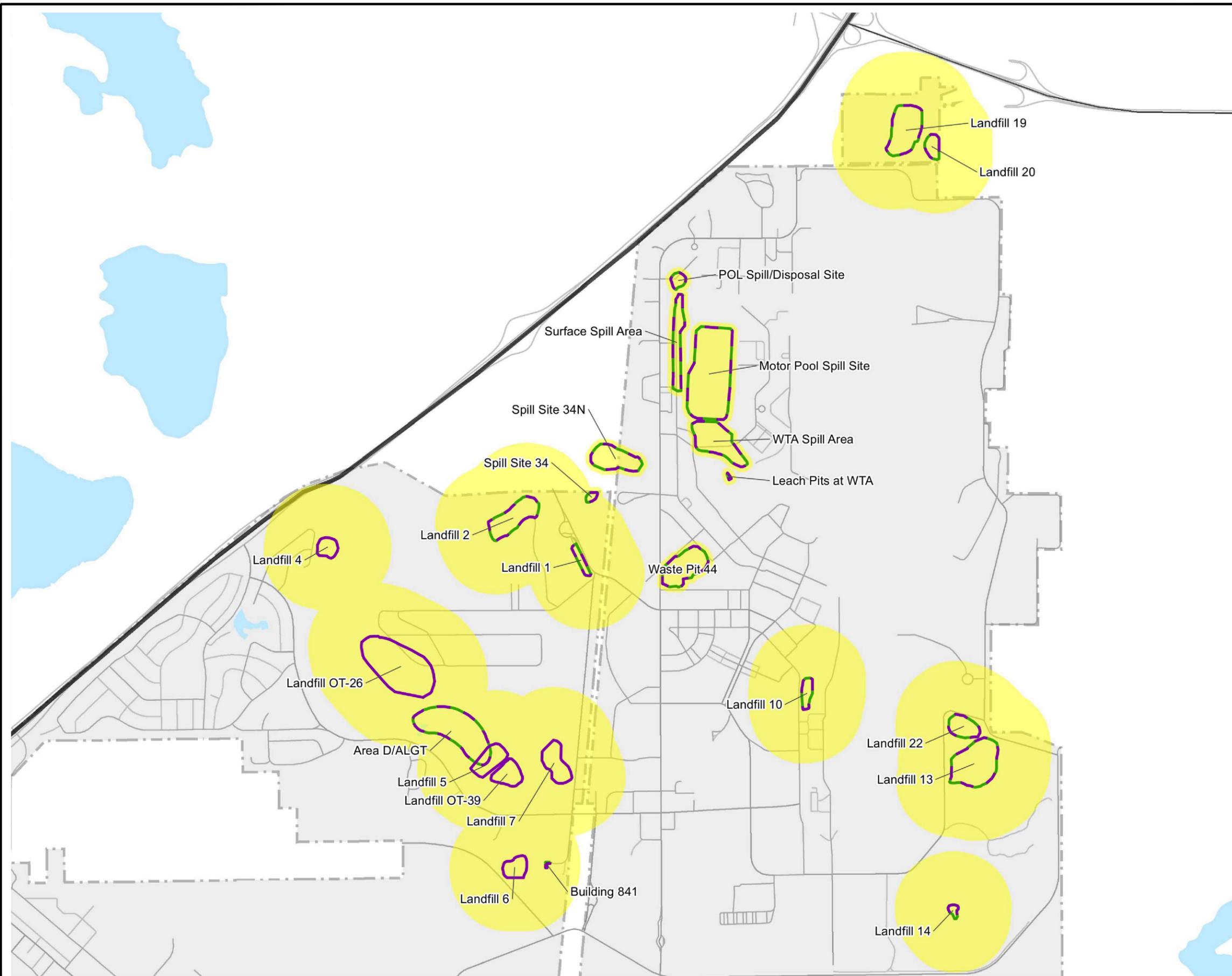
Joint Base Lewis - McChord Pierce County WASHINGTON

As shown in Figure 2, the D-Buildings area is also covered by land use controls related to the B Range, as follows:

- Area inside (south) of the solid yellow line: Prevent installation of new drinking water well unless regulator approved variance obtained.
- Area inside (south) of the purple/green line: Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.

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- LEGEND**
- Prevent residential land use.
 - Prevent unplanned excavation of contaminated soil.
 - Prevent installation of new drinking water well unless regulator approved variance is obtained.
 - JBLM Boundary

FIGURE 4

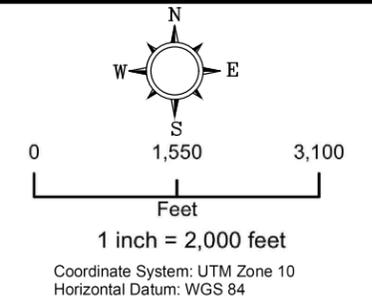
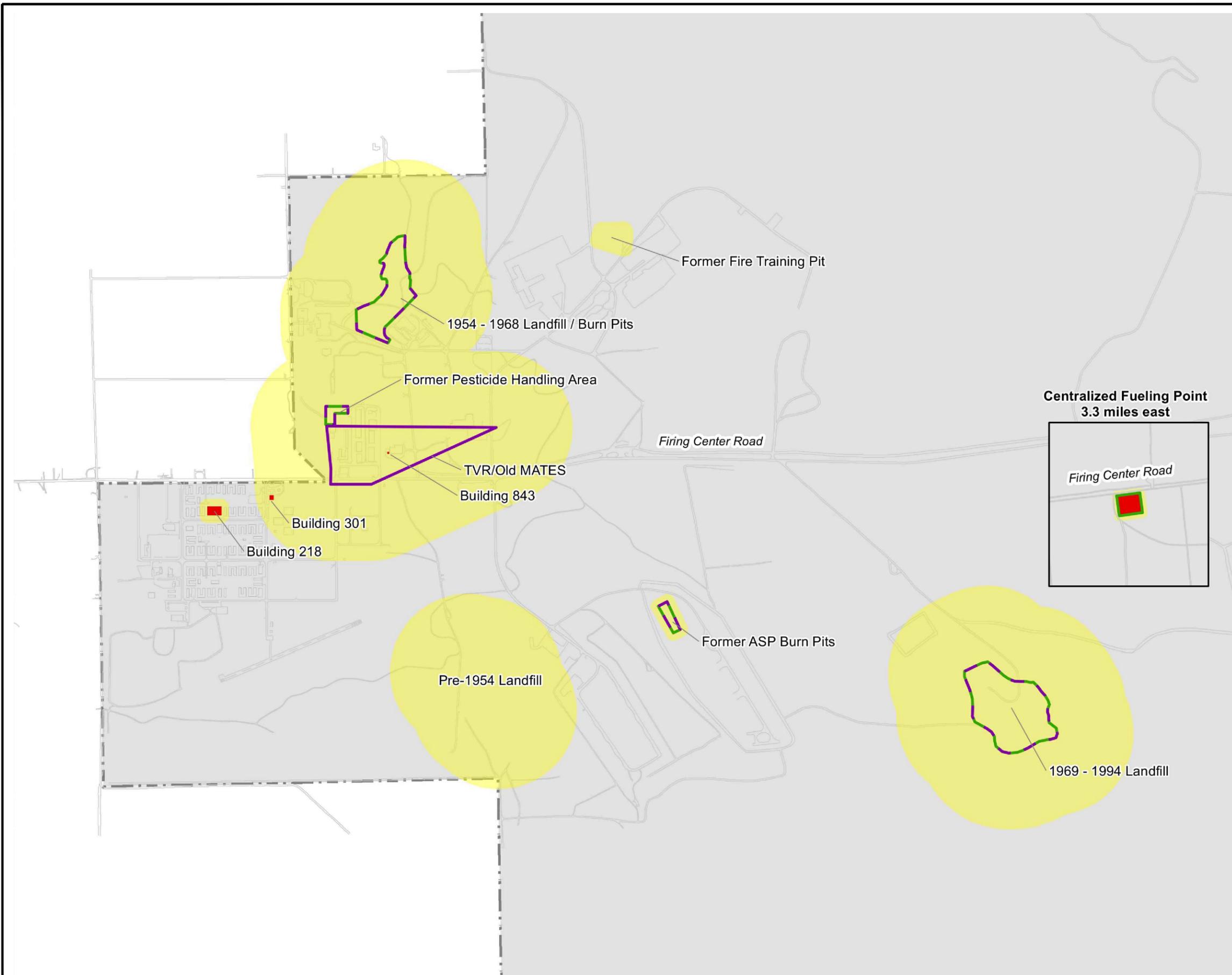
**2022 Comprehensive
Land Use Controls Plan**

**Land Use Controls -
McChord Field**

**Joint Base Lewis-McChord
Pierce County
WASHINGTON**

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- LEGEND**
-  Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 -  Prevent residential land use.
 -  Prevent unplanned excavation of contaminated soil.
 -  Residual Contamination
 -  Prevent installation of new drinking water well unless regulator approved variance is obtained.
 -  Yakima Training Center Boundary

FIGURE 5

2022 Comprehensive Land Use Controls Plan

Land Use Controls - Yakima Training Center

**Yakima Training Center
Yakima County
WASHINGTON**

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APPENDIX A LAND USE CONTROLS PROCESS INFORMATION AND
BACKGROUND

CONTENTS

1	GENERAL LUC DESCRIPTION	1-1
1.1	INSTALLATION DESCRIPTION	1-1
1.2	OVERVIEW OF LUC MECHANISMS	1-1
2	LUC MECHANISMS	2-1
2.1	LUC DATA LAYER IN GIS	2-1
2.2	LUC OVERLAY FOR REAL PROPERTY MASTER PLAN	2-1
2.3	LUC OVERLAY FOR ENVIRONMENTAL REVIEW PROCEDURES	2-1
2.4	LUC OVERLAY FOR DIGGING PERMIT APPROVAL.....	2-2
2.5	LUC INCLUSION IN OPERATION RANGE REGULATIONS	2-2
2.6	LUC INCORPORATION IN WATER SYSTEM PLANS.....	2-2
2.7	INSTALLATION ACCESS	2-3
3	MONITORING AND REPORTING	3-2
4	RECORDKEEPING.....	4-4
5	ENFORCEMENT	5-6
6	FINANCIAL ASSURANCE.....	6-8
7	FUTURE PROPERTY CONVEYANCE	7-10
8	TERMINATION AND MODIFICATION OF LUCS.....	8-12
9	FORT LEWIS REGULATORY SITE DESIGNATIONS.....	9-14
9.1	FORT LEWIS CERCLA SITES.....	9-14
9.2	FORT LEWIS NON-CERCLA AGREED ORDER SITES.....	9-14
9.3	OTHER LEWIS NON-CERCLA SITES	9-15
9.3.1	Fort Lewis Landfill Sites	9-15
9.3.2	Lewis Underground Storage Tanks	9-15
9.3.3	B-Range	9-16
10	MCCHORD REGULATORY SITE DESIGNATIONS.....	10-16
10.1	MCCHORD FIELD CERCLA SITES	10-16
10.2	MCCHORD FIELD NON-CERCLA SITES	10-16
11	YAKIMA TRAINING CENTER.....	11-17
11.1	YAKIMA TRAINING CENTER RCRA SITES.....	11-17

ACRONYMS AND ABBREVIATIONS

ALGT	American Lake Garden Tract
AOC	Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
FLR	Fort Lewis Regulation
GIS	Geographic information system
IRP	Installation Restoration Program
JBLM	Joint Base Lewis-McChord
LUC	Land Use Control
LWD	Lakewood Water District
MTCA	Model Toxics Control Act
NEPA	National Environmental Policy Act
NPL	National Priorities List
PCB	Polychlorinated biphenyl
PW	Public Works
RCRA	Resource Conservation and Recovery Act
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
UST	Underground storage tank
WAC	Washington Administrative Code

WSP	Water System Plan
WTA	Washrack Treatment Area
YTC	Yakima Training Center

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1 GENERAL LUC DESCRIPTION

1.1 INSTALLATION DESCRIPTION

Joint Base Lewis-McChord (JBLM) is a United States military facility located approximately 9 miles south-southwest of Tacoma, Washington under the jurisdiction of the United States Army Joint Base Garrison. The facility is an amalgamation of the United States Army (Army) Fort Lewis and the United States Air Force (Air Force) McChord Air Force Base, which merged on February 1, 2010, into a Joint Base because of Base Realignment and Closure Commission recommendations of 2005.

JBLM includes the former McChord Air Force Base (4,639 acres) and the former Fort Lewis (86,198 acres). JBLM became fully functional on October 1, 2010. JBLM has an Army joint base commander and an Air Force deputy commander. Base services are managed and provided by the Army. JBLM is divided into three distinct cantonment areas:

- Lewis-Main (Former Fort Lewis)
- McChord Field (Former McChord Air Force Base); and
- Lewis-North (Former North Fort Lewis).

The Yakima Training Center (YTC) is an active Army sub-installation of JBLM located approximately 5 miles northeast of the City of Yakima. YTC has been used for training military artillery, infantry, and engineering units since 1941. Expansion of YTC occurred in the early 1950s with the acquisition of additional land and permanent construction of the Cantonment area in the southwest portion of YTC. An expansion of YTC to the north occurred in the early 1990s. Currently, the YTC is 327,231 acres.

1.2 OVERVIEW OF LUC MECHANISMS

The Land Use Control (LUC) mechanisms presented in this plan are a collection of LUC overlays on top of existing planning tools, procedures, permits, and regulations that ensure the LUC objectives are satisfied. The JBLM Installation Restoration Program (IRP) disseminates the LUC objectives to the Army staff in charge of making land use decisions, policies, and regulations so that Army staff can incorporate the information into their job responsibilities. Typically, the LUCs for the JBLM environmental program perform the following:

- Prevent or restrict residential land use;
- Restrict construction of water supply wells without agency approval;
- Prevent unauthorized excavation; and
- Improve awareness/avoidance of possible encounters with munitions.

LUCs are implemented through the following measures which are described in subsequent sections:

- A data layer in the geographic information system (GIS);
- LUC overlay in the Master Plan;
- JBLM National Environmental Policy Act (NEPA) implementation;
- Project reviews (Digging Permits); and
- LUC overlay in Water System Plans.

2 LUC MECHANISMS

LUCs for Lewis and McChord are implemented using the mechanisms described in the following sections.

2.1 LUC DATA LAYER IN GIS

A GIS data layer created by JBLM IRP and the JBLM Public Works (PW) GIS Lab is a key LUC mechanism supporting LUC objectives. GIS is a critical tool for Army staff in a variety of disciplines and organizations because complex spatial data is quickly shared, accessed, and overlaid. JBLM staff members consistently use available GIS data layers for real-time reference during meetings regarding land use planning, environmental reviews, construction activities, and maintenance activities. The LUC data layer is also available for use by Army staff. The LUC data layer in GIS contains the specific LUC locations at JBLM and the specific LUC objectives for each location. The JBLM PW GIS Lab is responsible for long-term storage of the LUC data layer in GIS.

2.2 LUC OVERLAY FOR REAL PROPERTY MASTER PLAN

LUC overlay on the JBLM Real Property Master Plan is an additional LUC mechanism designed to support all LUC objectives. The JBLM Real Property Master Plan delineates the major uses of real property and represents the formal decision process for the use of all land at JBLM. A copy of the Lewis-Main Real Property Master Plan Brochure is included in Appendix B. A copy of Army Regulation 210-20, which requires maintenance of the Real Property Master Plan and LUC overlay, is included in Appendix C.

The JBLM Master Planner within the JBLM PW Planning Division is responsible for maintaining the Real Property Master Plan as well as a variety of other long-range land use planning activities. The JBLM IRP Manager has provided the JBLM Master Planner with a copy of this LUC Plan and access to the GIS LUC data layer to overlay with the Master Plan

2.3 LUC OVERLAY FOR ENVIRONMENTAL REVIEW PROCEDURES

A LUC overlay on JBLM environmental review procedures is a third LUC mechanism designed to support all LUC objectives. NEPA procedures are described in Fort Lewis Regulation (FLR) 200-1 (Appendix D). The Land Use Deconfliction Process is included in Appendix E and the JBLM PW Environmental Division Project Review Procedures are included in Appendix F. These environmental review procedures are in place to ensure that all environmental considerations, including LUCs, are accounted for and adequately addressed during the preliminary project planning process.

The JBLM NEPA Program Manager within the JBLM PW Environmental Division is responsible for implementing the JBLM environmental review procedures described above. The JBLM IRP Manager has provided the JBLM NEPA Program Manager with a copy of this LUC Plan and access to the GIS LUC data layer to overlay with the environmental review procedures.

2.4 LUC OVERLAY FOR DIGGING PERMIT APPROVAL

A LUC overlay on the JBLM Dig Permit approval process is a fourth LUC mechanism designed to support all LUC objectives. Before any digging or excavation activities are undertaken at JBLM, a JBLM Digging Permit must be obtained in accordance with Appendix S of FLR 200-1. A copy of FLR 200-1 is included in Appendix D. The Digging Permit process may be initiated on the JBLM PW website:

<https://home.army.mil/lewis-mcchord/index.php/my-Joint-Base-Lewis-Mcchord/allservices/directorate-public-works/dig-permits>

LUC objectives will be considered (along with existing overlays such as utilities and culturally sensitive locations) before a Digging Permit is issued.

The JBLM NEPA Program Manager and the JBLM Cultural Resources Program Manager within the JBLM PW Environmental Division are jointly responsible for reviewing and approving the environmental portion of the Digging Permit applications. The JBLM IRP Manager has provided the JBLM NEPA Program Manager and JBLM Cultural Resources Program Manager with a copy of this LUC Plan and access to the GIS LUC data layer to overlay with the Digging Permit approval process.

2.5 LUC INCLUSION IN OPERATION RANGE REGULATIONS

Landfill 3, Landfill 5, Landfill 9, Illicit polychlorinated biphenyl (PCB) Dump Site, and portions of the Logistics Center and Landfill 4 are located within the JBLM operational range, which by definition includes general training areas as well as specific numbered ranges and impact areas. LUC inclusion in operational range regulations is a LUC mechanism designed to ensure that the training related LUCs for the landfills (prevent digging, bivouacking, or off-road vehicle maneuvering), the Illicit PCB Dump Site (prevent training access), and the Logistics Center (prevent training access) are maintained.

Use of ranges and training areas at JBLM are regulated in accordance with FLR 350-30, which is included in Appendix G. The Range Division of the JBLM Directorate of Plans, Training, Mobilization, and Security is responsible for implementing this regulation. The JBLM Environmental Coordination Map is the primary tool used for implementing a wide variety of environmental LUCs under FLR 350-30. The JBLM Environmental Coordination Map, which is maintained by the JBLM NEPA Program Manager, includes the training-related LUCs for Landfills 3, 5, and 9. In addition, it should be noted that Landfill 2 and the Illicit PCB Dump Site (which both have LUCs to prevent training access) are explicitly shown as Hazardous Areas on the 2007 Fort Lewis 1:50,000 scale Military Installation Map.

2.6 LUC INCORPORATION IN WATER SYSTEM PLANS

Incorporating the LUC objectives into the next update of the JBLM Cantonment Area Water System Plan (WSP) is a LUC mechanism designed to ensure that a new drinking water well is not installed within the Solvent Refined Coal Pilot Plant site boundary, within 1,000 feet of the

Logistics Center, within 1,000 feet of the Landfill 4 site boundaries, or within 1,000 feet of the Landfill 1 boundary without obtaining a variance from Washington State Department of Ecology (Ecology) and/or an approved monitoring plan. These LUC boundaries are within the service area boundary of the JBLM Cantonment Area Water System. A WSP is the primary planning tool for all public water systems and is typically used to plan future construction, including installation of new drinking water wells. WSPs are required to be updated every six years in accordance with Washington Department of Health regulations in Washington Administrative Code (WAC) 246-290-100. The Washington Department of Health will not approve installation of a new drinking water well without adequate documentation of the need for a new well in the WSP as well as adequate incorporation of the proposed well in the Wellhead Protection Program portion of the WSP.

American Water Military Division is responsible for maintaining the WSP as well as a variety of other planning, design, and operation tasks related to the JBLM Cantonment Area Water System. The JBLM IRP Manager will provide American Water with a copy of this LUC Plan and access to the GIS LUC data layer to incorporate the drinking water well related objectives in the WSP update, which is currently being prepared.

Although the off-post portion of the Vashon Aquifer trichloroethylene (TCE) plume is relatively small and is expected to continue shrinking, a LUC has been developed that is commensurate with the nature and extent of off-post TCE impacts and the difficulty in effectively implementing LUCs off-post. Lakewood Water District (LWD) is the primary water system serving the area impacted by the Vashon Aquifer TCE plume in the off-post community of Tillicum. LWD is well aware of the Logistics Center site and has included the site as a possible source of contamination in its Wellhead Protection Program. Thus, the LUC action is to periodically remind LWD to keep the site in its Wellhead Protection Program. The LUC will be implemented via monitoring as discussed in Section 3, Monitoring and Reporting.

2.7 INSTALLATION ACCESS

JBLM and YTC are controlled military installations that limit access to authorized personnel. Although these security measures are not a remedial LUC mechanism because the mechanisms have not been specifically modified to accommodate LUC data, the installation access restrictions do support the LUC objectives by keeping the general public and unauthorized personnel out of JBLM and YTC.

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3 MONITORING AND REPORTING

Annual monitoring of the LUCs will be conducted as described in this plan. Responsibilities include, but are not limited to:

- Conducting routine monitoring, including interviewing Army staff and visually inspecting sites;
- Preparing LUC Monitoring Checklists to document routine monitoring;
- Notifying the JBLM IRP Manager immediately upon discovery of any land use activity that is inconsistent with the LUC objectives;
- Maintaining boundary fences at LUC sites;
- Maintaining signage;
- Maintaining landfill caps; and
- Updating the Land Use Control Plans as necessary. (Note: This task includes providing appropriate GIS data/information to JBLM for their use in installation geospatial databases.)

The LUC Monitoring Checklists in Appendix H will be used to conduct and document the routine monitoring. A copy of the completed checklists will be provided to JBLM IRP Manager for submittal to the appropriate regulatory agencies. Copies of the completed JBLM Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) LUC Monitoring Checklist will be submitted to United States Environmental Protection Agency (EPA). Copies of the completed JBLM Agreed Order Monitoring Checklist will be submitted to Ecology. Copies of the completed Independent LUC Monitoring Checklist and McChord Other Non-CERCLA LUC Monitoring Checklist will be submitted to JBLM and any regulatory agencies as needed. As the LUC remedy matures, the JBLM IRP Manager may reduce the routine monitoring frequency with the concurrence of EPA and/or Ecology.

JBLM IRP will conduct a review of the LUCs every five years during the JBLM CERCLA five-year review and the Non-CERCLA periodic reviews. JBLM IRP will review the annual monitoring reports and re-evaluate this plan to ensure the LUC mechanisms are working properly to satisfy the LUC objectives and that the remedy is still protective of human health and the environment. The five-year review will also be a time to update the LUC Plan(s) as necessary to document any minor changes to the LUC mechanisms over time.

In addition to the annual monitoring and five-year reviews, the JBLM IRP Manager will notify JBLM PW immediately upon discovery of any land use activity that is inconsistent with the LUC objectives. JBLM PW will determine a plan of action to rectify such a situation. It should be noted that a temporary failure in a single LUC mechanism is unlikely to compromise the protectiveness of the LUCs since:

- Another mechanism would likely detect and prevent the possible failure; and

- The maximum length of time of the failure would likely be one year (in the interim between annual monitoring events) compared to the much longer exposure durations assumed when calculating potential risks and hazards.

4 RECORDKEEPING

Recordkeeping provides the necessary durability to ensure the LUC program endures and outlasts personnel changes, government reorganizations, and LUC mechanism changes. This plan, all subsequent plan modifications, routine monitoring reports (checklists), and five-year reviews will be included in the JBLM IRP administrative record. In addition, the LUC remedy will be recorded in the Army Environmental Center's Army Environmental Database for Restoration and Compliance-related Cleanup.

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5 ENFORCEMENT

The JBLM IRP Manager is responsible for managing the LUC objectives for the Army. The JBLM IRP Manager will determine if an action is not consistent with the site remedy. Any LUC non-compliance that is out of the authority of the JBLM IRP Manager will be immediately communicated to EPA and/or Ecology through appropriate Army Command channels. If EPA or Ecology disagrees with Army actions, they can initiate formal dispute resolution to guarantee the long-term reliability and effectiveness of the LUC. However, it is expected that most, if not all, potential disputes can be resolved through early problem identification and informal communication.

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6 FINANCIAL ASSURANCE

The JBLM IRP Manager, Mr. Mark Mettler, and subcontractor staff are responsible for implementing, monitoring, and reporting on internal LUCs. Financial assurance documentation for long-term maintenance of LUCs is not necessary for this federal facility.

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7 FUTURE PROPERTY CONVEYANCE

Property conveyance includes leaseholds, easements, and land transfers. For CERCLA sites, the Army will consult with EPA prior to any property conveyance that affects the LUC objectives in accordance with 42 United States Code 9620(h). For Agreed Order sites or other non-CERCLA sites, the Army will consult with Ecology prior to any property conveyance that affects the LUC objectives. As necessary, JBLM IRP Manager will re-evaluate the appropriateness of the selected LUC remedies and will have the current LUC Plan revised as necessary. A transfer of JBLM land to private ownership or to a federal agency outside of the Department of Defense is highly unlikely given the importance of JBLM for Department of Defense training. In the unlikely event of a land transfer, the Army shall include all applicable LUC restrictions as part of a restrictive covenant or easement and will work with EPA or Ecology and the future landowner(s) to ensure that appropriate LUC objectives and mechanisms are also in place to ensure protection of human health and the environment.

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8 TERMINATION AND MODIFICATION OF LUCS

The LUCs described in this Plan are intended to be in place until the concentrations of hazardous substances are reduced to levels that allow for unlimited use and unrestricted exposure. If the JBLM IRP Manager determines in the future that there are changes to hazardous substance concentrations or applicable cleanup levels, the JBLM IRP Manager will terminate or modify a LUC objective as appropriate. The JBLM IRP Manager will notify the Ecology Program Manager if LUCs are terminated or modified at a particular Site.

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9 FORT LEWIS REGULATORY SITE DESIGNATIONS

Non-CERCLA sites include those regulated by the State of Washington through the Fort Lewis Agreed Order and/or the McChord Field Consent Decree. Applicable regulations include the Ecology's Model Toxics Control Act (MTCA) and municipal solid waste requirements (WAC 173-340 and WAC 173-351, respectively).

LUCs are included for the following areas:

- Fort Lewis Agreed Order sites including Miller Hill,
- Other Lewis Non-CERCLA sites (landfills, former spills, and underground storage tanks [USTs]),
- McChord Field Consent Decree sites,
- Other McChord Non-CERCLA sites (landfills, former spills, and USTs).

The list for Fort Lewis Agreed Order and McChord Field Consent Decree sites is fixed. However, the lists of other non-CERCLA Fort Lewis and McChord Field sites continue to expand as new sites are discovered.

9.1 FORT LEWIS CERCLA SITES

The following is a list of Fort Lewis CERCLA sites requiring LUCs. It is provided for information purposes only. The Fort Lewis CERCLA sites include:

- Logistics Center including Lewis Landfill 2 (FTLE-33)
- Lewis Landfill 4 (FTLE-57)
- Solvent Refined Coal Pilot Plant (FTLE-32)
- Battery Acid Pit (FTLE-16)
- Defense Reutilization and Marketing Office (DRMO) Yard (FTLE-31)
- Illicit Polychlorinated Biphenyl (PCB) Dump Site (FTLE-46)
- Industrial Wastewater Treatment Plant (IWTP) Site (FTLE-51)
- Lewis Landfill 1 (FTLE-54)
- Pesticide Rinse Area (FTLE-28).

9.2 FORT LEWIS NON-CERCLA AGREED ORDER SITES

Non-CERCLA sites on Fort Lewis, that have been investigated through an Agreed Order issued by Ecology (DE00HWTRSR-1122) in 2001, are listed below. State designations for the sites are in parentheses:

- Building 4131 UST (Area of Concern [AOC] 8-2)

- Building 5101 UST (AOC 9-4)
- Building 5115 UST (AOC 8-3)
- Former Building A0111 UST (AOC 8-4)
- Former Building A1033 UST (AOC 9-2)
- Former Gray Army Airfield (GAAF) Fuel Facility (AOC 10-8)
- Landfill 9 (Solid Waste Management Unit [SWMU]-40)

9.3 OTHER LEWIS NON-CERCLA SITES

Other Fort Lewis Non-CERCLA sites include landfills not addressed by CERCLA or the Fort Lewis Agreed Order and spills from aboveground storage tanks and USTs.

9.3.1 Fort Lewis Landfill Sites

Other Fort Lewis landfill sites include:

- Landfill 3
- Landfill 5
- Landfill 7
- Landfill 8
- Landfill 11b
- Park Marsh Landfill.

Landfill 5 is a former CERCLA National Priorities List (NPL) site that was delisted in 1995. It is now regulated under the Washington State regulation for municipal solid waste landfills (WAC 173-351). The site is currently in post-closure care. The other landfills were closed prior to state landfill regulations, but are generally compliant with WAC 173-351 (i.e., they have a soil cover). Landfill 10 is no longer a Federal property and is covered by an Interstate 5 off-ramp. Landfill 11b was reportedly removed during family housing construction in 2011 through 2012. However, until a No Further Action decision is granted for the landfill, the restrictions on residential use and unauthorized training (as outlined in Table 1) should remain in place. Additionally, new drinking water wells within 1,000 feet of the former landfill are still prohibited by WAC 173-161-170(b)(vi) without a regulator-approved variance and those restrictions should remain. Additionally, although not enforceable by a decision document, restrictions on unplanned excavations of contaminated soil should also remain in place.

9.3.2 Lewis Underground Storage Tanks

LUCs are in place for one former underground storage tanks. A total of 55 former aboveground and underground storage tanks were located near former D-block buildings in North Fort Lewis. The majority of these buildings were removed between 2018 and 2020. A No Further Action

decision was granted by Ecology in October 2022 for 54 of the former tanks. With concurrence from the JBLM IRP Program Manager (Mr. Mark Mettler), the LUCs associated with the former USTs will be removed from future checklists and tables. These sites are still subject to the LUCs associated with the B-Range Munitions Response Site discussed in Section 9.3.3.

9.3.3 B-Range

The JBLM B-Range site is a Military Munitions Response Site that is being administered by JBLM under the authority of the Department of Defense. Cleanup of the site follows the CERCLA process.

10 MCCHORD REGULATORY SITE DESIGNATIONS

10.1 MCCHORD FIELD CERCLA SITES

The six McChord Field CERCLA sites are included under the McChord Field American Lake Garden Tract (ALGT) NPL site (MF-ALGT-LF-05). As such, the title of ALGT CERCLA sites and McChord Field CERCLA sites are used interchangeably in plans and reports.

The McChord Field CERCLA sites include:

- McChord Landfill 4 (MF-LF-004)
- McChord Landfill 5 (MF-LF-005)
- McChord Landfill 6 (MF-LF-006)
- McChord Landfill 7 (MF-LF-007)
- Ordnance Disposal Burn Kettles (MF-OT-26)
- Concrete Burn Trench (MF-OT-39).

10.2 MCCHORD FIELD NON-CERCLA SITES

McChord Field Non-CERCLA sites include, for the most part, those under the jurisdiction of the 1992 Consent Decree for McChord Air Force Base. Consent Decree sites are listed below with their identifier.

These sites include:

- Landfill 1
- Landfill 2
- Landfill 10
- Landfill 13
- Landfill 14

- Landfill 19
- Landfill 20
- Landfill 22
- Spill Site 34 (SS-34)
- Petroleum, Oil, and Lubricants Spill/Disposal (SS-038)
- Motor Pool Spill (SS-40)
- Waste Pit 44 (WP-44)
- Surface Spill Area (SS-55).

McChord Non-CERCLA and Non-Consent Decree sites include:

- Leach Pits at Washrack Treatment Area (WTA) [SD-54]
- WTA Spill Area (DP-60)
- Spill Site 34N (SS-34N)
- Building 841.

Sites SD-54 and DP-60 are sites in the former WTA that was on the NPL but were delisted in 1995. The sites were subsequently identified by Ecology and placed on the State's Hazardous Sites List. Both sites contain petroleum hydrocarbons in soil and are regulated under MTCA. SS-34N is a former spill site currently regulated under Ecology's authority but was not included under the Consent Decree. Building 841 is a former UST site.

11 YAKIMA TRAINING CENTER

LUCs for Yakima Training Center are implemented using the mechanisms described in the following sections.

11.1 YAKIMA TRAINING CENTER RCRA SITES

The nine sites addressed in this Plan are regulated as Resource Conservation and Recovery Act (RCRA) corrective action sites. RCRA corrective sites in the State of Washington are addressed using MTCA regulations per WAC 173-303-646(3). MTCA regulations have been promulgated by Ecology in Chapter 173-340 of the WAC.

Sites included in this LUC Plan are:

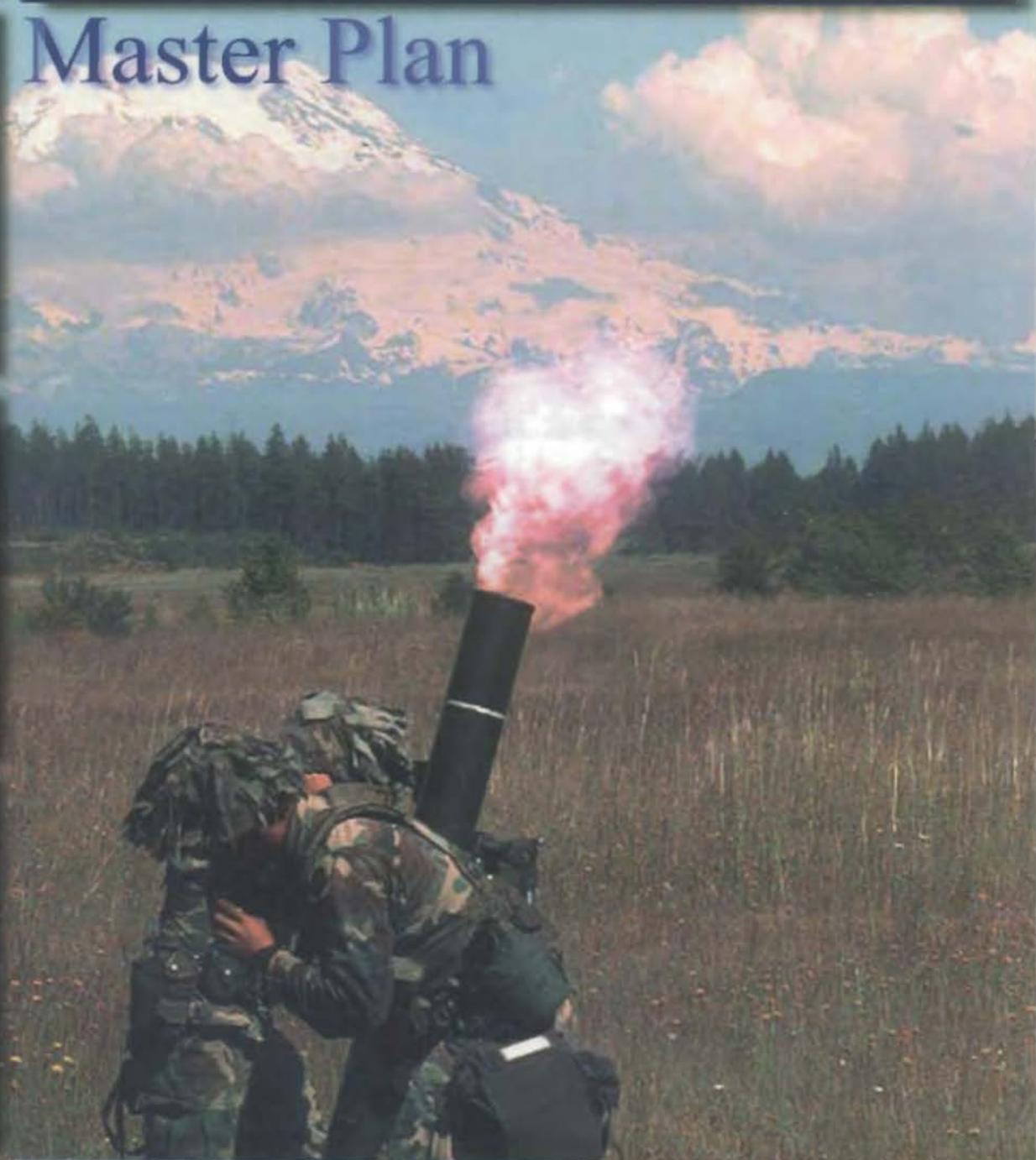
- Former Pesticide Handling Area (SWMU 5)
- Former Ammunition Storage Point Burn Pits (SWMU 27)
- 1969 – 1994 Landfill (SWMU 51)

- 1954 – 1968 Landfill/Burn Pits (SWMU 57)
- Former Fire Training Pit (SWMU 59)
- Building 218 (AOC 7)
- Building 301 Former UST Site (AOC 14)
- Tracked Vehicle Repair / Old Mobilization and Training Equipment Site
- Centralized Fueling Point

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APPENDIX B REAL PROPERTY MASTER PLAN BROCHURE

Fort Lewis Real Property Master Plan



HISTORY



Figure 1: Camp Lewis

The post was originally established as Camp Lewis in 1917 on 62,432 acres donated to the federal government by the citizens of Pierce County. As one of the 16 troop cantonments constructed by the Quartermaster Corps, Camp Lewis was the nation's largest Army post at the time. Like other military installations, the post suffered neglect in the immediate post World War I period when it was manned by a caretaker force of about 1,000. Responding to criticism about the dilapidated condition of the nation's Army posts, Congress passed the Housing Program of 1926, which provided funds for the first permanent division posts. As part of this improvement program, the installation was renamed Fort Lewis and upgraded between 1927 and 1939 with about 250 new buildings. Another wave of construction occurred during World War II, primarily in the 2,000-acre North Fort complex. Since the war, the installation has been expanding with additional housing and community facilities.

**Fort Lewis Real Property
Master Plan
Brochure**

Volume I

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ABLE OF

CONTENTS

History	<i>i</i>	Investment Strategy	13
Introduction	<i>iv</i>	Transportation Strategy	15
Vision	1	Power Projection	16
Planning Objectives	3	Fort Lewis	
Planning Factors	4	"Home to the Force"	18
Land Use Plan	5	Single Soldier Initiatives	19
North Fort	6	Training the Force	20
Garrison Area and		Yakima Training Center	21
Community Center	7	YTC Master Plan	22
Division Area	9	YTC Land Use Plan	23
Gray Army Airfield	9		
Miller Hill	10		
New Madigan Area	10		
Old Madigan Area	10		
Logistics and			
Deployment Center	12		
Rainier Park	12		

INTRODUCTION

The Army Facilities Plan calls for Army bases to be a home to the force, a work and training base for units, and a power projection platform for the nation. Fort Lewis' strategic location accomplishes all three of these objectives and more.

HOME IN THE PACIFIC NORTHWEST

Fort Lewis, located in the heart of the Puget Sound Basin, provides easy access to the amenities of a major metropolitan area as well as opportunities to enjoy a full array of outdoor activities in one of the most desired settings in the United States. Installation facilities provide the basis for an excellent quality of life for soldiers, their families and other members of the total Army community.

TRAINING FOR GLOBAL COMMITMENTS

Fort Lewis is superbly located to meet virtually every conceivable need. A line stretched from the eastern shores of South Puget Sound, across Mount Rainier to the

banks of the Columbia River crosses forests and prairies, meadows, and mountains, deserts and vast, sprawling ranges; virtually every type of terrain and vegetation in which American soldiers may be required to fight. The 700 square miles comprising Fort Lewis and its sub-installation, Yakima Training Center, provide opportunities to train in each of these environments.

POWER PROJECTION

Redundant and interconnected road, rail, sea, and air facilities make Fort Lewis the nations premier force deployment center on the West Coast.

This brochure provides an overview of the Fort Lewis Real Property Master Plan. It will explain how development and redevelopment of the installation will meet the needs of soldiers and units to support the nations security objectives in the 21st Century.

Figure 2(below): Area map showing Fort Lewis and its sub-installation



VISION

The Fort Lewis vision is of an enduring strategic installation; teamed and ready to project combat power for decisive victory now, and into the 21st Century:

- Provide training areas with modern ranges, and other supporting facilities which meet the needs of assigned units and tenant activities.
- Develop and maintain state of the art simulation facilities.
- Provide and maintain world class power projection facilities.
- Provide first class living and working environments for the total force.
- Ensure quality services which meet the continuing professional requirements of soldiers and civilian employees and the personal needs of soldiers, their families, and other authorized individuals.
- Demonstrate leadership and innovation in environmental stewardship.

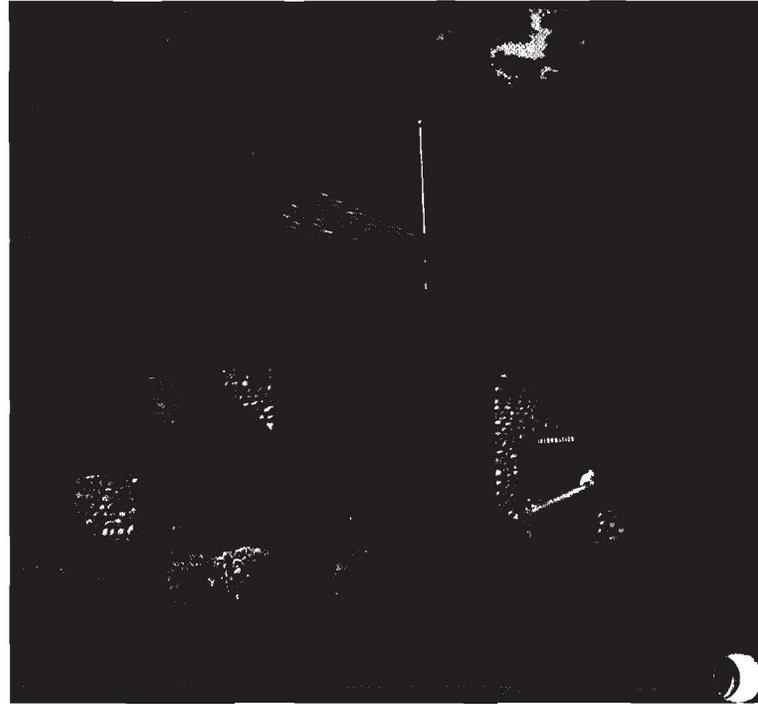
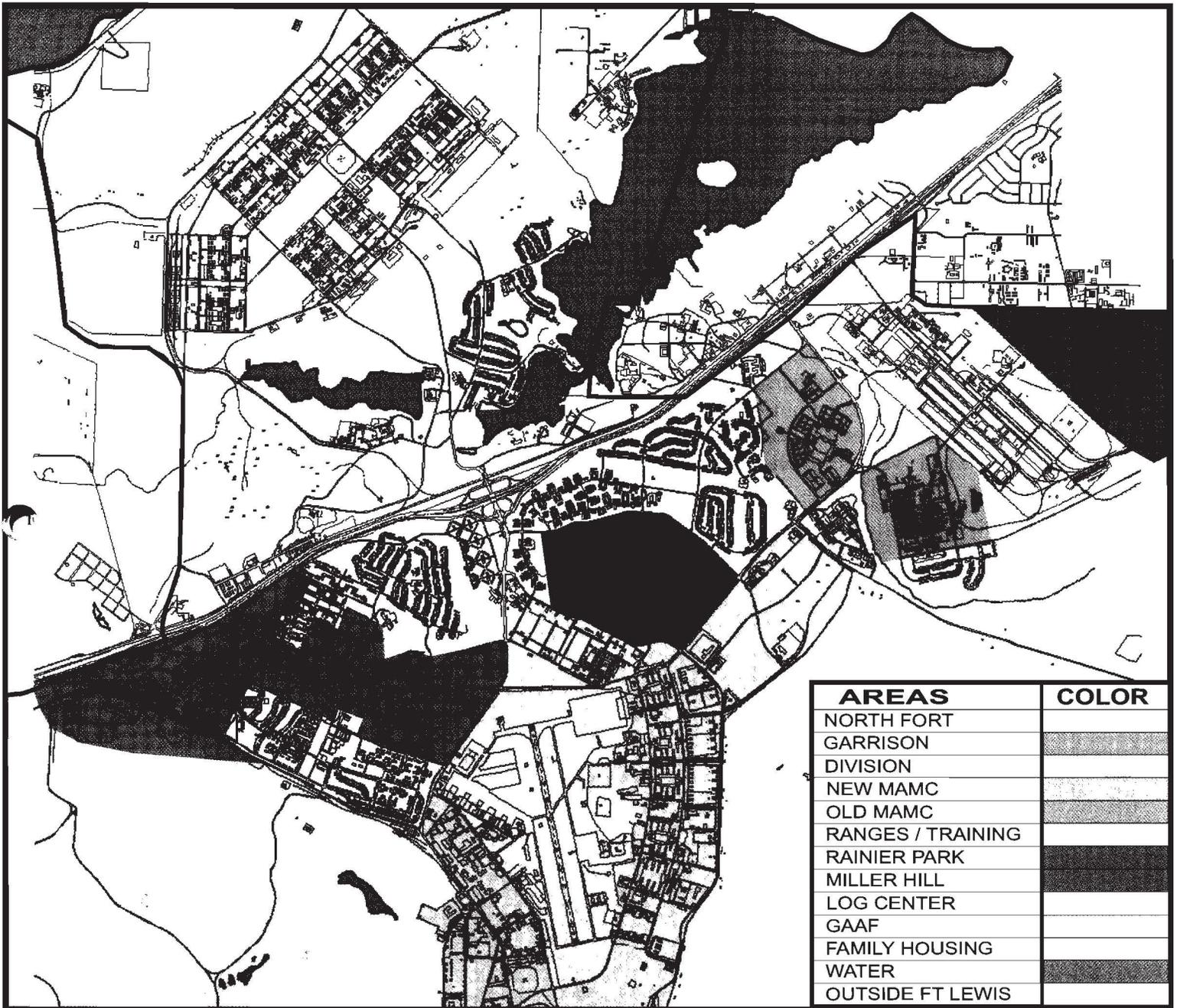


Figure 3 (above): Fort Lewis' Old Main Gate

Figure 4 (below): David Stone Education Center

Figure 5 (right page): Fort Lewis Cantonment Areas





The part of Fort Lewis depicted on the above map is the portion commonly referred to as the cantonment area. For ease of reference, Fort Lewis has been divided into nine distinct areas, North Fort, the Garrison Area, the Division Area, New Madigan, Old Madigan, the Rainier

Park, Miller Hill, the Logistics Center, and Gray Army Air Field. These are depicted in the figure above. In addition, family housing, and recreational facilities are distributed throughout the cantonment area. Training areas border the cantonment.

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LANNING

OBJECTIVES

The overall Real Property master planning process at Fort Lewis, includes the need to:

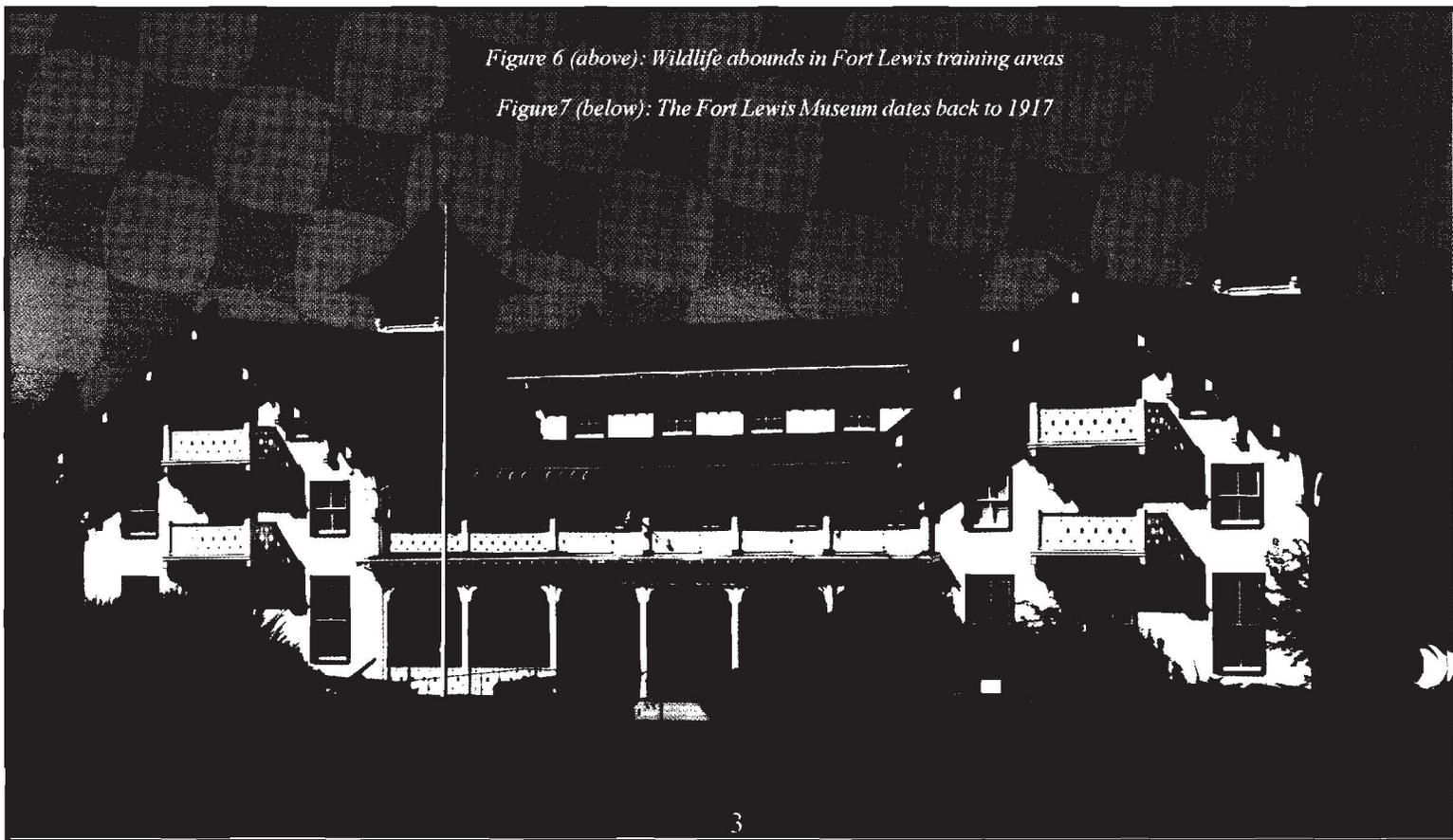
- Eliminate existing, and prevent future, land use conflicts;
- Contain development within the existing cantonment area and balance it with preserving installation environmental, historical and cultural resources;
- Redistribute troop unit populations to improve traffic patterns, provide better work areas and improve quality of life for soldiers;
- Reduce vehicular traffic within the installation and minimize the need for single occupancy privately owned vehicle travel between the installation and off-post residential and commercial areas;
- Eliminate tactical and oversized commercial vehicle use of the main gate and major arterials on

the installation;

- Concentrate primary on-post commercial and services activities;
- Create an environment which acknowledges personal needs of single soldiers in a manner conceptually consistent with family housing land use planning considerations;
- Preserve the unique natural and architectural atmosphere of the installation;
- Facilitate through integrating training, operational, transportation and existing land use patterns to minimize conflicts between major operational activities;
- Minimize redevelopment costs through renovation and reutilization of existing facilities wherever possible consistent with the land use plan and other planning factors.

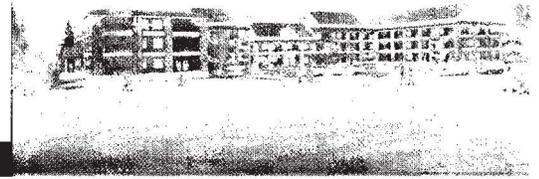
Figure 6 (above): Wildlife abounds in Fort Lewis training areas

Figure 7 (below): The Fort Lewis Museum dates back to 1917



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LANNING FACTORS



Key factors considered in developing the master plan include:

- The need, after 75 years of intermittent development, to optimize use of available land and reassess and realign land use patterns accordingly;
- The need to retain flexibility for future development and to accommodate future trends in force structure, weapons systems modernization and opportunities to exploit emerging technologies;
- Flexibility to adapt to changing sociological and political realities;
- Coordination with adjacent jurisdictions to maximize opportunities for mutual benefit through cooperation and support, and to minimize conflicts and developmental incompatibilities;
- Incorporation of new Department of the Army standards for barracks and headquarters;
- The need to accomplish the goals mandated by the Army facilities reduction program.
- Our duty to provide reasonable safeguards for natural and cultural resources on the installation.

Figure 8 (below): I Corps Headquarters helps set an architectural theme for the entire installation

Figure 9 (above right): The amount of land needed for barracks like these started in 1995 helped redefine land use on Fort Lewis



LAND USE PLAN

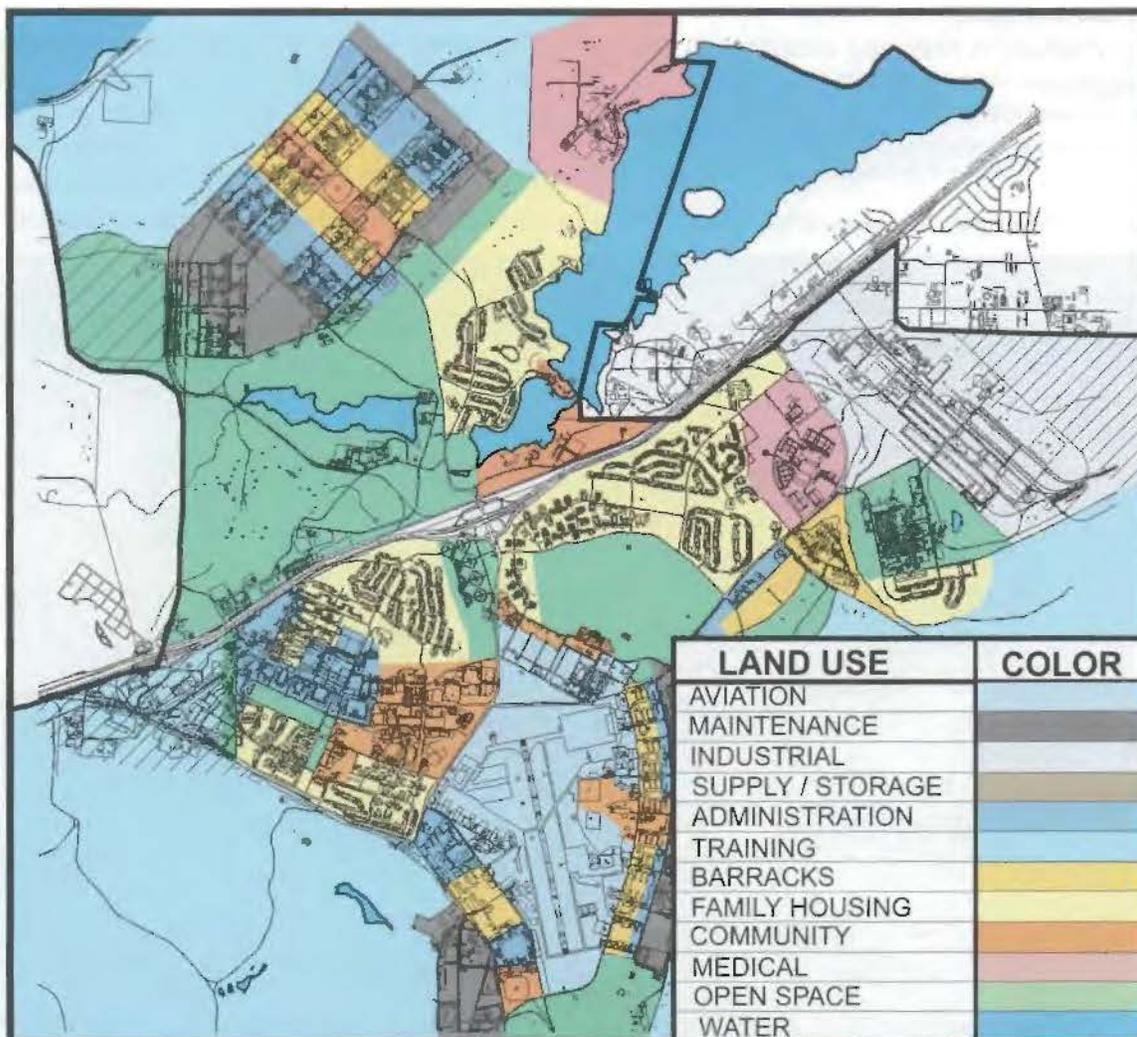
The land use plan allocates sufficient space to accommodate activities in compatible use zones, and serves as a screening mechanism to ensure new activities are provided space in appropriate areas.

The land use plan distributes activity types to different locations on post. As a whole, analysis ratifies historic land use patterns of the 1920's and 1950's. Adjustments accommodate changes in the size, types and densities of military equipment, the impacts of automobiles, the growing space per capita needed to house single soldiers, unit command and control facilities, and the long term needs for power projection.

The most significant conflicts exist in the Garrison area, where troop unit activities clash with adjacent residential and administrative activities.

In the diagram below, troop unit areas include barracks, unit headquarters, motor pools and limited service and retail activities. Community areas provide space for administrative functions, primary services, retail activities, and other community support and operations. Open space includes areas set aside for training, recreational uses and preservation of the aesthetics of the post.

Figure 10 (below): Fort Lewis Land Use Plan



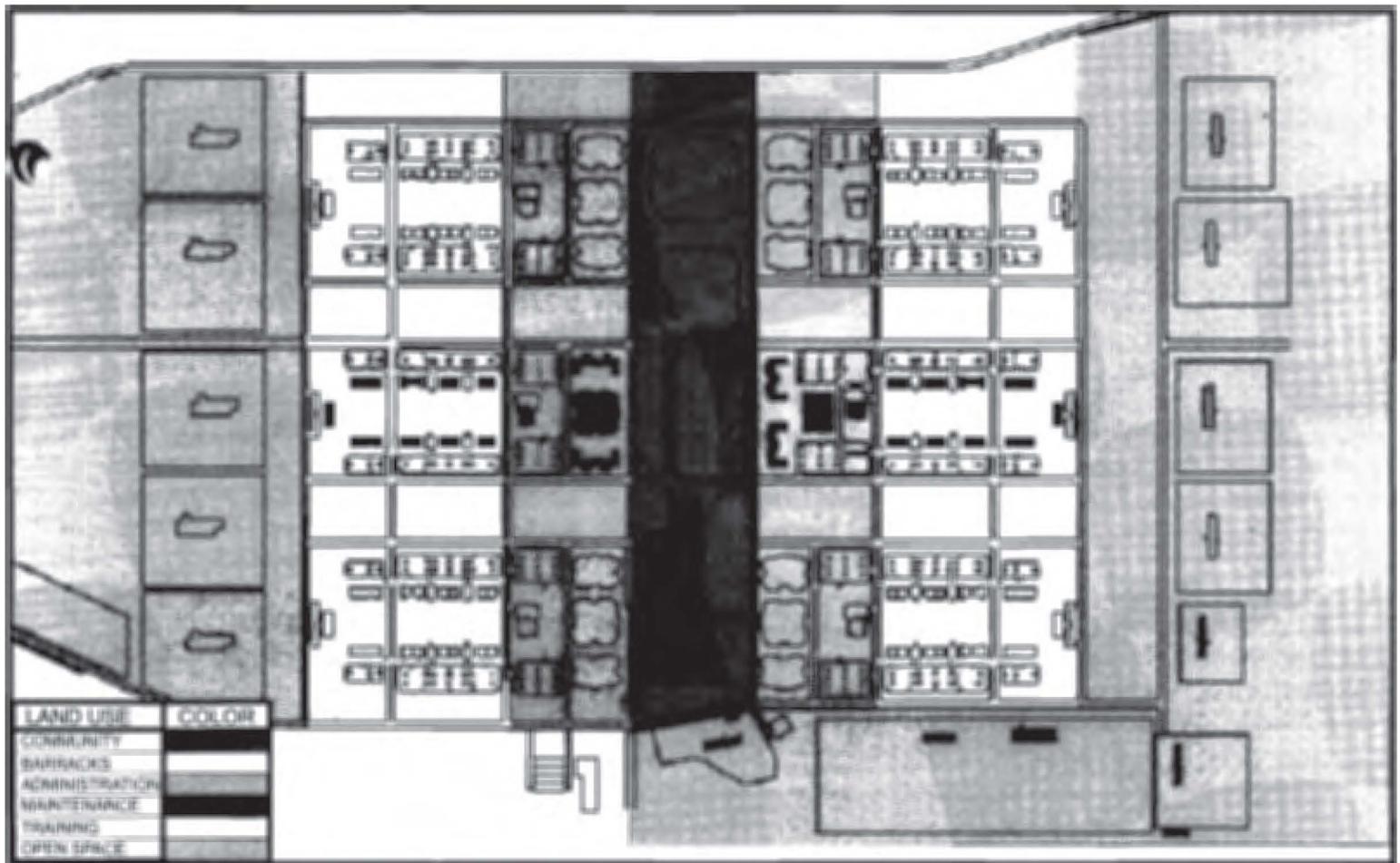


Figure 11 (above): North Fort Land Use

Figure 12 (below): Brigade Complex started in 1995

North Fort:

North Fort originally consisted exclusively of World War II vintage temporary buildings. It is currently being developed as a primary troop unit area.

North Fort's land use plan is based on a series of parallel bands of compatible and complementary zones as shown in the figure above. The center orange band is zoned for commercial, recreational and service activities focused on the needs of the resident single soldier population and, to a lesser degree, the soldiers assigned to units in this area but who live in family housing or off post. The yellow ochre bands represent single soldier residential facilities (barracks) clustered in brigade sized complexes.

Each barracks complex plans for three barracks buildings containing 200 to 300 barracks spaces with a soldier community building to house common areas like

game rooms, TV rooms, laundry rooms and mail boxes. Each barracks complex also includes, a dining facility sized to feed 400 - 800 soldiers. The dark blue bands are unit administration and includes large open areas for physical training and limited training and other support functions. The green areas represent other open space set aside to preserve the aesthetics of the area. The gray outer band is zoned for unit maintenance facilities. The figure below shows a typical brigade complex.



Garrison Area and Community Center:

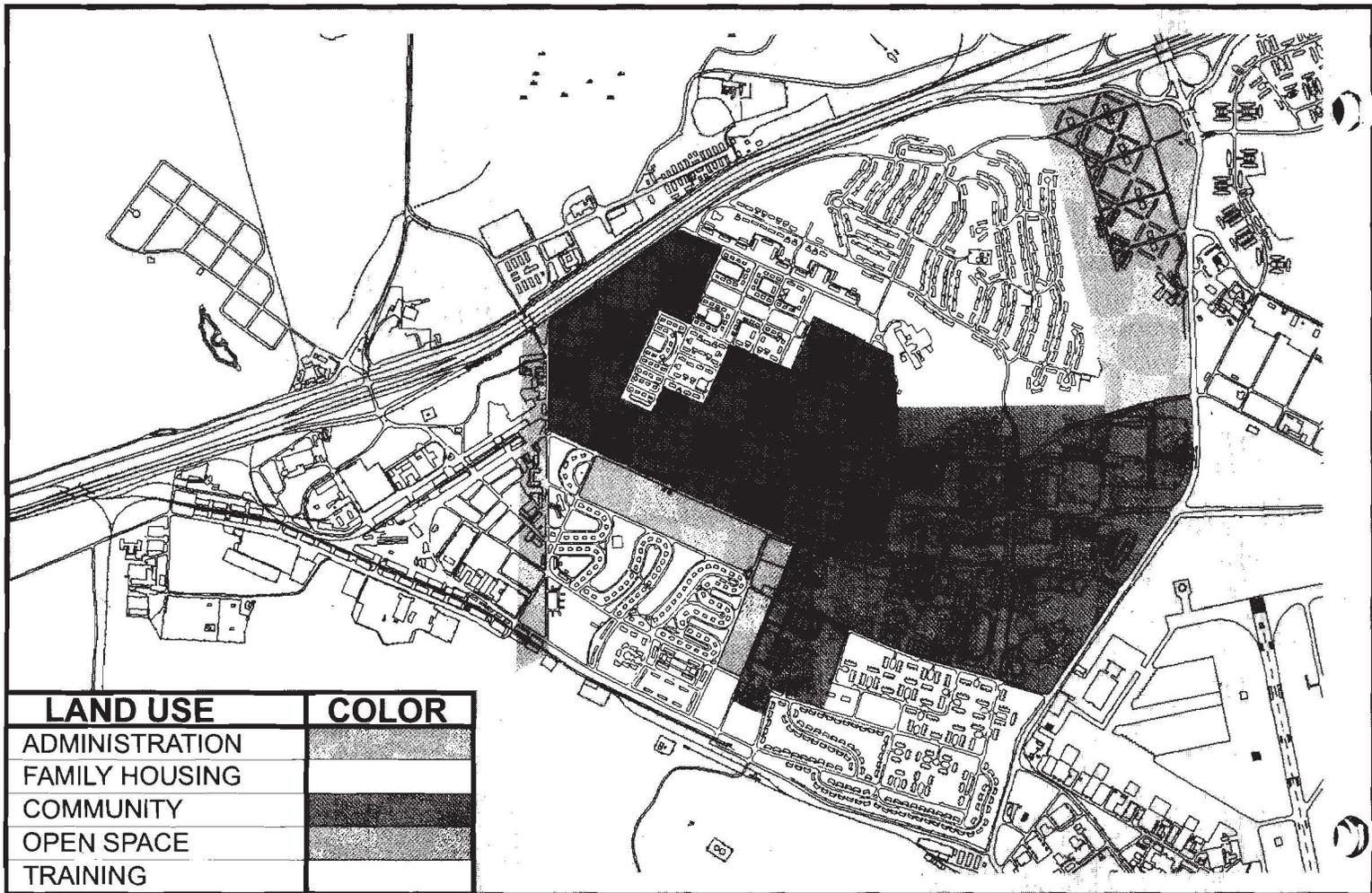
This part of Fort Lewis is divided into three sub-areas, the garrison area, the community center and the training support campus as shown on Figure 13. The garrison area construction was begun in the 1920's. This area is on the historical register but despite it's age, the facilities and their layout remain viable and useful.

To resolve the conflict between troop unit activities and residential and administrative activities in the garrison area, barracks and unit level activities will be relocated to new facilities at North Fort. This move will allow conversion of the majority of the space along Watkins Field to general administration, allowing consolidation of garrison staff and selected tenant activities into permanent facilities in a central business district.

The community center, on the east of the garrison area, contains the Post Exchange, Commissary, a services mall, fast food outlets, the welcome center, the library and other Morale, Welfare, and Recreation activities. It

provides a convenient concentration of destination facilities which allows family members, retirees, and other users from off post to minimize movements on the installation when conducting personal business.

A training support campus is being established in a triangle of land on the west side of the garrison area which is currently light industrial and confinement center activities. This site will support growing use of simulation based training which has generated a requirement for an area dedicated to specialized simulation facilities. This site is accessible to installation units and Interstate-5, allowing users and visiting units ready access without bringing their movements through the community center. In addition, this area provides an appropriate site for other training support activities including range control and the training aids support center. The western corner of this area lies at a point where planned tactical vehicle routes from the division area, North Fort and the main maneuver areas come together allowing ready access without bringing tactical vehicles through the main cantonment area.



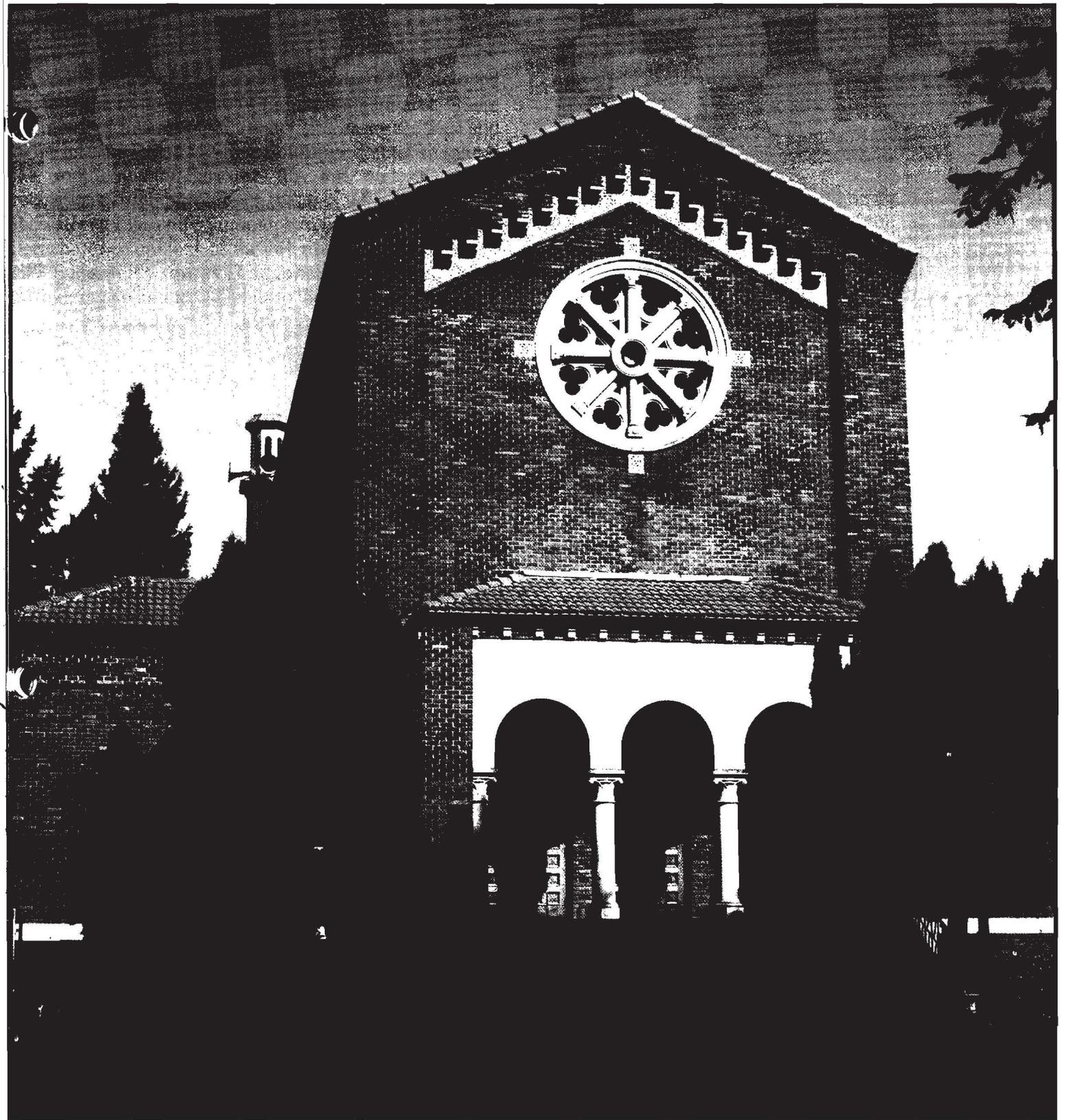


Figure 13 (opposite below): Garrison Area and Community Center Land Use

Figure 14 (above): The Main Chapel is typical of the architectural style of the Historic Garrison Area

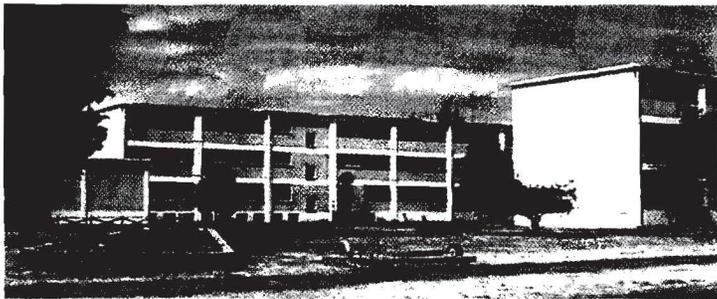


Figure 15: Division area barracks and administrative buildings

Division Area:

The division area is the major permanent troop unit area on Fort Lewis. It was developed in two main phases. The first phase, spanning the 1950s, created a troop complex along the east side of Gray Army Airfield. The second phase, completed in 1976, provided a complex to support a brigade of the 9th Infantry Division which was stationed here at that time.

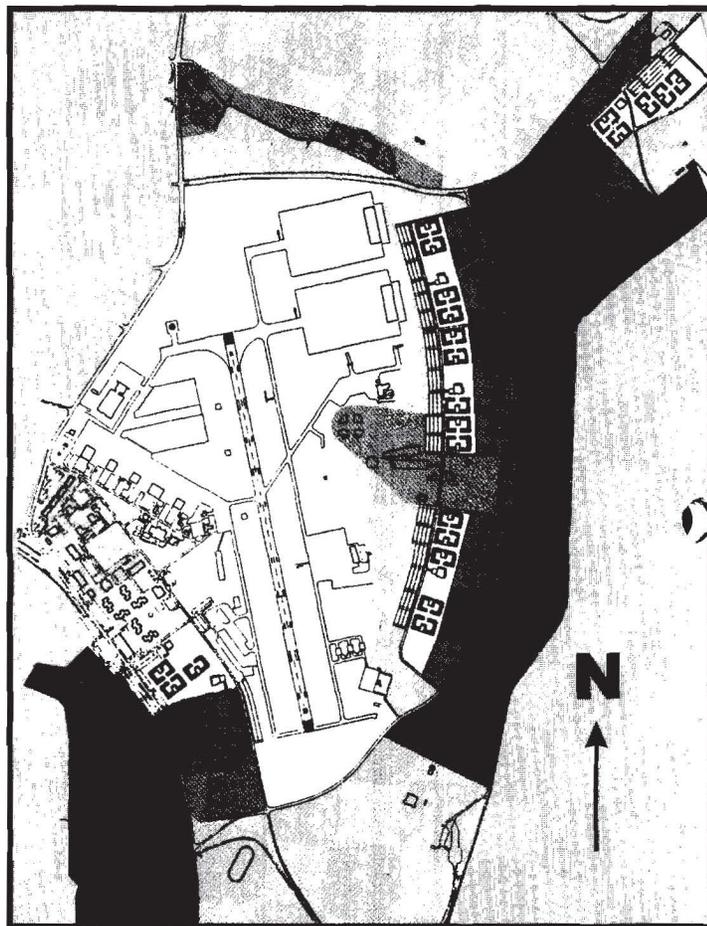
A FORSCOM Barracks Revitalization Alternatives Study, completed in February 1993, demonstrated that it is more cost effective to replace the type of barracks in the division area rather than to renovate them to the new Army standard, with the exception of barracks built in 1976. The whole barracks renewal program at Fort Lewis envisions replacing existing inadequate facilities in the division area in phases. The overall site plan is shown in Figure 16. Detailed discussion of the master plan for the division area is contained in the Fort Lewis Division Area Master Plan Study, June 1994.

Gray Army Airfield:

Gray Army Airfield consists of a north/south 6250' runway, associated fixed and rotary wing hangers, airfield operations facilities, a simulator facility and a hot refuel facility. It is located to the east of the garrison area. It is lined on both sides by troop units (division area). Training areas underlie the majority of the controlled airspace south of the runway, and family housing and transportation facilities underlie the controlled airspace to the north.

The existing facilities meet or exceed all currently identified requirements except for a fixed fuel facility.

The primary area for expansion of facilities in the event new hangars are needed, is on the north side of Pendleton east of the runway.



LAND USE	COLOR
BARRACKS	[Dark Gray Swatch]
ADMINISTRATION	[Light Gray Swatch]
MAINTENANCE	[Medium Gray Swatch]
COMMUNITY	[Dark Gray Swatch]
OPEN SPACE	[Light Gray Swatch]
AVIATION	[Light Gray Swatch]

Figure 16 (above): Division area land use

Miller Hill

Miller Hill comprises about 300 acres of undeveloped green space in the middle of the cantonment area. There are minor intrusions of family housing along the west end of the hill, the David L. Stone Education Center sits along the southern boundary of the hill and there are recreational trails throughout the area. However, except for water storage and communications facilities, there has been no development of the interior portions of Miller Hill. Because it serves as a bridge between habitat areas in the training areas and wetlands to the North, development needs to be sensitive to protecting that use.

New Madigan Area:

The New Madigan Army Medical Center (MAMC), comprising 1.2 million square feet of hospital and clinic space, was completed in 1992. A 30,000 square foot addition was built in 1993 to house missions transferred to Fort Lewis under base realignment and closure (BRAC). The area surrounding new MAMC provides land for future expansion of medical center and related missions.

Medical and dental facilities which provide direct support to soldiers may be sited in troop unit areas in accordance with the land use plan.

Old Madigan Area:

The original Madigan Army Medical Center was built in this area in 1942. Demolition of unused portions started in 1993. Demolition will continue as facilities are vacated. The area occupied by old Madigan and adjacent areas comprise about 125 acres and abuts four different major land uses. Of the facilities remaining on the site, only the Fisher House, a visitors' lodge which supports Madigan Army Medical Center, is of enduring value. The existing barracks, family housing, gym, theater, and other support facilities are in need of major renovation to greatly extend their useable life. Given this fact, and the adjacency to multiple land uses, no new construction is planned in this area until a major requirement is identified which requires a significant portion of the available space and is compatible with adjacent land uses.

Figure 17(below): The New Madigan Army Medical Center was completed in 1992



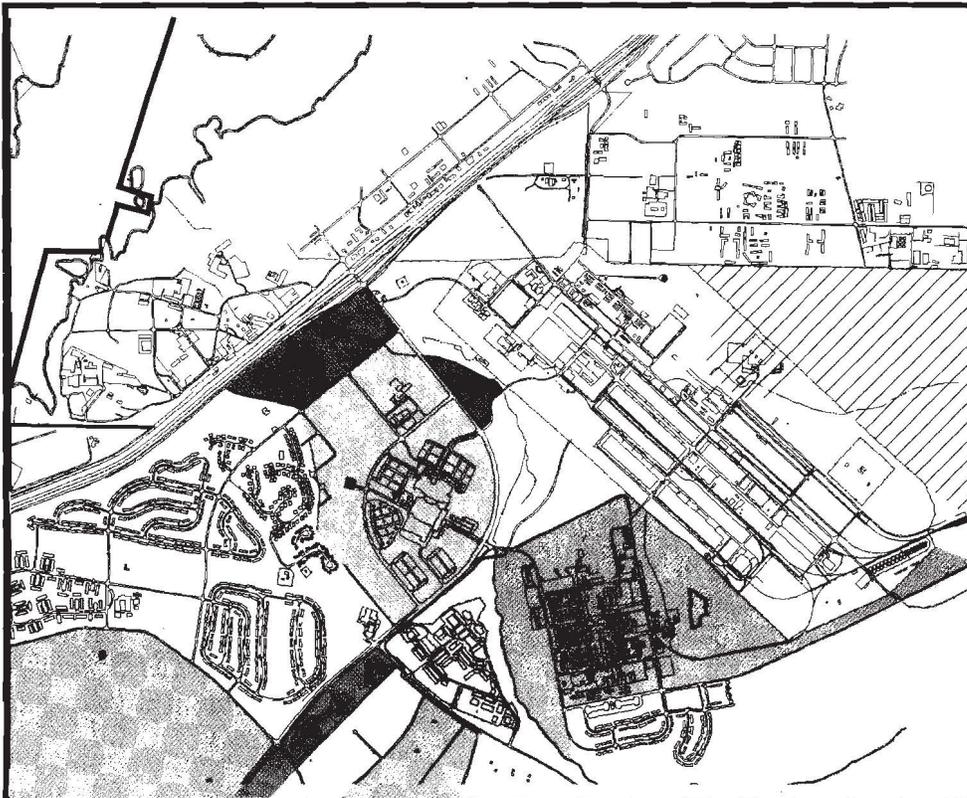
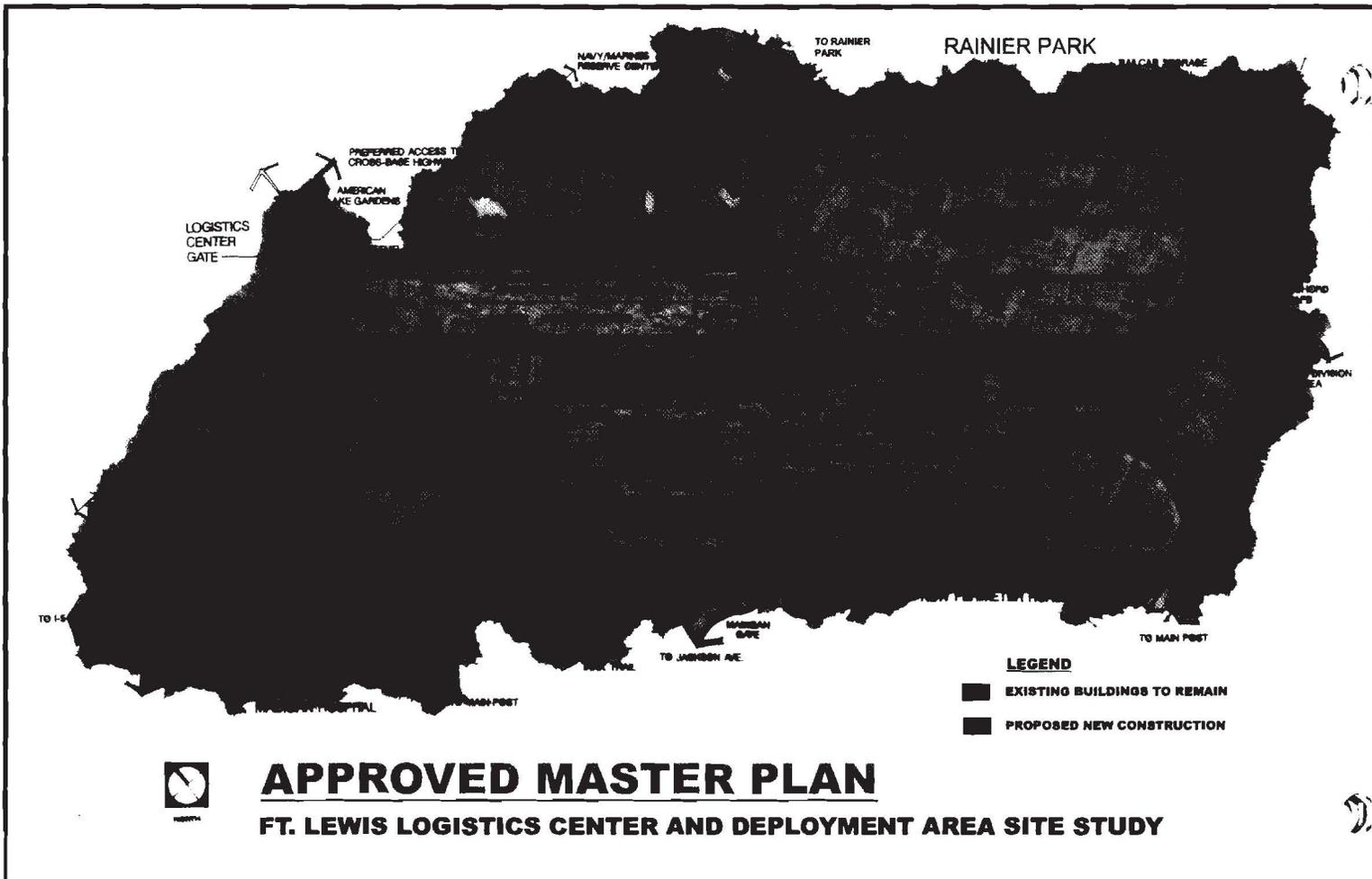


Figure 18: Land uses of the Eastern portion of the cantonment area.

AREA NAME	COLOR
ADMINISTRATION	[Solid Black]
TRAINING	[Diagonal Lines]
FAMILY HOUSING	[Horizontal Lines]
MEDICAL	[Stippled]
BARRACKS	[Vertical Lines]
INDUSTRIAL/DEPLOYMENT	[White]
COMMUNITY	[Cross-hatched]
OPEN SPACE	[Dotted]

Figure 19 (below): Artist's rendering of the Logistics Center and Deployment Area



Logistics and Deployment Center:

The logistics center, originally established as Rainier Ordnance Depot, encompasses maintenance, transportation, deployment and storage facilities for the installation and major tenant activities.

No significant land use changes are projected for this area; however, significant improvements and expansions are envisioned over time as the army shifts its focus from a strategic concept of forward based forces to one of power projection.

The Logistics Center & Deployment Area Site Plan Study completed in early 1995 examined the logistics center and the deployment process in detail, and then developed a conceptual master plan.

The plan provides separation between installation logistics and deployment functions, identifies traffic circulation and process improvements for deployment related functions, and allows for simultaneous support to deployment, mobilization, sustainment and installation operations. The plan ensures that redevelopment can occur without displacing any activities until a new facility is in place.

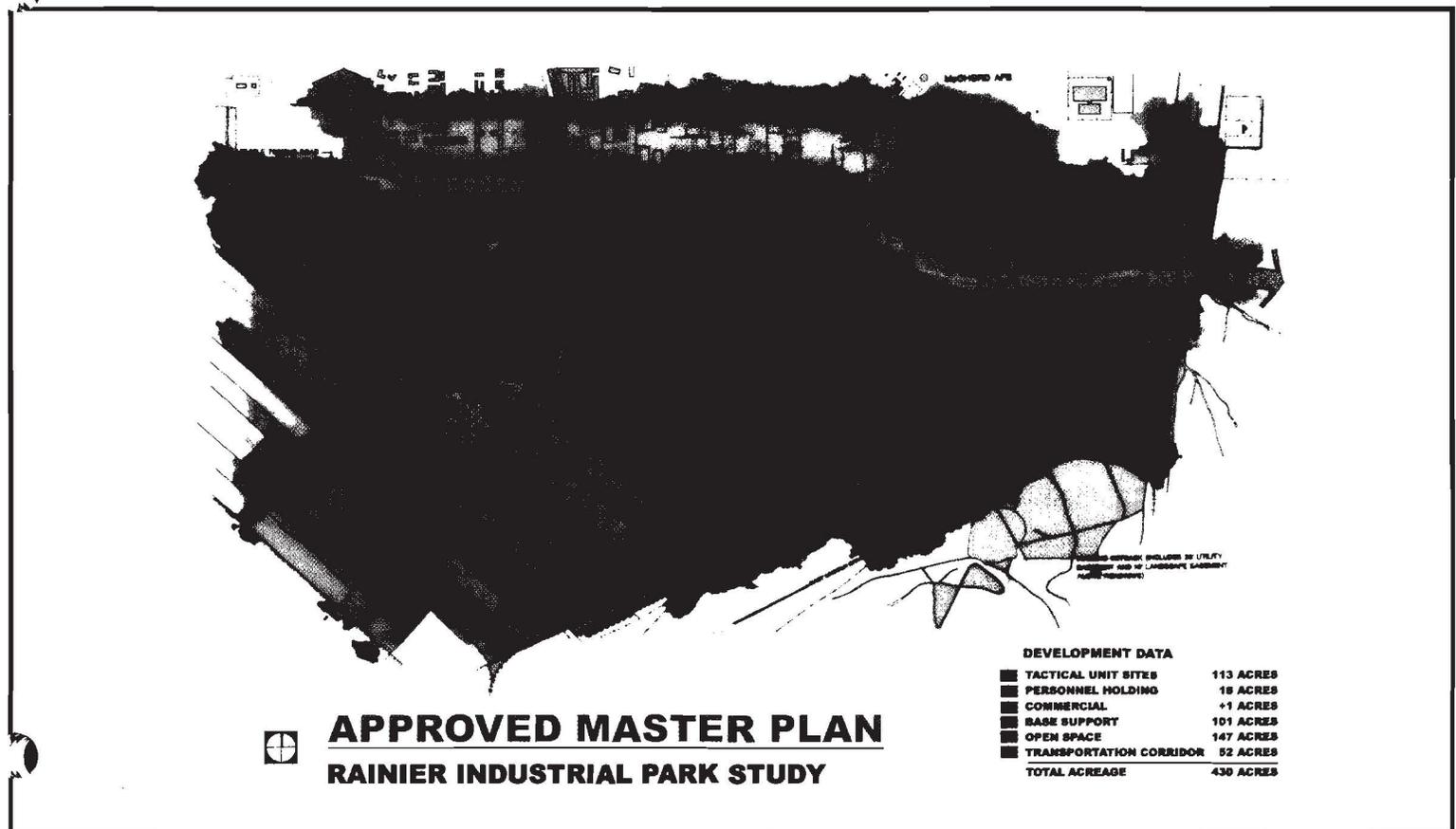
Rainier Park:

A new concept in the installation master plan is the designation and development of a reserve area for Department of Defense tenant industrial and administrative activities. The objective is to provide an orderly basis for allocating increasingly scarce buildable land to organizations having a legitimate need to locate facilities on Fort Lewis and simultaneously be able to quantify expected utilities construction costs to potential tenants. Figure 20 shows the area divided to accommodate reserve and national guard armories as well as light industrial land uses such as those normally associated with agencies such as the Defense Logistics Agency (DLA), the Army and Air Force Exchange System (AAFES), and the Defense Commissary Agency (DeCA).

The plan also allocates space for convenience commercial services, isolation facilities for deployment, and billeting for Reserve, National Guard and other transients who are currently provided space in World War II vintage wood facilities.

A study to establish and define the area provides a road map that allows tenant activities and reserve units to know up front what utilities and infrastructure they need to include in design of major construction projects in order to ensure continuity and coherence as development progresses.

Figure 20: Artist's rendering of the Rainier Park



INVESTMENT STRATEGY

Based on the factors already outlined, the Army Long Range Facilities Plan, FORSCOM priorities and projected force structure, the investment strategy of the installation consists of the following major elements:

- Develop part of North Fort into a troop complex for Corps and selected tenant units with an initial capacity of 1400 barracks spaces;
- Renovate the existing division area by replacing or modernizing existing substandard facilities and extending the division area up Jackson Avenue;
- Convert garrison area barracks, headquarters and motor pools into administration and community support facilities;
- Develop a training support campus concentrating simulation facilities and training support activities along Railroad Avenue;
- Redevelop the logistics center to integrate state of the art maintenance, storage, material handling, deployment and transportation facilities into an industrial area which supports ongoing maintenance and logistics activities and power projection simultaneously;
- Actively and continuously pursue improved utilization and creative reutilization of existing structures and facilities in order to meet bonafide facilities requirements and master planning goals and objectives through other than Major Construction, Army (MCA), funded programs;
- Achieve revitalization of utilities systems by integrating modernization and replacement of utilities into major construction projects when possible, and by seeking opportunities to share the cost of utilities development with local agencies and businesses;
- Incorporate range modernization into the program on a continuing basis to keep ranges consistent with new technologies,
- Provide for construction needs of present and potential tenants by designating an area for industrial development and providing a logical basis for expansion within that area.
- Integrate non-appropriated fund (NAF) community support activities with the overall framework of the master plan. 





TRANSPORTATION STRATEGY

The installation transportation goals related to vehicular traffic are:

1. Establishing an installation wide tactical and industrial vehicle network with minimal intersections with non-tactical traffic networks. This includes creating a connecting and improved tank trail between Transmission Line Road and the Logistics Center.
2. Establishing at least two unrestricted vehicle routes between North Fort and Main Post.
3. Establishing a POV transportation corridor from the Madigan Exit on I-5 down Jackson Avenue, over Colorado Avenue to Pendleton and the DuPont City

Center Exit (Exit 119)

4. Extending the Railroad Avenue corridor to provide a link from DuPont/Steilacoom Road to East Gate Road.
5. Developing areas near the Main Gate and the Madigan gate to link the installation with regional surface transportation systems including buses and, eventually commuter rail.
6. Improving existing rail and retaining a corridor for re-establishing rail service to North Fort should the need arise.

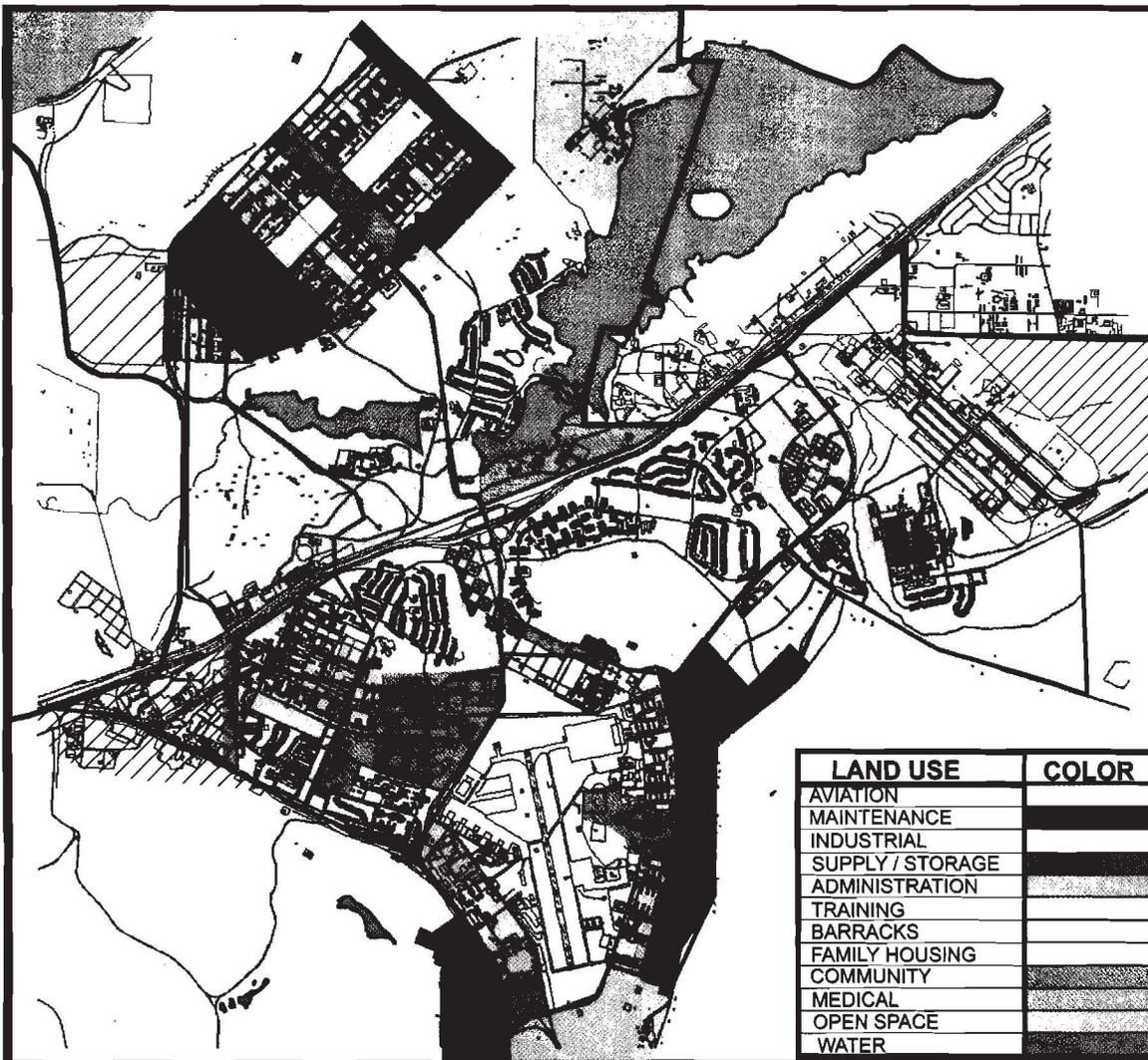


Figure 22 : Fort Lewis Transportation Plan

P

OWER PROJECTION

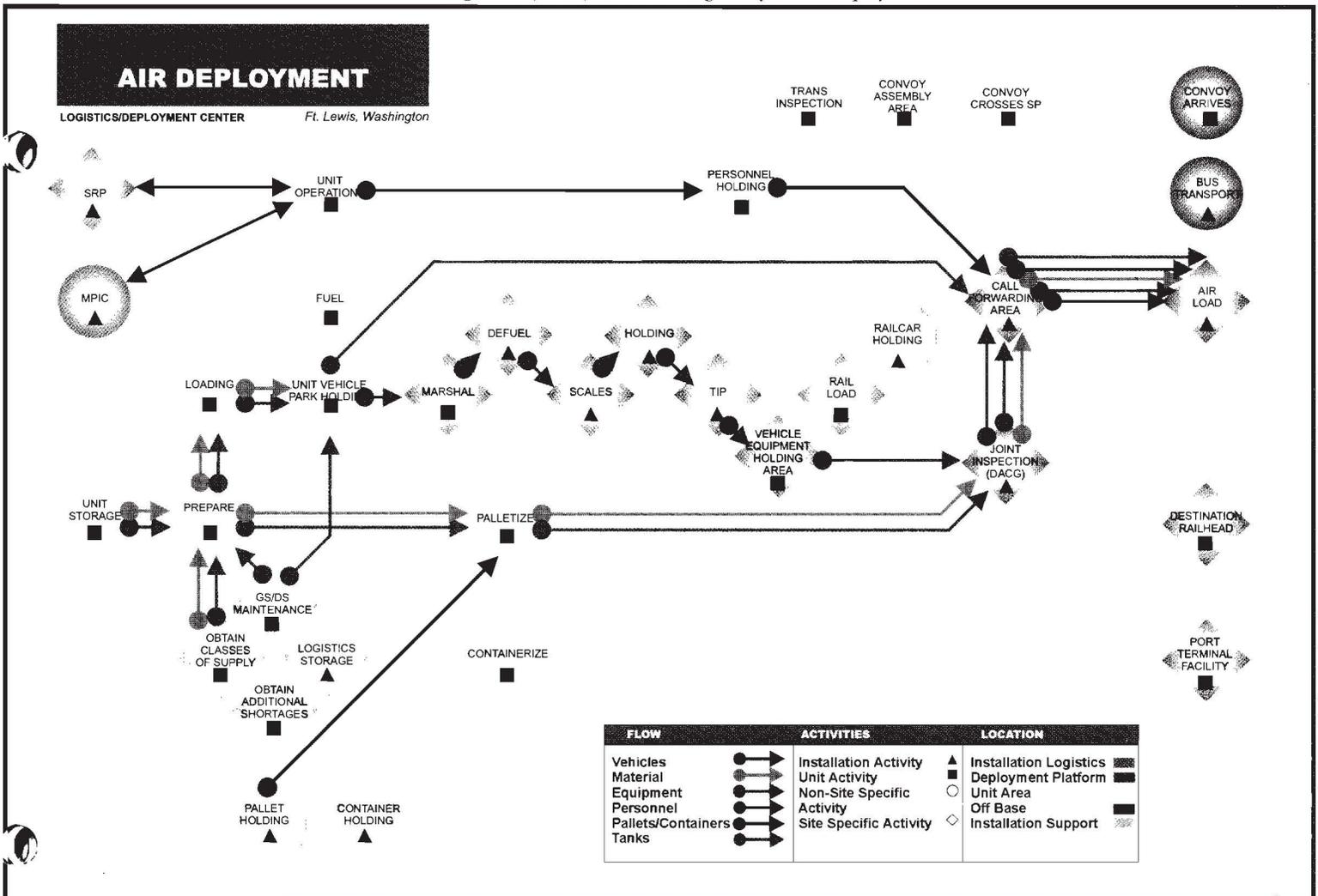
The ability to support the POWER PROJECTION process is a key capability for Army Bases in the post Cold War Strategic environment. Power projection is not simply an event and it is more than just deployment. Power projection is the process by which the forces are mobilized, deployed, sustained in a theater of operations, redeployed and prepared for future operations.

For movements by air, Fort Lewis has access to McChord Air Force Base without leaving DOD property. In addition, the Seattle-Tacoma International Airport, Boeing Field in Seattle and Paine Field in Everett provide multiple ports of aerial debarkation capable of handling all aircraft currently used for troop and equipment

transport. Seattle Tacoma International Airport also provides excellent passenger connections to destinations throughout the United States and the world.

Sea ports are equally accessible, with the port of Tacoma as a primary port of debarkation. Through arrangements with Port Authorities, space is allocated for military movements. The provisions which have been established should be more than adequate to meet any scenario, but if conditions require, deep water ports are available in Olympia, Seattle, and the Navy Home Port in Everett.

Figure 24 (below): Process Diagram of an Air Deployment



Fort Lewis has excellent access to commercial rail facilities. Existing facilities allow for rail loading to occur either in the Logistics Center or the Division Area. An existing corridor for rail also exists to North Fort. Although there are currently no requirements for service to this area, rail service could be redeveloped along this corridor if the need exists.

The Logistics and Deployment Center Master Plan Study lays out a long range plan to expand the capabilities of the Logistics Center rail system to allow simultaneous arrival of mobilizing units and departures of deploying units. An area is also set aside for containerization of vehicles which will be moved by rail to port for further movement by sea to the designated area of operations.

Fort Lewis is well situated to move units by surface convoy to either to sea or our ports or to provide disaster relief within the region. The road network also provides ready access to Yakima Training Center and other training areas in the West.

The Logistics Center is the backbone of power projection with facilities for storing, maintaining and shipping equipment and material.

Future development plans allow for growth to accommodate simultaneous support to deployment, mobilization and sustainment of deployed units while providing continuing support to units and activities which remain on station.

Figure 25 (below): A unit prepares to depart from Fort Lewis.



FORT LEWIS "COME to the FORCE":

Being a home to the force is more than a roof overhead. It is a commitment to constantly improving quality of life with the limited resources available.

Fort Lewis has family housing units for over 3500 families. A program of modernization and, when necessary, replacement is used to keep abreast of the changes in the needs of American families authorized family housing. Fort Lewis' proximity to major metropolitan areas translates to an ample supply of housing off post available for rental or sale.

Community facilities are concentrated in a centrally located commercial district which provides retail sales, recreational activities, transient housing, youth services and more. An education center, located near the community center, provides a wide variety of opportunities for soldiers and family members to take part in technical, undergraduate and graduate programs.



*Figure 26 (above): One of 32 four and five bedroom housing units built in 1994
Figure 27 (below): Cowen Stadium is a multi-sport complex*



S

ingle Soldier Initiatives:

Single Soldier Initiatives:

As the Volunteer Army enters its third decade, the leadership of the Army has made a major commitment to improve quality of life for single soldiers. A primary area of concentration is construction of new barracks designed to meet a higher standard than ever before. This decision has changed the playing field for planners.

Two key factors have allowed soldier housing to reshape the master plan. First, the decision to remove company administration from barracks had made it possible to design barracks with a more distinctly residential perspective. Second, a commitment to providing a reasonable amount of livable space for soldiers, their personal belongings and their automobiles has doubled the amount of land it takes per soldier to provide adequate housing.

These two factors make new construction a more cost effective method than renovation of existing facilities to achieve the Army's goals. Consequently, the issue of land use and distribution of troop unit areas is open for reconsideration. New barracks standards include a number of amenities intended to provide a quality of life that is more comparable to that afforded to married soldiers of equal rank.

The standards are based on room modules of at least 118 square feet of net living space, two walk in closets of at least 20 square feet each, a bathroom, telephone and cable TV receptacles, and an area for limited food preparation and storage.

In addition, each barracks building will have a core support facility with a laundry room, kitchen, TV room, activities room, bulk storage and individual mail lock boxes. Site planning considerations include providing adequate parking and open space for recreation and relaxation.

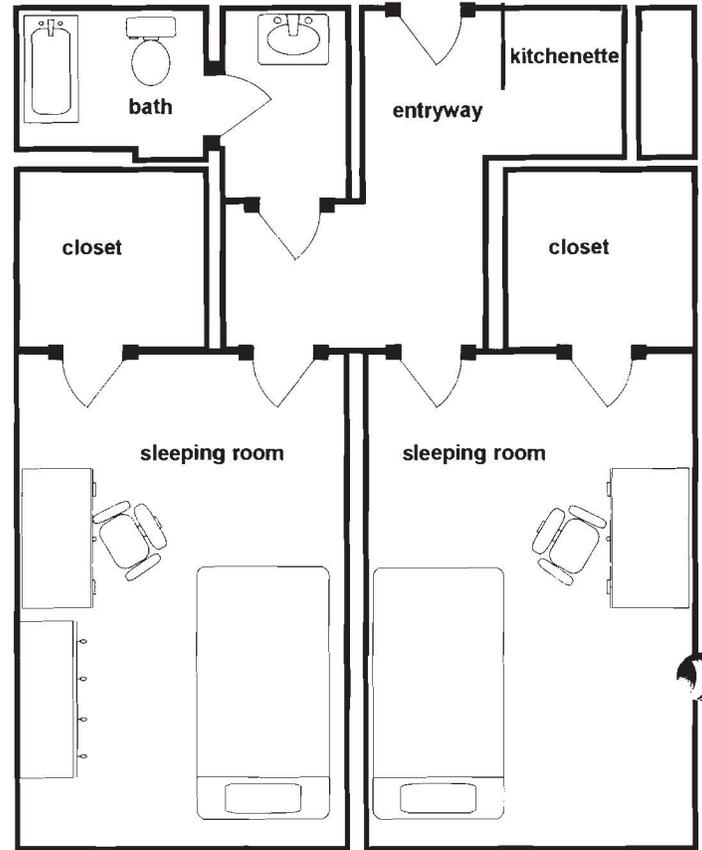
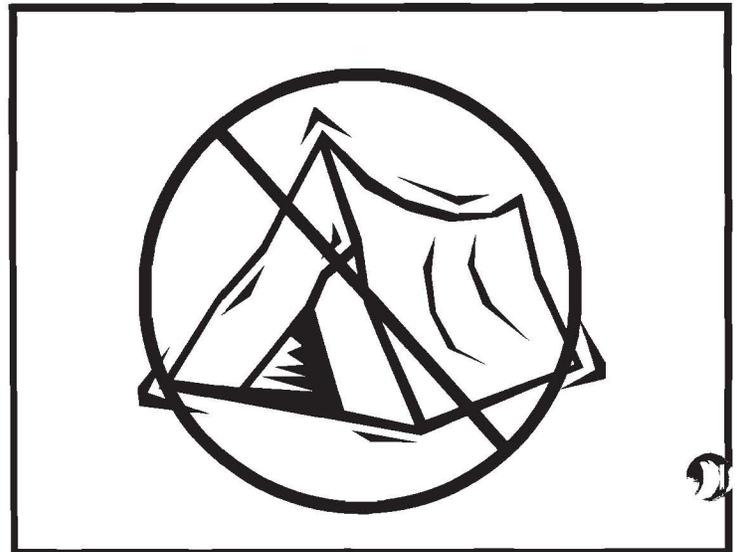


Figure 28 (above): Typical room module for new barracks at Fort Lewis



RAINING THE FORCE:

Figure 29: Numerous training activities occur on Fort Lewis



Training the Force:

Perhaps the most important key to readiness is training. Although the master plan does not address the training areas outside of the cantonment in detail, the plan addresses the need to have adequate support facilities properly placed to serve the greatest number of customers with the maximum convenience.

The training support campus located in the garrison area, which was addressed earlier, is one key to making Fort Lewis trainer friendly. Concentrating Range Control, Training Aids Support, Battle Simulations, Close Combat Tactical Trainers, Miles Maintenance and Storage and other high volume services to trainers at a site equidistant between North Fort and the Division Area and adjacent to the major maneuver area on Fort Lewis is a key development envisioned in the master plan.

The Real Property Master Plan also considers the long term impacts of communications and computer technologies as they become increasingly integrated into the way the army trains and operates. Plans and designs assume major advancements in these technologies and attempts to anticipate their impacts in every aspect of planning from utility corridors to building design. The goal is to ensure that facilities being built or renovated are capable of absorbing new technologies with minimal costs, especially as it relates to remote participation in training simulation or other networked training opportunities.



Y

AKIMA TRAINING CENTER

In addition to an array of forests and prairies within the boundaries of the installation proper, Fort Lewis has access to a number of sub-installations which provide a variety of alternate training conditions. The most significant of these is Yakima Training Center. It is the combination of Yakima Training Center and Fort Lewis, that makes it one of the Army's premier installations.

Yakima Training Center (YTC), consisting of over 320,000 acres, has ranges which support the training and qualification requirements of all weapons systems normally associated with a heavy division.

Like Fort Lewis, a tradition of environmental stewardship at YTC has kept training viable while ensuring that cultural resources and habitat for sensitive species are preserved. Aggressive environmental

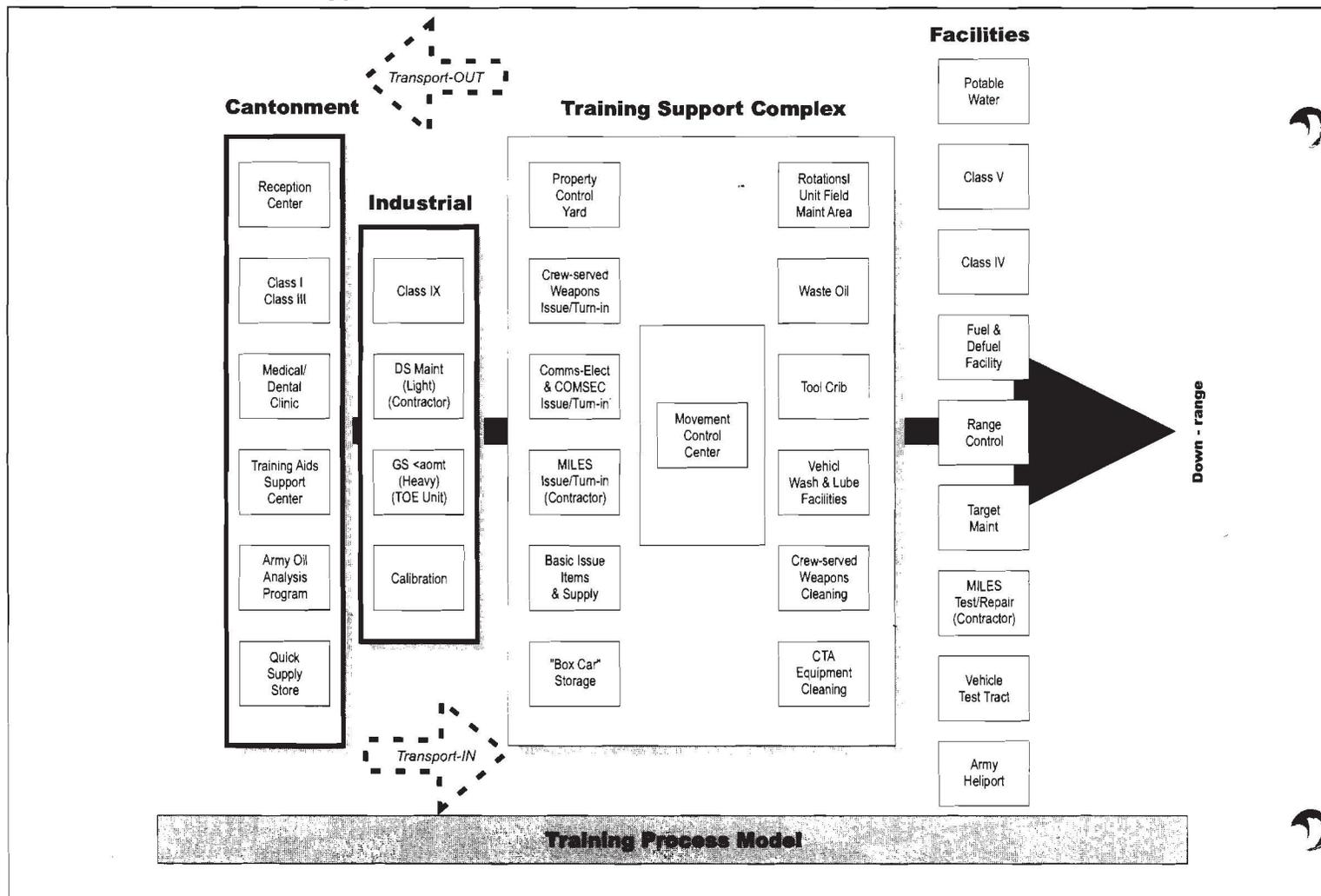
programs continue to ensure that YTC will remain a first rate training area. Rotation of maneuver corridors, construction of hardened bivouac sites and construction and maintenance of roads preserve the vegetation and prevent erosion in maneuver areas and are examples of the environmental program.

Figure 30 (above): YTC provides a unique training opportunity in Eastern Washington

Figure 31 (below): The YTC Training Support Model

Figure 32 (right): Armor Maneuvers at Yakima Training Center

Figure 33 (Far right): Site development plan for a major training area with equipment concentration site at YTC



YTC

MASTER PLAN

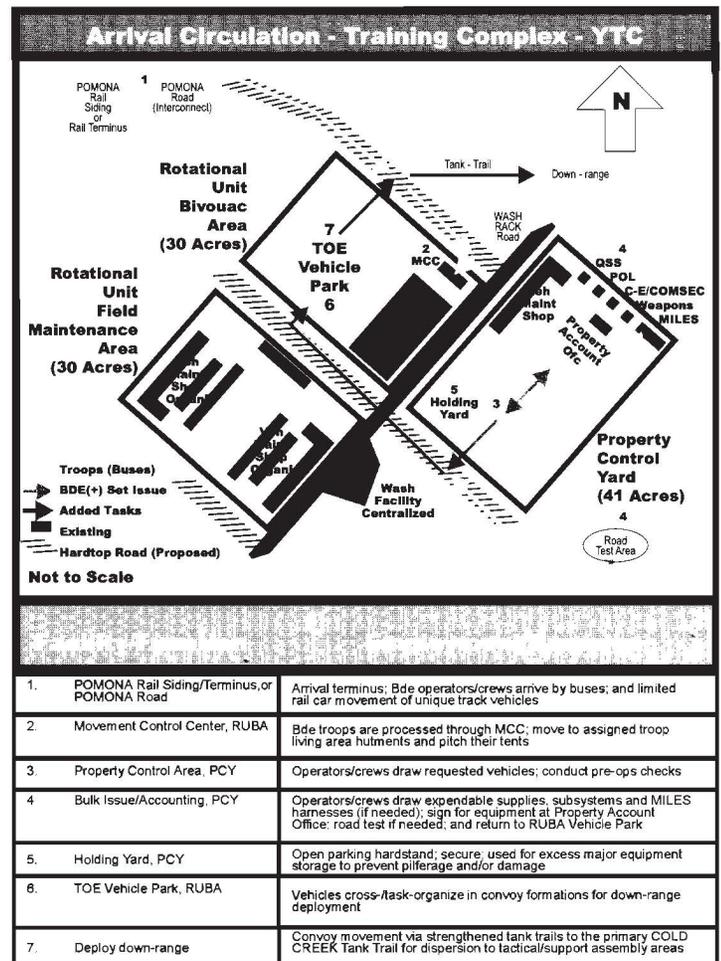
Master Planning is usually force structure driven, but since there are only a limited number of troops at YTC on a full time basis, an approach different from Fort Lewis was used to ensure that current and future needs of the training center can be met in a logical, orderly fashion.

To accomplish this, a training support model was developed which identified tasks and activities performed by units between the time a unit arrives at YTC to the time they move down range. These activities were then grouped by whether they provided exclusive support to training units, or general support to active, reserve and garrison organizations at YTC.

The model was then applied to three potential levels of development:

1. units arriving by road and rail from Fort Lewis,
2. an equipment concentration site (ECS) supporting Fort Lewis units only, and
3. YTC as a FORSCOM or Army training center supporting units from throughout the United States to include an equipment concentration site (ECS) with capabilities similar to a National Training Center.

A site development plan was then developed which identifies relationships between activities and relative locations for everything needed to support the highest level of development. This allows siting of facilities over time in a way that will meet current needs while reserving sufficient land in the proper locations to support future growth and mission changes.



YTC

LAND USE PLAN

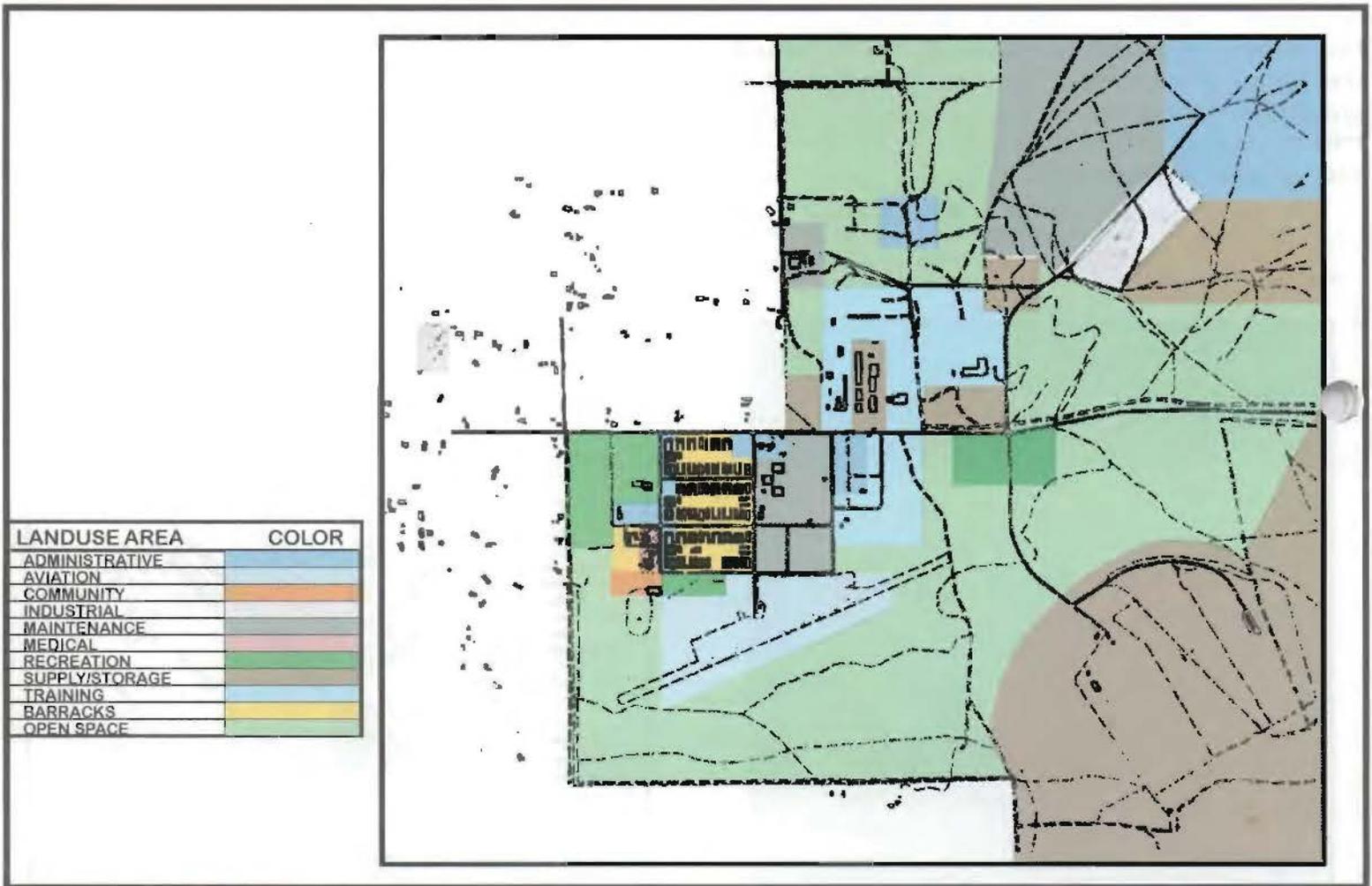


Figure 34: Land use at YTC.

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APPENDIX C ARMY REGULATION 210-20

Army Regulation 210–20

Installations

Real Property Master Planning for Army Installations

**Headquarters
Department of the Army
Washington, DC
16 May 2005**

UNCLASSIFIED

SUMMARY of CHANGE

AR 210-20

Real Property Master Planning for Army Installations

This major revision, dated 16 May 2005--

- o Changes the title of the Assistant Secretary of the Army for Installations, Logistics, and Environment to Assistant Secretary of the Army for Installations and Environment (para 1-4a).
- o Establishes the responsibilities and business relationships for real property master planning between the U.S. Army Corps of Engineers and the Assistant Chief of Staff for Installation Management, Installation Management Agency; the Installation Management Agency regions; the Army National Guard; the Army Reserve; senior mission commanders; garrison commanders; directors of public works, and other tenant units; and tenant organizations and supported activities (paras 1-4c through 1-4n).
- o Defines the responsibilities of the Director, Installation Management Agency (para 1-4g).
- o Identifies the 10 Federal Regions (para 1-4g(12)(a)).
- o Defines the real property master planning responsibilities of the Installation Management Agency regions (para 1-4h).
- o Defines the responsibilities of the senior mission commander (para 1-4j).
- o Defines the real property master planning responsibilities of mission commanders and commanders of other assigned units and supported activities (para 1-4m).
- o Establishes the requirement to address privatization of utilities and other base operations services during the master planning process (para 2-4a(3)).
- o Restores the responsibility for preparing and maintaining installation real property master planning maps, collecting, and analyzing other contributing information to the garrison director of public works real property master planning staff (para 2-4b(2)).
- o Establishes and defines the installation real property master plan digest (para 3-2a(1)).
- o Requires the use of automated planning tools and office automation applications (para 3-2a(2)).
- o Integrates the installation status report and the focused facility strategy with the real property master planning process (para 3-2a(2)(e)).

- o Introduces the concept of land use controls into the real property master planning process (para 2-2g).
- o Introduces and defines the concept of sustainable design and development into the real property master planning process (para 2-6e).
- o Introduces and defines the installation design guide (para 3-2c(1)).
- o Modifies the contents of the short-range component (para 3-2e).
- o Eliminates the requirement for the mobilization component (paras 3-3a).
- o Requires a formal environmental assessment of any real property master plan (para 3-5a).
- o Introduces force protection as a concern in real property master planning.
- o Changes installation commander to garrison commander.
- o Incorporates appendix C to establish and define sustainable design and development.
- o Rescinds DA Form 2369-R, DA Form 2369-1-R, and DA Form 2369-2-R.

Effective 16 June 2005

Installations

Real Property Master Planning for Army Installations

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:



SANDRA R. RILEY
Administrative Assistant to the
Secretary of the Army

History. This publication is a major revision.

Summary. This regulation defines the real property master planning concept and requirement and establishes policies and responsibilities for implementing the real property master planning process for Army communities. These communities include Army installations and other off-post sites to include U.S. Army Accession Command units, Reserve Component activities, Army-owned research organizations, and significant leased sites and complexes. It specifies responsibilities for real property master plan development, approval, maintenance, update, and implementation and continues the requirement for installation to have real property planning boards and emphasizes the vital relationship between environmental planning, sustainable design and development, sustainable range planning and real property master planning. It defines the installation

real property master plan digest as a component of the real property master plan. It integrates real property master planning with the installation status report, the focused facility strategy, land use controls, and the core sustainable range program elements (the Range and Training Land Program and Integrated Training Area Management Program), the range and training land strategy, integrated natural resources management plan, and integrated cultural resources management plan processes.

Applicability. This regulation applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

Proponent and exception authority. The proponent of this regulation is the Assistant Chief of Staff for Installation Management. The Assistant Chief of Staff for Installation Management has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The Assistant Chief of Staff for Installation Management may delegate this approval authority, in writing, to a division chief within the proponent agency or a direct reporting unit or field operating agency of the proponent agency in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity

and forwarded through higher headquarters to the policy proponent. Refer to AR 25–30 for specific guidance.

Army management control process. This regulation contains management control provisions but does not identify key management controls that must be evaluated.

Supplementation. Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from Assistant Chief of Staff for Installation Management, Headquarters, Department of the Army (DAIM–ZS), 600 Army Pentagon, Washington, DC 20310–0600.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to the Assistant Chief of Staff for Installation Management, Headquarters, Department of the Army (DAIM–ZS), 600 Army Pentagon, Washington, DC 20310–0600.

Distribution. This publication is available in electronic media only and is intended for command levels C, D, and E for the Active Army, the Army National Guard, and the U.S. Army Reserve.

*This publication supersedes AR 210–20, dated 30 July 1993, and AR 210–70, dated 31 December 1984, and rescinds DA Form 2369–R, DA Form 2369–1–R, and DA Form 2369–2–R.

Contents (Listed by paragraph and page number)

Chapter 1

Introduction, *page 1*

Purpose • 1-1, *page 1*

References • 1-2, *page 1*

Explanation of abbreviations and terms • 1-3, *page 1*

Responsibilities • 1-4, *page 1*

Chapter 2

Real Property Master Planning Process, *page 5*

Overview • 2-1, *page 5*

Real property master planning and the Planning, Programming, Budgeting, and Execution process • 2-2, *page 6*

Purpose • 2-3, *page 6*

Real property master planning process • 2-4, *page 7*

Spatial data and real property master planning • 2-5, *page 9*

Results • 2-6, *page 9*

Considerations for the environment, sustainable design and development, historic preservation, and natural resources • 2-7, *page 10*

Intergovernmental coordination • 2-8, *page 10*

Chapter 3

The Real Property Master Plan, *page 11*

Overview • 3-1, *page 11*

Components • 3-2, *page 12*

Mobilization component • 3-3, *page 14*

Contributing information and plans • 3-4, *page 15*

Environmental documentation • 3-5, *page 16*

Submission and approval • 3-6, *page 16*

Maintenance and revision • 3-7, *page 17*

Project siting • 3-8, *page 17*

Land use change requests • 3-9, *page 18*

Chapter 4

The Real Property Planning Board, *page 18*

Establishment • 4-1, *page 18*

Functions • 4-2, *page 18*

Composition • 4-3, *page 19*

Meetings • 4-4, *page 19*

Appendixes

A. References, *page 20*

B. Master Planning Functions for Installation Enterprise Geographic Information System, *page 23*

C. Sustainable Design and Development, *page 24*

Table List

Table 3-1: Typical contributory information and plans, *page 15*

Table 3-2: Guidelines for submission of RPMP documents, *page 16*

Table B-1: Typical real property master plan geographic information system data themes, *page 23*

Figure List

Figure 2-1: Real property master planning process, *page 7*

Glossary

Chapter 1

Introduction

1–1. Purpose

a. This regulation establishes and prescribes the Army’s real property master planning process. It establishes the objectives and purpose of real property master planning and its relationship to the Planning, Programming, Budgeting, and Execution (PPBE) process.

b. It assigns responsibilities and prescribes policies and procedures relating to the development, content, submission, and maintenance of a real property master plan (RPMP) at all levels of command.

c. It explains how the RPMP—

- (1) Establishes the foundation for real property management and development.
- (2) Reflects the goals, objectives, plans, and real property requirements of all units and organizations assigned to or supported by an installation.
- (3) Provides the framework for analyzing and justifying real property sustainment (maintenance and repair) resource allocations.
- (4) Helps justify real property construction, improvement, and development in accordance with Headquarters, Department of the Army (HQDA) programming guidance and focused investments (such as focused facility strategy (FFS) and the Range and Training Land Strategy).
- (5) Provides management with the capability to ensure the efficient acquisition, utilization, and disposal of real property assets.
- (6) Identifies requirements and alternatives for resolving real property deficiencies and excesses.
- (7) Provides information for the orderly closure, disposal, and establishment of land use controls for installations.
- (8) Provides the strategic capability for ensuring installation sustainability into the future through direct support of mission readiness and installation integration into regional planning. Through effective use of an RPMP, future challenges and requirements can be proactively identified and mitigated or solutions programmed well before they become problems, thus ensuring installation sustainability. The RPMP is an important element of the installation strategic planning process.

1–2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1–3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

1–4. Responsibilities

a. The Assistant Secretary of the Army for Installations and Environment (ASA (I&E)) is responsible for Army policy, program direction, and oversight for real property master planning at Army installations.

b. The Assistant Secretary of Army for Acquisition, Logistics, and Technology (ASA(ALT)) is responsible for assuring that vehicle and weapons systems design criteria are coordinated with and communicated to the Assistant Chief of Staff for Installation Management (ACSIM) and Commander, U.S. Army Corps of Engineers (USACE) to ensure full integration with facilities design criteria early in the concept phase and throughout the vehicle/weapons systems design phase.

c. The ACSIM will—

- (1) Develop real property master planning guidance and procedures in accordance with Army policy.
- (2) Program, budget, and distribute funds, track resources, and monitor program performance for all existing and future real property master planning and associated policies, programs, systems, and initiatives Army wide.
- (3) Establish and conduct meetings of a real property planning and management steering committee to develop guidance, monitor the status, and measure the performance of both real property and RPMP programs and initiatives.
- (4) Manage the FFS program.
- (5) Provide policies and resources for RPMP training courses and workshops.
- (6) Establish Geographic Information System (GIS) guidance, procedures, and standards for the development of master planning maps, tools, software applications, and data; coordinate all garrison GIS support efforts through the Installation Management Agency (IMA) and the National Guard Bureau (NGB); and program and fund resources for its implementation.
- (7) Maintain a list of points of contact for real property master planning matters. including the name, grade, office address, telephone number, and e-mail address of the individuals.
- (8) Publish and distribute the Army Stationing and Installation Plan (ASIP).
- (9) Develop and publish real property allowance analysis guidance and procedures.

- (10) Establish intergovernmental coordination guidance in accordance with Department of Defense (DOD) Directive 4165.61 to be executed by the IMA.
- (11) Develop guidance on the real master planning aspects of force protection for design and construction of facilities and the development and operation of installations in order to ensure compliance with the Unified Facilities Criteria (UFC) 4-010-01. This applies to new construction and renovation projects and leased facilities. The Office of the ACSIM (OACSIM), Plans and Operations Division (DAIM-ZS) and Facilities Directorate (DAIM-FD) will be notified when criteria will not be met.
 - d. The Chief of Engineers (COE) will—
 - (1) Integrate Department of the Army (DA) real property master planning policy and procedures with COE real estate responsibilities and procedures.
 - (2) In coordination with ACSIM, establish and publish facility design criteria used during the preparation and update of RPMPs and real property master plan digests (RPMPDs) as requested.
 - (3) In coordination with ASA(ALT) and ACSIM, establish and publish facility designs and criteria for new Army equipment and vehicle/weapons systems.
 - (4) Publish and maintain master planning instructions (MPI) and associated technical guidance. MPI and guidance will be coordinated with the ACSIM and the Director, IMA.
 - e. The Commander, USACE will—
 - (1) Provide technical assistance in the development and maintenance of RPMPs and RPMPDs.
 - (2) Monitor the quality and timeliness of real property master planning support being provided by supporting USACE divisions and districts.
 - (3) Be prepared, if requested by IMA through a Memorandum of Agreement, to develop executing instructions for the USACE divisions to manage an intergovernmental coordination program.
 - (4) Provide guidance and procedures in accordance with Army policy to all USACE districts and divisions to ensure facility designs and sitings prepared by them comply with UFC 4-010-01 as prescribed in Military Standard (MIL-STD) 3007.
 - f. Commanders of major Army commands may, if desired—
 - (1) Review the RPMPs of installations on which their MACOM units are assigned to ensure unit and organization missions are adequately supported and provide feedback to the Army Staff proponent and to the appropriate garrison commanders, IMA regions, and designated IMA staff representative.
 - (2) Provide an associate member to the real property planning boards (RPPBs) of installations at which their units are located.
 - g. The Director, IMA will—
 - (1) Implement the Army real property master planning policies and guidance.
 - (2) Determine levels of detail requirements for RPMP components at each installation in the region. RPMPs will have all components unless otherwise approved by the IMA.
 - (3) Ensure IMA regions have adequate trained staffing to review and approve installation RPMPs, assure compliance with Army real property master planning policy and guidance, and provide garrison commanders with planning support.
 - (4) Serve as the HQDA clearing house for questions and inquiries on real property master planning.
 - (5) Review the RPMP program annually and provide a report to the ACSIM. The report will include the status of each Active Army and AR garrison's RPMP components, date next update is required, and resource/operating requirements.
 - (6) Conduct staff assistance visits.
 - (7) Provide assistance, if requested, to garrison commanders during the development or update of installation RPMPs by—
 - (a) Reviewing the scopes of work for RPMP contracts.
 - (b) Providing input to the architect-engineer contractor selection process for contracted RPMP work.
 - (c) Participating in in-process reviews of RPMPs during development.
 - (8) Provide guidance for preparation and perform reviews of planning and space utilization studies, facilities and real estate acquisition programming, facility reduction plans, base realignment or stationing actions, environmental cleanup, and base closure plans.
 - (9) Program and provide adequate resources for Active Army and Army Reserve (AR) garrisons to prepare and maintain RPMPs.
 - (10) Ensure that major repair, minor construction, military construction, and real property acquisition, cleanup, and disposal projects are consistent with, and portrayed in, the installation RPMPs.
 - (11) Establish, implement, and maintain a GIS in compliance with the Army Enterprise Architecture, including hardware and software, down to the installation level, that will support RPMP management as well as comprehensive regional planning capabilities and HQDA strategic planning.
 - (12) Establish and maintain an Army intergovernmental coordination management program for coordinating Army

real property planning and construction projects with interested Federal, State, and local governmental agencies. The program includes—

(a) Assisting USACE and DOD Federal Region liaison representatives in preparing cooperative agreements with State and other governmental agencies.

(b) Executing intergovernmental coordination with applicable Federal Regions to ensure that issues among the services, States, other Federal agencies, or local authorities are resolved. Issues not resolved will be sent through IMA (SFIM-OP), Taylor Building, Crystal City, VA, to HQDA, ATTN: DAIM-ZS, 600 Army Pentagon, Washington, DC 20310-0600.

(c) Maintaining records of all intergovernmental coordination activities in accordance with Army Regulation (AR) 25-400-2. Refer to the Army Records Information Management System records retention schedule located at <https://www.arims.army.mil/trsranew/trsrch.asp> to determine the proper disposition. Records types include—

1. Federal, State, and local agency comments and requests for information.
2. Reviews.
3. Determinations, to include decisions to withhold information.
4. Recommendations.
5. Programs.
6. Memorandums of Understanding (MOUs).

(13) Ensure that adequate resources are available for garrisons to prepare and maintain RPMPs and that garrison commanders commit the resources to real property master planning.

(14) Provide a list of IMA and IMA Region real property master planning points of contact to the HQDA, ATTN: DAIM-ZS, 600 Army Pentagon, Washington DC 20310.

(15) Develop real property master planning technical criteria, guidance, and procedures.

(16) Development and conduct training courses and workshops on real property master planning.

(17) Establish and manage career mentorship, professional training, and development and certification programs for real property master planning personnel at all levels of command.

(18) Ensure all Force Protection policy and guidance are applied and enforced for design, development, and operations of installations. Notify OACSIM, Plans and Operations Division (DAIM-ZS) when compliance is not possible.

h. The Director, IMA Region will—

(1) Serve as the advocate for the garrison commander's real property master planning resource needs and support.

(2) Provide centralized Master Planning program execution to implement DA policies and programs.

(3) Approve real property master planning documentation as directed by the IMA.

(4) Develop and implement Region unique master planning policies and programs.

(5) Review and provide support for stationing/restationing analysis and studies.

(6) Review and approve or recommend changes to project siting or re-siting requests or land use change requests submitted by garrison commanders as designated by the IMA.

(7) Ensure that garrisons are responsive to tenant activities, real property master planning, and real property requirements.

(8) Assist garrisons in establishing, recording, and tracking Land Use Controls (LUCs) for contaminated land not restored to original condition, e.g., former firing ranges, munitions and chemical storage areas, and hazardous material sites.

(9) Provide an associate (nonvoting) member to the installation RPPBs of supported installations.

(10) Designate a point of contact for real property master planning matters. The name, grade, office, telephone number, and e-mail address will be sent to IMA (SFIM-OP), Taylor Building, Crystal City, VA.

i. The garrison commanders (includes area support group commander and Army Reserve Regional Readiness Command (AR RRC)), in consultation with the designated IMA staff, will—

(1) Budget for and ensure adequate staffing and/or contract support is available to prepare, maintain, and review the installation RPMPs.

(2) Establish, convene, chair, and maintain the records of the installation RPPB in accordance with AR 25-400-2.

(3) Ensure that real property acquisition, construction, facility reduction and disposals, and unit realignment actions are included in and are consistent with the installation RPMP.

(4) Submit the installation RPMP and prioritized military construction (MILCON) project list endorsed by the senior mission commander, to the designated IMA staff for approval. AR Regional Readiness commanders will submit the list to IMA-Army Reserve Division (ARD) for approval.

(5) Review the installation RPMP annually and provide the designated IMA staff a report of present status, required changes, updates, and resource requirements. AR Regional Readiness commanders will submit the report to IMA-ARD.

(6) Ensure that all real property needs, to include those of tenant units and supported activities, are known and

provided for in the installation RPMP. This requirement is particularly important for activities that prepare and submit planning, programming, and budgeting documentation through separate channels, utilize separate funding sources, or utilize private sector and contributed funds. This includes AR requirements on Active Component (AC) installations.

(7) Ensure RPMP documents comply with the requirements for intergovernmental coordination. For those installations within the National Capital Region, such coordination will be accomplished in accordance with procedures in AR 415-15 and the published submittal requirements of the National Capital Planning Commission and the U.S. Commission of Fine Arts.

(8) Ensure the garrison, or AR RRC, is GIS capable in accordance with the Army Enterprise Architecture.

(9) Maintain accurate regional, vicinity, and installation assets and planning maps in GIS format along with associated tabular data such as, but not limited to, the real property inventory (RPI), ISR data, and focused facility strategy input. Real property GIS data (such as spatial representations of buildings and the installation boundaries) will be stored in the Army RPI database of record.

(10) Participate in the architect-engineer selection boards for RPMP contracts.

(11) Implement and maintain automated GIS systems for mapping, drafting, and performing real property planning and programming tasks. This may be regionalized when more efficient and cost effective as determined by higher headquarters. All systems must comply with the Army Enterprise Architecture.

(12) Manage the assignment and utilization of space within facilities as it impacts real property master planning (see also AR 405-45 and AR 140-483).

(13) Manage installation land area usage including training lands.

(14) Review DD Forms 1391 that are prepared for MILCON or other-funded facility construction/acquisition projects on the installation for conformance with the RPMP, FFS, and ISR and facility criteria, and approve and release the electronic forms to higher headquarters.

(15) Verify that the ASIP properly reflects authorized force structure for all assigned units, organizations, and activities.

(16) Name a point of contact for the intergovernmental coordination management process and provide the designated IMA staff with the name, office symbol, telephone number, address and e-mail address. AR Regional Readiness commanders will furnish the information to IMA-ARD.

(17) Implement an intergovernmental coordination management process in accordance with IMA guidance. Using the established intergovernmental coordination management process, communicate with MACOMs and appropriate USACE engineer divisions to provide and obtain current information on activities that may affect the installation and its tenant organizations. Obtain or include in the communications, any MOUs with the State(s) involved, State review processes, and other pertinent documentation.

(18) Cooperate with local community planning groups by providing information, policy, and position statements on unclassified installation programs and activities to concerned agencies in accordance with AR 25-55 and AR 360-1.

(19) Participate in meetings of the appropriate Joint Services Reserve Component Facility Review Board (JSRCFRB) (see also para 2-8e).

(20) Communicate, coordinate, and execute reasonable efforts to limit encroachment both inside and outside the installation.

(21) Ensure compliance with all policy and guidance for force protection to include UFC 4-010-01.

(22) Establish a strategic real property master planning team with the garrison real property master planner as the lead. The team will assure that real property and population data used in preparation of the installation RPMP or the conduct of studies and analyses dealing with unit stationing or realignment, mission changes and their impacts on installation real property requirements and resources, and installation management are accurate. Sources for these data are the ASIP, Real Property Planning and Analysis System (RPLANS), Integrated Facilities System (IFS), and, for the NGB, Planning Resource for Infrastructure Development and Evaluation. The team will also assist in the preparation of the ISR and Strategic Readiness System. Team oversight and guidance will be provided by, and the team will provide support to, the installation RPPB.

Note. The garrison commander responsibilities listed above may be modified as directed by the Chief, Army Reserve (CAR) and IMA, subject to the Active Army concurrence, to allow for AR organizational, policy, and operational variations.

j. The senior mission commander will—

(1) Review the installation RPMP and the recommendations of the installation RPPB to ensure all tenant units' organization missions are adequately supported and projects are properly prioritized.

(2) Endorse both the installation RPMP and prioritized list of both Operations and Maintenance, Army (OMA) funded projects requiring higher headquarters approval and garrison support MILCON projects for submission to the designated IMA staff for approval.

(3) Approve and submit the prioritized list of mission support MILCON projects to the designated IMA staff.

(4) Chair the installation executive planning board, which oversees and provides guidance to the installation RPPB.

k. The CAR will advise the Army Chief of Staff on AR matters and serve as the Commander of the U.S. Army Reserve Command. For the purposes of this regulation, the CAR is also considered a MACOM commander with

responsibilities similar to those in paragraph 1–4g, subject to modification as the CAR and the IMA deem necessary to allow for organizational, policy, and operational variations. The CAR will develop and execute AR plans, policies, and programs and administer AR personnel, operations, and construction funds. The CAR, through the IMA–ARD, will identify all land and facility requirements to support inactive duty for training and active training.

l. The Chief, NGB will establish National Guard priorities and policies to support the commanders of the unified combatant commands, services, and states/territories. The Chief will also—

(1) Determine requirements, timelines, and resources for real property development plans (RPDPs) and assign responsibilities for their preparation.

(2) Ensure that adequate staffing is available at NGB state and national headquarters to review RPDPs prepared by states, territories, and the District of Columbia. Ensure RPDPs are prepared in compliance with prescribed policies and guidance.

(3) Ensure adequate resources are provided to support state-level planning efforts and monitor how the states, territories, and the District of Columbia utilize such resources to prepare and maintain RPDPs.

(4) Validate RPDPs and long-range construction programs submitted by States, territories, and the District of Columbia.

(5) Ensure that real property acquisition, construction, and disposal projects of States, territories, and the District of Columbia are consistent with and included in the RPDPs.

(6) Assist states, territories, or the District of Columbia when necessary during the development of the RPDPs.

(7) Establish facility criteria for all Army National Guard (ARNG) requirements (see National Guard Regulation (NGR) 415–10 and NG Pamphlet (Pam) 415–12).

(8) Coordinate automated real property systems with those of HQDA to assure data compatibility and transferability.

(9) Ensure that states, territories, and the District of Columbia are utilizing GIS to perform real property master planning and are compatible with the Army Enterprise Geographic Information System (EGIS) by following Army policies, standards, and guidance.

m. The mission commanders and commanders of other assigned units and supported activities will—

(1) Provide input and ensure that the installation RPMP will support assigned missions and functions.

(2) Identify all real property requirements to support their missions to the garrison master planner. This action is particularly important for tenant activities that prepare and submit planning, programming, and budgeting documents and receive resources through separate channels or for organizations that utilize private sector and contributed funds to acquire and operate their facilities.

(3) Provide a voting member to the installation RPPB.

n. The RPPB will—

(1) Monitor development of the installation RPMP and make recommendations to garrison and senior mission commanders.

(2) Ensure all real property master planning requirements for all missions, organizations, and activities on the installation and within the supported area are addressed and recorded. Ensure the installation RPMP is maintained accordingly.

(3) Ensure that installation architectural and design themes comply with the installation design guide (IDG) and adjudicate variances and conflicts. The installation RPPB will review and forward requests for waivers of IDG standards to the IMA region director for approval.

(4) Recommend the priorities for garrison project funding to the garrison commander and senior mission commander as appropriate.

(5) Monitor potential surrounding community encroachment on the installation and integrate into the RPMP real property planning alternatives to mitigate the impacts. Advise the garrison commander of actions that may be taken to avoid or minimize the impacts of encroachment such as fostering a joint land use study (JLUS).

Chapter 2

Real Property Master Planning Process

2–1. Overview

a. Army installation garrison commanders are the mayors of small cities. As such, they are the directors, influencers, and implementers of present challenges and future change. They must create a vision and a blueprint that enable their installations to respond to future Army missions and community aspirations, while providing and maintaining the capability to train, project, sustain, and support today's force.

b. The garrison commander must develop business practices to build enduring, sustainable, and continually improving quality communities and training lands that support mission readiness. They must establish their installations as valued neighbors and trusted partners with surrounding communities. Installations must be recognized as examples of excellent environmental stewardship enhancing the environment for future generations through sustainable design and

development. Such quality installations can be achieved by effective use of resources that are guided by the near-term and long-range real property investment goals and objectives of HQDA, the MACOMs, the IMA, and local mission commanders.

c. The Army must have a physical plant (to include its ranges and training lands) that fully supports the mission of the tenants and provides an overall environment of quality and protection for the force necessary for national security. The garrison commander's instrument for unifying planning and programming for installation real property management, development, and associated services is the master planning process. This process will be recorded in an installation RPMP. Properly developed, an RPMP will chart a long-term investment strategy for achieving the garrison commander's goals for providing excellent installation physical plants and training lands while supporting the Army's vision for current and future missions.

d. A well-prepared RPMP expresses a long-term commitment to provide high-quality, sustainable, enduring installations. It covers a 20-year planning horizon and provides the map to executing that commitment. It is a major describer of the garrison commander's Installation Sustainability Program and Sustainable Range Program venues to identify and accomplish long-term goals that ensure future mission accomplishment with the least impact on the installation and regional communities. Additionally, the RPMP provides the garrison commander's strategy for meeting the challenges of operating under changing paradigms. These paradigms include antiterrorism and force protection; reduced manpower and resources; executing base realignments and closures; and shifting appropriate base operations (BASOPS) functions from the government to the private sector.

2-2. Real property master planning and the Planning, Programming, Budgeting, and Execution process

Installation real property master planning is based on the assigned installation missions and guidance contained in a variety of plans and other documents. These references, many of which are elements of the Planning, Programming, Budgeting, and Execution (PPBE) process, establish trends, strategies, force structure, programs, and resource requirements upon which planners base long-range and short-term plans. Typical guidance documents are:

- a.* Commander's Guide: Installation Standards.
- b.* AR 210-14.
- c.* AR 200-1.
- d.* AR 200-2.
- e.* AR 200-3.
- f.* AR 200-4.
- g.* The Army Strategy for the Environment.

2-3. Purpose

An RPMP is the roadmap to ensure installation real property master planning is proactive to long-term mission requirements. The purpose of real property master planning and an RPMP is to—

a. Establish a vision and future direction for efficiently managing, acquiring, or reducing real property at Army installations in order to support the current mission, transformation, and management processes.

b. Establish a mission-oriented installation, which may be in the battle space of the future, that can react effectively to contingencies and still present a secure, high-quality environment.

c. Provide soldiers, their families, civilians, retirees, and other users of an installation with the highest quality facilities attainable.

d. Establish a framework for installation management to review allocation of limited resources that affect, or are affected by, the use of real property assets. This allows the review of alternatives such as privatization, enhanced use leasing, land swaps, or public/private ventures.

e. Determine real property deficiencies and identify priorities and potential solutions.

f. Coordinate real property master planning activities with local community development.

g. Identify sustainability issues, activities, and actions that may have significant mission or environmental impacts.

h. Minimize turbulence in resource programming by coordinating and integrating all real property related plans and proposals with approved departmental and command plans and initiatives creating one comprehensive decision support document.

i. Support PPBE process programs and other DOD and non-DOD funding initiatives that deal with acquiring, managing, maintaining, privatizing, cleaning up, closing, and disposing of real property facilities, infrastructure, and land. This support is provided by comparing existing real property to projected real property needs and other developmental or operational activities.

j. Ensure that installations have the carrying capacity to support assigned missions and have the capabilities to accommodate mission expansion or installation reconfiguration/realignments within existing boundaries.

k. If required, ensure that garrison commanders are capable of executing well-planned, orderly, base realignment, cleanup, and closure activities to include establishing LUCs.

2-4. Real property master planning process

a. Real Property master planning is a continual, collaborative, and integrated process, primarily performed at the installation level, reflective of mission requirements, yet strongly influenced by the plans, guidance, and initiatives of higher headquarters. An installation RPMP is, therefore, the principal real property management tool in support of overall installation real property operation, management, development, privatization, realignment, cleanup, and disposal.

(1) The process involves collecting, mapping, and evaluating planning information; integrating mission requirements; performing a set of analyses; and conducting extensive coordination, staff reviews, and deliberations.

(2) The process culminates with approval by the designated IMA staff, or IMA-ARD for AR facilities, as recommended by the installation RPPB and endorsed by the senior mission commanders. The execution of this process will be recorded and illustrated in an installation RPMP (see fig 2-1).

(3) The process provides a means for effective and orderly sustainable facility design and installation development that support the mission, real property management, local community/installation land use zoning, privatization, base realignment, and cleanup and disposal of Army installation land and real property facilities.

(4) The results of the process are the analyses and integration of real property master planning interests of tactical mission and BASOPS functional areas, other garrison staff and tenant organizations, higher headquarters, and surrounding civilian communities in an installation RPMP.

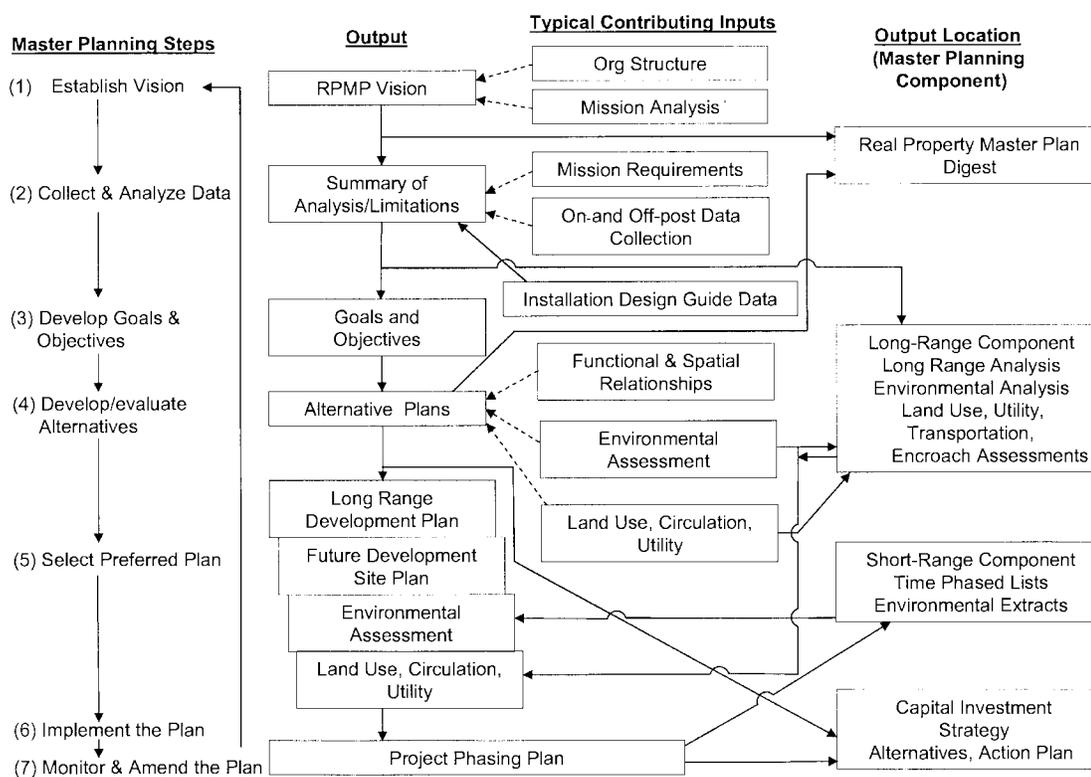


Figure 2-1. Real property master planning process

b. The general steps or procedures that will be followed in the real property master planning process are—

(1) *The commander's vision for operating, maintaining, and developing the installation.* Establishing and understanding the commander's vision/mission statement is the first step in the real property master planning process. The commander's vision statement defines how the installation's mission will be supported currently and in the future. Understanding the installation mission is required to identify principal mission objectives and activity types, such as the support, training, administration, and production necessary to carry out the mission. Installations units and organization and their relationship to installation missions will be identified. The ASIP database will be consulted to determine planning strengths and to identify and quantify the supported population, including assigned troop units, tenant

activities, community support organizations, and supported populations (for example, military dependents and retirees and contractors authorized Government space). Desired end-state results will be identified that will make the installation a quality living and working environment providing the necessary support to accomplish assigned missions while complementing surrounding communities planning and development objectives. The vision/mission statement must also address functional relationships among activities and facilities to be reflected in the installation RPMP. From this information, issues and opportunities for operating and developing the installation will be identified. The commander's vision/mission statement must be clearly spelled out in an RPMPD.

(2) *Data collection and analyses.* Data collection and analyses are sequential steps. Three major types of data are collected and analyzed: off-post data, on-post data, and mission requirements.

(a) Off-post data collection and analyses will be collected and analyzed to identify regional and vicinity conditions that affect the installation. Existing regional and vicinity maps and data will be reviewed for impacts. Regional transportation systems (roads, railroads, commuter mass transit systems, airports) socioeconomic conditions, demographic patterns, and community land use and planning will be analyzed. Assessments of community services, land leases/easements, and Federal support services will be included.

(b) On-post data consisting of existing natural and manmade conditions, including potential limitations to future development, will be collected and analyzed. The natural environment, particularly those elements that may create significant limitations on operation or construction of buildings, roadways, utility systems, runways, training ranges, or other facilities, will be evaluated, along with geology, soils, topography, hydrology, vegetation, and wildlife. The human environment, including the historical and archaeological setting, current and forecasted demographics, military community services, outdoor recreation areas, training ranges, and maneuver areas, will be analyzed. Elements that contribute to safety and health on the installation will be identified, and existing land use patterns to identify spatial relationships and land availability will be analyzed. Land use areas according to principal activities will be categorized.

(c) Mission requirements data to establish land and facility support requirements will be collected and analyzed and compared against on- and off-post data analyses to establish limitations and conditions that directly affect the installation's ability to carry out its missions. Real property inventories or surveys establishing both gross and net square footage of facilities will be collected or conducted. Existing land use and land use restrictions will be analyzed. Installation-specific and headquarters driven plans and planning guidance will be collected and analyzed. This information is integral to an RPMP and provides the basis for developing future development plans. The information will be maintained as part of the long-range component (LRC) either by direct incorporation or by reference.

(3) *Goals and objectives.* Specific goals and objectives for future installation development to provide guidance for developing planning alternatives and standards for the evaluation of those plans will be identified. Rational for selection of specific goals and objectives is based on consideration of installation mission and analysis of on- and off-post conditions, as follows:

(a) Installation design themes and standards, including defined land use and sustainable development considerations, will be defined.

(b) Developmental opportunities and constraints will be identified, described, and mapped, to include infrastructure assurance, force protection environmental attributes and constraints, and encroachment considerations in coordination with community planning agencies, groups, businesses, and affected individuals. These will be defined in the installation RPMPD.

(c) By means of frequent and extensive coordination, site visits, integration of mission requirements described in other contributing documents, and staff reviews, actual real property requirements will be identified, quantified, and tabulated to resolve deficiencies and excesses and to meet nonstructural needs. (Some examples of nonstructural needs include ranges and training areas, privatization of various BASOPS functions; land and natural resources management practices; improved facility utilization; installation cleanup actions; LUCs; actual or potential land/maritime encroachment; cross boundary environmental issues such as air or noise pollution).

(d) Departmental and other headquarters guidance and official facility allowance criteria (quantified in the Army Criteria Tracking System (ACTS)) will be applied to the force structure and supported population to determine and tabulate facility, land, and other real property allowances to support the installation population and assigned missions.

(e) All collected or computed data will be analyzed and goals and objectives adjusted appropriately to establish a viable RPMP. The goals and objective will be recorded in the installation RPMPD.

(4) *Alternatives.* Functional and spatial relationship concepts, tempered by the reality of existing facility locations and the off-post and on-post environment, will be reviewed. Alternatives depicting the long-range development of the installation, including arrangement of functional land use areas, circulation, and utility systems, will be developed.

(a) Alternatives will address new mission requirements; improvements to, replacement of, or relocation of existing mission support facilities; and implementation of installation design standards.

(b) Alternatives must evaluate projects for impacts on conditions, installation support capabilities and environmental impacts.

(c) Each alternative may be based on a theme or point of emphasis to allow comparisons and tradeoffs.

(d) Various alternatives will be defined and evaluated to satisfy deficiencies, eliminate excesses, and satisfy structural and nonstructural needs.

(e) Nongovernmental construction or shared cost/benefit alternatives, such as privatization, enhanced use leasing, public/private ventures, and so on, should be considered first, before introducing military construction as the solution. Leasing facilities (off-post or brought on-post) may be a cost-effective option particularly for short-term requirements. The alternatives will be presented to the installation RPPB for discussion and decision before the recommended solution becomes part of both the LRC and the RPMPD.

(5) *The preferred plan.* The preferred long-range development plan will be selected from the alternatives. The long-range future development site, land use, circulation, and utility service plan elements of the LRC will be refined to reflect all physical systems that support the installation. The various facility requirements will be translated into building “footprints,” utilizing appropriate siting considerations. Short-term stopgaps and recommended long-term solutions will be identified to satisfy land use and real property requirements. These solutions will be reflected in the area development plans of the installation RPMPD and the LRC. The Environmental Assessment will be revised as necessary, to include analysis of the anticipated environmental impacts of implementation of the long-range plan; identification of appropriate mitigation measures; and documentation of the results. From the site plan, a project phasing plan will be developed that shows short-range facility requirements. The project phasing plan will be reflected in the short-range component (SRC) of the installation RPMP and the Capital Investment Strategy (CIS).

(6) *Plan implementation.* Utilizing the project phasing plan as a primary reference, programming documentation for individual projects and other actions will be prepared for prioritization by the garrison commander/RPPB for garrison support projects and by the senior mission commander for mission specific projects, and for approval by the IMA designated staff representative and HQDA. (Specific approval procedures are covered in AR 415–15). Necessary project special approvals will be obtained when required before making regular program submissions (see para 3–8d for special approval procedures). The major projects resulting from the planning process are submitted through channels to HQDA for prioritization and programming as part of the Program Objective Memorandum (POM).

(7) *Monitoring and amending the plan.* The installation RPMP will be revised and updated as installation change dictates, as it is a living document. As the world political situations change and the Army evolves, so will our installations. The challenge will be to maintain them as excellent deployment platforms. The semiannual meetings of RPPBs will be used to introduce new ideas and make adjustments to existing RPMPs. All components of an RPMP will also be thoroughly reviewed and updated at least every 5 years.

c. AN RPMP will be submitted for senior mission commander endorsement and forwarded by the garrison commander to the designated IMA staff for approval.

d. An RPMP will be maintained and updated as changes occur; revisions and amendments will be submitted as required.

e. Higher headquarters, affected units, organizations, individuals, and off-post agencies and interest groups will be involved throughout the entire process, in accordance with AR 25–55 and AR 360–1.

2–5. Spatial data and real property master planning

a. Spatial data are required to perform functions within real property master planning. Much of these data are created by other functional areas and accessed by the real property master planner. Data collected and/or created while doing real property master planning consist of data required across multiple functional areas and spatial data documenting the installation regional physiographic, demographic, and political setting. Typical spatial data themes supported by real property master planning are listed in appendix B.

b. Spatial data collected and/or created while doing real property master planning must adhere to common standards. Data must follow the Spatial Data Standards for Facilities, Infrastructure, and Environment and be documented with metadata according to Federal Geographic Data Committee standards and Executive Order (EO) 12906, as amended by EO 13286.

c. Spatial data and applications developed and used by the garrison master planner must be shared and integrated into an installation EGIS in accordance with Army guidance.

d. Spatial information access and capabilities are the core to performing master planning at all DA levels. Spatial information will be made available to installations for land use planning; management and installations will share all spatial data through the IMA to HQDA for regional and strategic planning.

2–6. Results

Performing the real property master planning process creates a coordinated and well thought out implementable plan to achieve a desirable military community in which to live and serve that will meet functional mission and future operational requirements. It also results in—

a. Providing timely and correct planning information and real property support for installation missions, thus facilitating informed decision making at all levels of command.

b. Promoting cooperative and interactive interservice and intergovernmental relationships.

c. Observing and incorporating infrastructure assurance, antiterrorism, and force protection principles, criteria, and considerations.

d. Identifying, protecting, and enhancing natural, cultural, and environmental resources while supporting mission

requirements; identifying environmental compliance issues and environmental consequences of actions; and demonstrating good stewardship of the environment. This will embody the systematic consideration of current and future environmental impacts of an activity, product or decision, energy use, natural resources, the economy, and quality of life.

e. Supporting and encouraging sustainable design and development. It is Army policy that the concept and principles of sustainable design and development will be incorporated into installation planning and infrastructure projects. Planning should promote the "greening of Government" concepts outlined in EOs 13101, 13123, 13148, and 13149. The goal is to satisfy mission requirements while maintaining a safe, healthy, and high quality environment for current and future generations. Each Army garrison will protect and enhance the installation environment, its natural resource base, and the functions and viability of natural systems without impairing mission accomplishment. Use of nonrenewable resources must be minimized while use and development of renewable resources promoted.

f. Providing justification and scoping for all programs involving real property acquisition, design, and construction; real property management; real property sustainment (maintenance and repair); and disposal of land and facilities.

g. Maintaining an accurate audit trail of real property master planning and real property decisions, decisionmakers, and installation development.

h. Ensuring efficient and compatible land use and maximizing facility utilization.

i. Ensuring effective management and cleanup/disposal of actively used or excess real property, to include establishment, recording, and tracking of land use controls.

j. Accomplishing the privatization of family housing, utilities, and services where appropriate.

k. Sustaining ranges and training areas to meet training and testing missions consistently and for the long term.

2-7. Considerations for the environment, sustainable design and development, historic preservation, and natural resources

a. The real property master planning process will embody the goals and objectives of the National Environmental Policy Act (NEPA) section 4321, Title 42, United States Code (42 USC 4321), with emphasis on environmental awareness, public review of planning proposals that do not compromise security, sustainable design and development, historic sites and buildings, and archeological and natural resources. The RPMP planner will conduct a formal environmental assessment in accordance with NEPA in conjunction with developing an RPMP. All planning proposals that are reflected in the installation RPMP will be analyzed for potential environmental effects. Optimally, planning proposals should be "tiered" (footnoted or referenced) to the RPMP NEPA documentation. An RPMP Environmental Assessment (EA) or Environmental Impact Statement (EIS) will serve as the basis for all subsequent environmental assessments for the installation. The installation RPMP and the environmental documentation will take into account the cultural and historic resources of the installation. When historic properties are involved, planning will comply with the requirements of the National Historic Preservation Act (16 USC 470) and will consider the economic feasibility of renovation or reuse of the historic properties.

b. Sustainability means "Lasting." Sustainable development is that which meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability will be incorporated into real property master planning thought process and plan development. Master planners will strive to maximize sustainability in their planning process. Appendix C provides further discussion on the concepts of sustainable development. Sustainability is addressed in Army policies and procedures covering—

- (1) Alternative performance-based management.
- (2) Information management and accessibility.
- (3) Science/Technology programs.
- (4) Environmental accountability.
- (5) Community-driven strategic planning.
- (6) Collaborative regional planning.
- (7) Building design and rehabilitation.
- (8) Ecosystem integrity maintenance.
- (9) Natural resources management.
- (10) Range modernization, management, operations and training land maintenance.

c. Real property master planning actions involving installations outside the United States will conform to Army policy, criteria, guidance addressing antiterrorism and force protection, sustainable design and development, range complex master plans, the Range Development Plan (RDP), and environmental, archeological, historic preservation, and natural resources management, except where host nation guidance or law takes precedence.

2-8. Intergovernmental coordination

a. Garrisons will work with local and regional planning agencies to build close and harmonious planning relations. These include host nation (foreign) governments, Federal agencies and other DOD departments, federally recognized Indian tribes, federally recognized Alaskan native entities, and native Hawaiian organizations, state and local governments, and nongovernmental organizations. These relations are instrumental to establishing regional compatible land

use, influencing surrounding communities and landowners, and demonstrating the garrison commander's commitment to being a good neighbor. RPMPs for installations within the United States will be submitted for intergovernmental review to the agencies, groups, organizations, and persons that are affected by RPMPs, in accordance with the process established by the IMA. Any RPMP will be coordinated with communities surrounding the installation to—

- (1) Minimize impacts of installation operations and development or base realignment actions on those communities.
- (2) Maintain awareness of, and respect for, the future growth patterns and development of the surrounding communities.
- (3) Seek mutual compatible land uses and zoning considerations to maintain the operational capability and future viability of the installation.

b. Garrison commanders located in the National Capital Region (NCR) will coordinate their RPMPs with Federal activities and agencies per the special procedures for planning and project programming prescribed in AR 415–15. In the development of an RPMP, State and local laws, policies, and regulations will be considered and incorporated as appropriate.

c. Where there is combined interest from local government, the community, and the Army garrison commander in coordinated comprehensive land use planning or where encroachment is or has the potential of becoming a serious impediment to the future viability of the installation, the garrison commander should consider participating in a JLUS. The program is sponsored by the Office of Economic Adjustment, Office of the Secretary of Defense (OSD). Both the installation and the local communities benefit. Mutual goals can be achieved and not at the expense of any of the parties involved. Participation in this program is voluntary but encouraged. However, where it is in the Army's best interest to protect installation operational areas from encroachment and JLUS will not work, the garrison commander will consider implementing an Army Compatible Use Buffer (ACUB). An ACUB is a formal agreement between the Army and eligible entities for acquisition by the entities of land or interest in land and/or water rights from willing sellers. Additional information is available on the JLUS and ACUB programs from HQDA (DAIM–ZS), 600 Army Pentagon Washington, DC 20310–0600.

d. The process and procedures established by the IMA for intergovernmental coordination and cooperation will be followed.

(1) Projects in the National Capitol Region will be coordinated with the National Capital Planning Commission and the U.S. Commission of Fine Arts, following IMA established procedures.

(2) Any MOUs established must be consistent with DA policies and procedures. In the absence of an MOU, existing cooperative agreements will be followed. If a State review process is established with a single point of contact named, and the affected program or function is included on the State's selected review list, then a copy of the action being coordinated will be sent to the contact.

(3) Information to States or Federal agencies on Army plans or projects in accordance with the IMA established process, AR 25–55, and AR 360–1. If a request for information from any requestor is refused, a copy of the written response to the requestor will be sent to HQDA (DAIM–ZS). Under no circumstances will classified information be provided without IMA approval and following established safeguards in accordance with AR 380–5.

(4) Garrisons with environmental noise management programs or range and training land development plan studies will share the unclassified study results with State and local governments and other potentially affected organizations/parties in accordance with AR 25–55 and AR 360–1.

e. The JSRCFRB is conducted annually at the State level and requires the participation of representatives from all Active and Reserve Component (RC) installations within the State. The board approves all military construction that exceeds DOD-established cost thresholds and reviews all projects for potential joint service use.

Chapter 3

The Real Property Master Plan

3–1. Overview

An RPMP portrays a garrison commander's plan for orderly management and development of installation real property assets, including land, facilities, and infrastructure, and documents the real property master planning process. An RPMP integrates all plans affecting or using real property into a comprehensive guidance document. It incorporates concepts and information from many programs and sources to ensure that adequate real property support is provided to meet all assigned or projected missions for the installation. It includes the mission requirements of other garrison activities and tenants. The garrison commander's real property master planning staff must assertively seek and maintain coordination with, and obtain contributory information or plans from, garrison activities and tenants to ensure that real property needs are met.

a. Each garrison will prepare an RPMP with the exception of base realignment and closure sites and properties that have been declared excess. The plan will be prepared using multimedia, Web-enabled technology and will leverage GIS technologies to portray the overall installation development strategy. IMA will determine who prepares, maintains,

and the extent of the RPMP documentation needed for installations with no, or minimal, forecasted change to mission or real property requirements.

b. All real property activities (that is, lease, purchase, sustainment, restoration, modernization, disposal, conversion, construction, or outsourcing) will be described in, and justified by, the installation RPMP. All projects or programs that change the quantity or extend the life of real property assets will be included. Projects and generalize descriptions will be consolidated in summaries to the maximum extent possible.

c. Each major real property project requiring HQDA approval, including those of tenants, nonappropriated funded activities, and other separately funded activities, will be described and a site location depicted in an approved RPMP.

d. An RPMP will incorporate land and facility use compatibility and flexibility to permit installation expansion, reduction, or changes in mission and ensure that installation assets can meet mission requirements. Further, an RPMP will portray development concepts that are sustainable.

e. No new construction will be proposed or authorized in an RPMP to meet an installation mission that can be supported by reassignment of existing adequate facilities. Such reassignments must meet mission requirements, support operational efficiency, and promote sustainable development of the installation.

f. The ASIP will be used to establish the authorized assigned peacetime force strength of an installation.

g. All facility requirements analyses will be based on the difference between the real property inventory maintained by the garrison and allowances established in RPLANS.

h. Army space planning criteria will be used to determine allowances for those facility types for which criteria exist. These criteria will provide guidance on quantitative area, size, or other scope allowances required to perform assigned missions. Facility allowances for many types of facilities are contained in the Army Criteria Tracking System (ACTS), AR 140–483 for the AR, and NG PAM 415–12 for the ARNG. Variations greater than 10 percent from published allowances must be justified by the proponent or user and approved by the IMA-designated staff for the AC and IMA–ARD for the AR. NGB approves variation from published criteria for their facilities. Where facility allowance criteria do not exist, quantitative scope estimates will be based on similar type facilities, analysis of comparable missions, or accepted industry practices and standards. Estimates must be fully justified. Actual installation-specific real property requirements will be identified by means of interviews and coordination with units, functional proponents, and users.

i. Nonappropriated Fund (NAF) major construction projects require commercial project validation assessment to determine facility size. Current technical guidance for real property master planning will be used as guides.

j. Temporary facilities will not be used as permanent solutions to satisfy facilities requirements. Temporary facilities will not be retained unless retention is warranted by mission necessity and permanent replacement alternatives are addressed in the RPMP. Mission necessity may include RC temporary housing and training requirements.

k. How comprehensive RPMP documentation for Government-owned, contractor-operated (GOCO) and Army Working Capital Fund installations will be determined by the IMA, but it must be adequate to justify the continued operations, maintenance, and development of the installations.

l. The provisions of the Rural Development Act of 1972 (42 USC 3122) and the DOD guidance on Joint Service Use of facilities will be considered during the planning process.

m. RPMP requirements for ARNG and AR installations will be determined by the NGB and IMA–ARD, respectfully.

3–2. Components

An RPMP is organized into five components: the RPMPD, LRC, IDG, CIS, and SRC.

a. RPMPD.

(1) *Definition.* An RPMPD provides the vision, goals, and objectives for the management and development of an installation. It is also an extract of the most important master planning concepts, details, and facts of an installation RPMP. It describes the thrust of an installation’s real property development, its constraints and opportunities, and the path to achieving the long-range goals for the community. It is not just a summary of an RPMP but also provides analyses and can serve as a decision-support document.

(a) An RPMPD states the garrison commander’s vision, goals, and objectives for the development and operation of the installation to meet the future needs of the Army. It reflects the commander’s guidance on how current missions will be supported and indicates the potential capabilities of the installations for additional or expansion of existing missions.

(b) An RPMPD synthesizes real property planning and development recommendations identified in the real property master plan. It also identifies planning constraints where significant planning efforts are required. It presents results of, or describes the specific planning studies and analyses that are needed to support and maintain, a robust RPMP/planning effort on the installation. It summarizes resources necessary to implement an RPMP and the resources required to complete and maintain an installation RPMP.

(2) *Format and preparation.* An RPMPD will be prepared using commonly available commercial off-the-shelf office automation applications in order to simplify updates. It will be Web enabled and may be presented in hard copy. The garrison commander may designate limited access to portions of the document based on security concerns. The

document writing style will be clear and concise so that the stakeholders can understand the installation real property master plan and how their requirements fit into it. Exact format will be prescribed by the IMA for AC installations and AR garrisons. The CAR and the Chief, NGB will determine the format for their garrisons. Typical contents will include—

- (a) Cover, directory, introductory information.
- (b) Garrison commander's letter.
- (c) Installation mission and planning and development vision/goals/objectives.
- (d) Installation and vicinity profile, setting, and history.
- (e) ISR and FFS output.
- (f) Development recommendations presented in area development plans with associated description.
- (g) POM period renovation and construction programs.
- (h) Analysis of existing full-scope RPMP.
- (i) Glossary and References.
- (j) Acknowledgments, data sources, points of contact.
- (k) Graphics, photos, maps, figures, and tables, as appropriate.

b. *LRC*. The LRC will establish the environmental baseline, basic framework, and specific options for developing and managing real property on the installation. It will describe the holistic planning process that is used to formulate the installation development strategy and vision. This includes addressing an integrated strategy for infrastructure assurance to support mission requirements and sustainable development. It also provides the basic real property data upon which other business function plans can be built. The documents that make up the LRC will include—

(1) Long-range analysis (narrative). The LRC narrative describes current and future real property requirements and conditions. The analysis is based on review of existing real property assets and a determination of required future real property requirements to support assigned or potential missions. The tabulation of existing and required facilities (TAB), prepared using RPLANS and/or engineering and base operations support for the AR, provides the analysis of real property allowances adjusted by assets on hand. The results can be edited to reflect existing conditions of assets to determine the final real property requirements. The analysis will also address installation carrying capacity.

(2) Environmental quality and natural and cultural resources baseline analysis (narrative and graphics).

(3) Land use analysis and plan (narrative and graphics). This portion will show the relationships and use of installation land by generalized areas including: family housing, troop housing, range and training, retail, parks and recreation, schools, transportation, industrial, and natural and cultural environmental sites.

(4) Utilities assessment (narrative and graphics). If a utility system has been privatized, obtain information from utility provider to include current usage, upgraded and abandoned lines (size and location), and future available capacity.

(5) Transportation assessment (narrative and graphics). Because transportation systems and traffic patterns are an integral part of both garrison and surrounding community planning efforts, coordinate installation road network changes or new requirements affecting off-post traffic patterns with the Surface Deployment and Distribution Command per AR 55–80.

(6) Assessment of environmental effects (narrative and graphics.) An RPMP is a decision document with potential long-lasting impacts. Therefore, potential environmental impacts of implementing an RPMP must be addressed formally. The assessment will follow the formal NEPA process resulting in an EA or EIS that can then serve as the basis for RPMP projects, garrison operations, or for other installation environmental assessments (see para 3–5).

(7) Assessment of potential encroachment on installations' boundaries that may impact the future viability of the installation to perform assigned missions. This evaluation may be part of the environmental assessment and must include cross boundary annoyances such as noise and dust. Public safety must also be a consideration.

(8) Supporting Graphics. These will include—

(a) Regional plan.

(b) Land use plan.

(c) Future development plans (includes buildings and structures, roads, utilities if appropriate, communications, land acquisition, and so on).

(d) Existing conditions maps (for example, buildings and structure site maps, road network maps, railroad network maps, utilities maps, topographic maps, vegetation maps, airfield map if appropriate, demolition/disposal, installation compatible use, and so on).

(e) Environmental overlay (includes data and graphics describing environmentally sensitive areas, wetlands, threatened and endangered species habitats, protected natural or cultural features, land use controls, and so on).

(f) Range complex master plan.

c. *IDG*.

(1) The IDG is prepared and published separately, but is a component of an RPMP. Its purpose is to promote visual order, enhance the natural and manmade environments through consistent architectural themes and standards, and

improve the functional aspects of the garrison. It provides common facility and infrastructure standards for all Army garrisons that will—

- (a) Instill a sense of community, order, tradition, and pride.
- (b) Provide guidance on cost effective resource investments in Army installations.
- (c) Ensure sustainability, reliability, and efficiency of Army facilities.
- (d) Improve the function and appearance of garrisons. It provides specific guidance on exterior and interior design parameters for the garrison facilities. The IDG also provides guidance on landscaping, to include low-maintenance, native open areas.

(2) The IDG will be prepared using the model IDG provided as chapter 8 of the Army Installation Design Standards manual. All installation facility major maintenance, improvement, or renovations projects and all new construction must comply with IMA region guidance and follow the IDG.

(3) Methods of deconstruction and material reuse will be considered as alternatives to the traditional demolition and landfill disposal procedures used in building removal.

(4) Requests for waivers to IDG standards will be directed to the installation RPPB for review and forwarding to the designated IMA staff for approval/disapproval. Waivers for AR facilities will be directed to IMA-ARD for review and approval and for National Guard facilities to the NGB. Army Reserve and National Guard facilities located on Active Army (AA) installations require the AA installation RPPB review and designated IMA staff approval.

d. CIS. The CIS is the garrison commander's overall strategy for using and investing in real property to support installation missions and Department of the Army objectives. It describes permanent comprehensive/holistic solutions, as well as short-term actions necessary to correct deficiencies, and meet real property requirements in a method that assures infrastructure reliability and contributes to sustainable development. At a minimum, the CIS will reflect the correction of shortfalls identified in the ISR and the implementation of the facility development requirements identified by the FFS, but should cover all facility developmental projects associated with an RPMP. The CIS will include—

(1) An executive summary (narrative to include a statement indicating CIS actions have been assessed for environmental impacts and reference where the assessment(s) can be found).

(2) A consideration of alternatives (narrative).

(3) An action plan (narrative).

(4) Supporting graphics (site maps and plan drawings as required).

(5) Documentation supporting the narrative, including—

(a) TAB.

(b) Environmental analysis.

(c) Other sources that help justify the proposed actions. Where appropriate, the supporting documentation should be specifically referenced and/or included as appendixes to the CIS (for example, the TAB).

e. SRC. The SRC will integrate real property master planning into the Army's budgetary and operational planning processes throughout the current POM period. It charts recommended real property master planning activities into the Army's resource management process. Documents making up the SRC are—

(1) Prioritized, time-phased project lists of all major real property acquisitions, MILCON, other-funded projects such as NAF, third-party funding, funding through donations, public/private ventures, and so on, minor construction, major sustainment, restoration, and modernization projects, and facility disposal programming or privatization efforts over the POM period along with project scopes and estimated costs.

(2) Supporting graphics, such as—

(a) Annotated installation site plan sheets showing the locations of all short-range projects.

(b) Project-specific site planning maps with enhanced details, including site improvements and utilities, for each project submitted.

(c) Project-specific environmental overlay extracts (enhanced details) with written descriptions, as required. All SRC identified projects must be fully developed and ready for programming. This includes well-coordinated, sound, and accurate programming documentation and complete environmental documentation.

3-3. Mobilization component

a. The mobilization component is no longer required. However, requirements for the maintenance and improvement of key power projection facilities will be identified in an RPMP. Additionally, garrisons must be prepared to accommodate expansion to meet potential surge requirements that may not be currently identified by present mission and strength assignments. Therefore, an RPMP LRC and RMPD must address the installation's carrying capacity and include an expansion capability assessment to support potential future restationing actions and the Army stationing strategy. If the garrison has assigned mobilization missions, an RPMP must accommodate those, but not as a separate component.

b. As a major contributor to mobilization, RC training and real property facility requirements must be determined

and identified to the respective mobilization/deployment stations. Unit mobilization/deployment locations are determined by the AR or NGB in consultation with Forces Command.

3-4. Contributing information and plans

a. Many different documents will be used and referenced in the preparation of an RPMP. Contributing information and plans portray existing conditions and the real property-related plans of the garrison staff, tenant units, organizations, and activities. Departmental and command plans, programs, and initiatives are also useful sources of planning information. These documents address a wide spectrum of issues, including such areas as infrastructure and infrastructure assurance, natural and cultural resources, information systems, antiterrorism and force protection, and overall installation quality of life.

b. Table 3-1 lists typical contributory information that will be reviewed for real property implications when developing an RPMP. Typical garrison proponents are also shown. This table is not all inclusive and may vary among installations.

Table 3-1
Typical contributory information and plans

Document	Typical source
Various HQDA, MACOM, IMA plans, guidance and initiatives	Respective headquarters
Existing conditions maps	Locally prepared RPMP maps, real property maps, U.S. Geological Survey maps, and so on
Real property inventory	IFS, local facility inventory, and real property records
Resource management plan	Budgetary planning documents
Integrated natural resources management plan	Local environmental or conservation office
Integrated cultural resource management plan	Local environmental or conservation office
Other environmental, natural and cultural resources plans	Local environmental or conservation office
Environmental management plans such as the integrated pest management plan and the water resource management plan	Local environmental or conservation office
Utility systems studies and plans	Local public works office or facility manager
Utility privatization studies	Local public works office or facility manager
Critical infrastructure protection and force protection plans	Local or regional security manager
Range complex master plan and Range Development Plan	Local training manager/planner
MACOM live-fire training investment strategy	Local training manager/planner
MACOM materiel fielding plan	Local training manager/planner
Information systems plan and plant-in-place information systems maps	Local information or communications system manger.
Regional and community development plans	Regional and local community governments.
Meeting memoranda, briefings and notes from coordination with various headquarters, units, organizations, other planning agencies	Local master planning office, AR Regional Readiness commander, ARNG RPDPs
Various garrison, unit, or tenant activities plans and initiatives (for example, installation strategic plans, director of community activities, exchange manager, commissary manager, Medical Command commander plans, and so on)	Collected from major mission and tenant units and organizations, State ARNG headquarters and individual units, Reserve Regional Command, reserve units and organizations.
Land use control management/implementation plans	Installation environmental coordinator

c. Contributory information and plans provide much of the required supporting information needed to create a comprehensive and integrated installation RPMP. An RPMP will address in the planning analysis what specific contributory information and plans are required to support the planning effort and what additional contributory planning efforts are needed. All contributing documents used in preparing an RPMP will be properly documented in a reference section of the component and/or in an RPMPD.

d. Contributory Information and Plans used will be cited in the components giving the reference name, page, and date published.

3–5. Environmental documentation

a. Assessment of environmental effects. The RPMP components are decision-support documents and their recommended or proposed actions must be assessed for their environmental effects. A formal environmental assessment will be conducted in conjunction with developing an RPMP in accordance with NEPA. At a minimum, it will consist of an assessment of the installation missions and a list of anticipated major or significant environmental impacts resulting from implementing the projects and other actions proposed in the RPMP. This assessment is included in the LRC, as described in paragraph 3–4. A formal environmental assessment using the NEPA process consolidates all current and desired future real property actions at the installation and looks at the cumulative impacts. It makes completing environmental assessments of specific projects simpler because the basic assessment work has already been done. Completing the formal environmental assessment of the RPMP using the NEPA is a major component of an effective environmental management system.

b. Environmental overlays. Environmental overlays will cover the installation and surrounding areas. Portrayed data will not be effective unless a regional perspective is portrayed. The environmental overlays will graphically demarcate and denote all areas in which development should be limited or should not occur at all. The overlays will portray environmentally sensitive areas on or near the installation that may be affected by installation operations or development. Note that the environmental overlay data will be integrated with the range complex master plan operational overlay. The environmental overlay is a part of the LRC. Because some of the information is likely to be sensitive, garrison security personnel will review the document for suitability of public release. Typical environmental overlay data layers may include but are not limited to those below:

- (1) Threatened and endangered species.
- (2) Danger zones.
- (3) Flood plains.
- (4) Wetlands.
- (5) Surface and subsurface hazardous material storage or contaminated areas.
- (6) Pesticide storage areas.
- (7) Pesticide sensitive application facilities and areas.
- (8) Former firing ranges and impact areas.
- (9) LUCs.
- (10) Ammunition and chemical storage areas.
- (11) Safety buffers.
- (12) Noise contours.
- (13) Low altitude aircraft operation corridors.
- (14) Quantity safety distances for storage of explosives.
- (15) Areas proposed for disposal/deconstruction.
- (16) Desirable and undesirable land use features off the installation.
- (17) Open/closed landfills.
- (18) Cultural resource/archeological sites.

3–6. Submission and approval

Table 3–2 lists RPMP submittal and approval requirements.

Table 3–2
Guidelines for submission of RPMP documents

Document	Typical instructions (submission dates will be established by the IMA unless specified below)
LRC (all elements)	Prepare and maintain as directed by IMA. Submit to senior mission commander for endorsement. Forward to appropriate designated IMA staff for approval. Updates follow the same submittal and approval routing.
CIS	Same as LRC. Provide a copy to supporting USACE division/district.
SRC (all documents)	Same as LRC. SRC will be submitted annually with the MILCON program submittal. Copy will be furnished the supporting USACE division/district.
Environmental documentation	Submit with appropriate RPMP component for approval. Update as required based on changes to the RPMP or environmental conditions.
IDG	Submit for review and approval by designated IMA staff as part of the RPMP, or may be submitted independently. Update as required or when Army Installation Design Standards guidelines change.

Table 3-2
Guidelines for submission of RPMP documents—Continued

Document	Typical instructions (submission dates will be established by the IMA unless specified below)
Major sustainment, restoration, or modernization projects	Provide as part of annual SRC submittal for approval or as directed by the IMA. Update annually.
Contributory plans	Provide when requested.
RPMPD	Same as LRC.
RPMP status report	Submit annually, when directed by the designated IMA staff.
RPMP resource requirements	Submit annually to IMA as part of the garrison manpower and budget submissions. IMA will consolidate and submit to OACSIM.

3-7. Maintenance and revision

The real property master planning process provides for continuity as garrison leadership, missions, weapons, equipment, and functions change and evolve. It also provides the mechanism for amending an RPMP, when changes are fully warranted. An RPPB, supported by the garrison real property master planning staff, will ensure that an installation RPMP is kept current. An RPMP will be reviewed annually for change and formally updated at least every 5 years.

a. An installation RPMPD will be updated as changes occur. The abbreviated format, along with the use of office automation, facilitates efficient maintenance of this document.

b. Major revisions to an LRC/RPMPD, including environmental analysis/assessment, will be required by the IMA region when—

(1) Overall installation assigned strength changes through unit realignments and stationing actions, or change in civilian workforce of more than 300 people.

(2) Changes occur in garrison or tenant unit missions that may trigger the need for different land use configurations or facilities.

(3) Operational safety requirements affect on-post or off-post land use, or when LUCs take effect for specific parcels of installation or former installation land.

(4) When directed by IMA.

(5) When determined by an RPPB.

c. The environmental impacts of planning proposals and changes to the RPMP must be assessed as an on-going part of the decisionmaking process from the outset. The RPMP environmental analysis, part of the LRC, will be updated as appropriate.

d. The SRC will be updated at the time of the installation's annual submission of their military construction program.

3-8. Project siting

a. Site location. AR 415-15 specifies that all facility acquisition or construction projects will be located (sited) in accordance with an approved RPMP. The proper siting of individual projects has a direct bearing on cost, sustainability, maintainability, force protection and safety, environmental impacts, operational efficiency, and constructability of projects. An approved RPMP siting means that the initiative meets all siting and development requirements and IDG criteria.

b. SRC identification. All projects programmed within the current POM cycle are identified in the SRC. All SRC projects must be developed with approved sitings, accurate definition of requirements and project scope, and accurate cost estimates. Projects will be certified in accordance with procedures prescribed in AR 415-15. In limited cases, special site approval is required (see para 3-8d for special approval requirements). NGB will certify all ARNG projects.

c. Projects requiring site approval. All proposed projects, as categorized below, must be sited in the approved installation RPMP regardless of the type of funding or project size.

(1) Construction or relocation of permanent or semipermanent facilities. HQDA, through the IMA, will authorize the construction of temporary or relocatable facilities prior to work being done.

(2) Acquisition or disposal of land and water areas.

(3) Additions to existing facilities.

(4) Replacement of a facility at the same location with a facility of a different use.

(5) Sitings that require change in approved land use.

(6) Construction or installation of any significant permanent landscape feature such as a memorial, flagpoles, fences, parking areas, and so on.

d. Technical review requirements. Project sitings for certain types of projects, such as those involving ammunition, explosives, ranges and training land, environmental cleanup, antiterrorism and force protection, high security facilities

and systems, communication facilities, and aviation facilities require authorization by special approving authorities prior to project submittal. The installation RPMP will note the special approving agency and date of their site approval. AR 415–15 will be consulted for detailed descriptions of these types of projects.

e. Site approval request procedures. For projects that are not identified on the installation RPMP and that require site approval, a site approval request will be sent by the garrison commander through the senior mission commander, to the designated IMA staff for approval. NGB will approve the State's site requests. Site approvals must be obtained before project design begins. MILCON projects without site approval will be held in abeyance until proper site approval is obtained. A site approval request will include an annotated site plan, siting justification, and supporting environmental analysis. Site approvals will be included in the next RPPB update.

f. Delegation of site approval authority. Site approval authority will not be delegated below the IMA region office without the approval of HQDA (DAIM–ZS).

g. Site approval invalidations. A project site approval (either identified on the installation RPMP or granted by the aforementioned process) becomes invalid when the proposed project is relocated or does not comply with the IDG. A minor shift of a proposed building, rearrangement of a complex of facilities within a previously approved parcel of land, or minor adjustment in the exterior or interior design guidance does not qualify as a relocation or action resulting in making the site approval invalid. However, all site approvals based on advance review and approval by special approving authorities, as are described above, become invalid when the project scope, arrangement of facilities within a parcel of land, or the location changes from that which has been approved. Requests for revalidating a site approval should be processed as soon as possible after resiting is deemed necessary.

3–9. Land use change requests

a. A land-use change is a reconfiguration or relocation of an approved installation land-use zone, or the imposition of certain LUCs on an existing land-use zone. A LUC can force a land use change when it entails a material impact on the property's utility. Such a change requires an amendment to the installation RPMP. The RPMP environmental analysis may also require adjusting.

b. A land-use change request will be processed in the same manner as a site approval request and with the same documentation. Final approval authority resides with the designated IMA staff. Review and approval by special approving authorities for certain types of projects will be obtained in advance of the request to change the installation RPMP land use. No delegation for approval of land use changes below the IMA region office is authorized.

Chapter 4 The Real Property Planning Board

4–1. Establishment

The garrison commander, in consultation with IMA regional directors, will establish, convene, and maintain records of the installation RPPB in accordance with AR 25–400–2. The installation RPPB will assist the garrison commander in managing, developing, and in some cases realigning, cleaning up, and closing the installation or area facilities and real estate. An installation supplement to this regulation will be prepared and used to establish the installation RPPB and provide guidance for the conduct of RPPB meetings. The installation supplement must be approved by the supporting IMA region.

4–2. Functions

The RPPB will—

a. Act as the installation "city planning council" to ensure the orderly development and management of installation real property in support of missions, management processes, and achieving community objectives.

b. Guide the development and maintenance of all components of the installation RPMP.

c. Coordinate installation real property master planning with—

(1) Adjacent and nearby installations or jurisdictional planning areas.

(2) Other activities and land use of the DOD and Federal agencies.

(3) Federally recognized Indian tribes, recognized Alaskan native entities, and native Hawaiian organizations.

(4) Local agencies and planning commissions of neighboring cities, counties, and states for mutual development concerns, encroachment issues impacting range operations and training, and environmental issues. (Established inter-governmental coordination process will normally be followed).

(5) Nongovernmental groups and associations, Native American tribes, businesses, and concerned individuals.

d. Assist in ensuring that the installation RPMP—

(1) Addresses all real property requirements for all activities on the installation and supported area.

(2) Reflects changes in installation missions and the military community's current or future development plans, with full consideration of, and respect for, regional and local communities.

(3) Projects growth or reduction in units and activities as reflected in the ASIP or other stationing actions, such as base realignment and closure.

e. Approve installation architectural and design themes, as set forth in the IDG, monitor compliance, and adjudicate conflicts and variances from the established standards.

f. Develop plans and programs that are in harmony with, protect, and enhance the environment, fully observant of sustainable design and development policies and principles.

g. Ensure maximum use of existing facilities; oversee the assignment and reassignment of space within existing facilities; monitor land use; and adjudicate conflicts in facility or land use or assignments.

h. Formulate and justify construction and major repair programs in accordance with annual program guidance.

i. Oversee actions to realign, cleanup, impose LUCs, and close the installation or locations supported by the installation, as required.

j. Resolve RPMP disputes between competing organizations on the installation.

4-3. Composition

An RPPB will be composed of regularly assigned members or alternates, appointed on orders, and organized as follows:

a. Chairperson. The garrison or area support group commander is the chairperson. However, the garrison or area support group commander may choose to appoint a subordinate of appropriate grade and experience to serve as the chairperson.

b. Voting members.

(1) The garrison staff engineer, normally the DPW, is the executive secretary of the board.

(2) The chief of each principal and special staff section of the garrison, the environmental coordinator, and other staff members designated by the garrison commander are voting members of the RPPB.

(3) The commander or appointed representative of each major unit or independent activity, including AR and ARNG activities, occupying real estate administered by the garrison or area commander, are voting members. This includes all activities located within the boundaries of the installation or at a physically separate site for which the garrison or area commander has real property master planning responsibilities.

c. Associate members (nonvoting).

(1) MACOM commanders of units assigned to the installation may provide an associate member.

(2) Representatives from adjoining or nearby military installations or headquarters may be invited to become associate members.

(3) The IMA region director or an appointed representative is an associate member (nonvoting).

d. Guests. The chairperson may invite guests to RPPB meetings. Guests may include representatives of the U.S. Government or host nation regional and local governments, representatives of community planning agencies, non-governmental groups, Native American tribes, and local property or business owners affected by RPPB planning decisions.

e. IMA. In coordination with U.S. Army Materiel Command, the IMA establishes guidance and instructions for forming RPPBs at GOCO installations.

4-4. Meetings

a. Installation RPPBs will meet at least semiannually for the purpose of formal deliberations, consistent with the functions described in paragraph 4-2.

b. The executive secretary of the board, supported by the garrison real property master planning staff, will record and distribute minutes of all RPPB meetings to all board members and who request it. The secretary will also prepare the meeting agenda, read-ahead packages, and perform other administrative tasks. The minutes will record voting members present and absent; associate member attendance; and topics discussed, to include issues, points of discussion, board recommendations with vote tally, if appropriate, and decisions made.

c. RPPBs will recommend formal approval of:

(1) All components of installation RPMPs and the resources required to prepare and maintain them.

(2) Variances from the architectural/design themes established by the IDG.

(3) Priorities and funding of RPMP projects and other related resource issues.

(4) Real property utilization and space assignment resolutions.

(5) Other items within the purview of an RPPB's charter, as designated by the garrison commander.

Appendix A References

Section I Required Publications

AR 25–55

The Department Of The Army Freedom Of Information Act Program. (Cited in paras 1–4*i*(18), 2–4*e*, and 2–8*d*(3) and (4).)

AR 25–400–2

The Army Records Information Management System (ARIMS). (Cited in paras 1–4*g*(12)(c), 1–4*i*(2), and 4–1.)

AR 55–80

DOD Transportation Engineering Program. (Cited in para 3–2*b*(5).)

AR 140–483

Army Reserve Land and Facilities Management. (Cited in paras 1–4*i*(12) and 3–1*h*.)

AR 200–1

Environmental Protection and Enhancement. (Cited in para 2–2*c*.)

AR 200–2

Environmental Effects of Army Actions. (Cited in para 2–2*d*.)

AR 200–3

National Resources—Land, Forest, and Wildlife Management. (Cited in para 2–2*e*.)

AR 200–4

Cultural Resources Management. (Cited in para 2–2*f*.)

AR 210–14

The Army Installation Status Report Program. (Cited in para 2–2*b*.)

AR 360–1

The Army Public Affairs Program. (Cited in paras 1–4*i*(18), 2–4*e*, and 2–8*d*(3) and (4).)

AR 380–5

Department Of The Army Information Security Program. (Cited in para 2–8*d*(3).)

AR 405–45

Real Property Inventory Management. (Cited in para 1–4*i*(12).)

AR 415–15

Army Military Construction Program Development and Execution. (Cited in paras 1–4*i*(7), 2–4*b*(6), 2–8*b*, and 3–8*a*, *b*, and *d*.)

Assistant Chief of Staff for Installation Management publication

Army Installation Design Standards. (Cited in para 3–2*c*(2) and table 3–3.) (Available at www.hqda.mil/acsimweb/homepage.shtml.)

MIL–STD–3007

Unified Facilities Criteria and Unified Facilities Guide Specifications. (Cited in para 1–4*e*(4).) (Available at <http://assist.daps.dla.mil/online/start>.)

NG Pam 415–12

Army National Guard Facilities Allowances. (Cited in paras 1–4*l*(7) and 3–1*h*.) (Available at www.ngbpdc.ngb.army.mil/default.htm.)

NGR 415–10

Army National Guard Facilities Construction. (Cited in para 1–4*l*(7).) (Available at www.ngbpdc.ngb.army.mil/default.htm.)

UFC 4–010–01

DOD Minimum Antiterrorism Standards for Buildings. (Cited in paras 1–4*c*(11), 1–4*e*(4), and 1–4*i*(21).) (Available at www.projnet.org/report/doc_ufc.html.)

Section II**Related Publications**

A related publication is a source of additional information. The user does not have to read a related publication to understand this publication.

AR 1–1

Planning, Programming, Budgeting, and Execution System

AR 5–10

Stationing

AR 5–18

Army Stationing and Installation Plan (ASIP)

AR 11–27

Army Energy Program

AR 11–32

Army Long-Range Planning System

AR 95–2

Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigation Aids

AR 190–13

The Army Physical Security Program

AR 210–50

Housing Management

AR 385–63

Range Safety

AR 385–64

U.S. Army Explosives Safety Program

AR 405–10

Acquisition of Real Property and Interests Therein

AR 405–70

Utilization of Real Estate

AR 405–90

Disposal of Real Estate

AR 415–19

Nonappropriated-Funded Construction Project Development and Approval

AR 420–10

Management of Installation Directorates of Public Works

TM 5–803–1

Installation Master Planning. (Available at www.us.army.mil/suite/login/welcome.html.)

TM 5-803-5

Installation Design. (Available at www.us.army.mil/suite/login/welcome.html.)

TM 5-803-14

Site Planning and Design. (Available at www.us.army.mil/suite/login/welcome.html.)

ER 1110-1-8156

Policies, Guidance, and Requirements for Geospatial Data and Systems. (Available from www.usace.army.mil/publication.)

Assistant Secretary of the Army (Installation and Environment)

The Army Strategy for the Environment. (Available at <https://www.asaie.army.mil/Public/IE/default.html>.)

Assistant Chief of Staff for Installation Management publication

Commander's Guide: Installation Standards. (Available at www.hqda.army.mil/acsimweb/homepage.shtml.)

U.S. Army Corps of Engineers Military Standard

Spatial Data Standards for Facilities, Infrastructure, and Environment. (Available at <http://itl.erdc.usace.army.mil/standards.htm>.)

DODD 4165.61

Intergovernmental Coordination of DOD Federal Development Programs and Activities. (Available from www.dtic.mil/whs/directives.)

EO 11988

Floodplain Management. (Available at www.archives.gov/research_room/index.html.)

EO 12906

Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure. (Available at www.archives.gov/research_room/index.html.)

EO 13101

Greening the Government through Waste Prevention, Recycling, and Federal Acquisition. (Available at www.archives.gov/research_room/index.html.)

EO 13123

Greening the Government through Efficient Energy Management. (Available at www.archives.gov/research_room/index.html.)

EO 13148

Greening the Government through Leadership in Environmental Management. (Available at www.archives.gov/research_room/index.html.)

EO 13149

Greening the Government through Federal Fleet and Transportation Efficiency (Available at www.archives.gov/research_room/index.html.)

EO 13286

Amendment of Executive Orders, and Other Actions, in Connection With the Transfer of Certain Functions to the Secretary of Homeland Security. (Available at www.archives.gov/research_room/index.html.)

16 USC 470

Declaration of policy of the Federal Government. (Available at www.gpoaccess.gov/uscode.)

42 USC 3122

Definitions: Public Works and Economic Development. (Available at www.gpoaccess.gov/uscode.)

42 USC 4321

Congressional declaration of purpose. (Available at www.gpoaccess.gov/uscode.)

**Section III
Prescribed Forms**

DD Form 1391

Military Construction Project Data. (Cited in para 1-4i(14).)(Available at www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm)

**Section IV
Referenced Forms**

This section contains no entries.

**Appendix B
Master Planning Functions for Installation Enterprise Geographic Information System**

B-1. Geographic information system working group

The garrison commander will establish a GIS working group consisting of representatives from garrison staff offices involved in the development and/or application of spatial data on the installation. This working group is available to assist the real property master planner in the development and maintenance of maps, plans, and spatial data included in an RPMP.

B-2. Master planning datasets

Data collected and/or created for master planning purposes consist of data required across multiple functional areas, plus spatial data documenting the installation regional physiographic, demographic, and political setting. Additional specifications will be provided in follow-on guidelines issued by ACSIM (DAIM-ZS). Table B-1 provides a representative list of GIS data themes and layers used in real property master planning. The list is not all inclusive.

**Table B-1
Typical real property master plan geographic information system data themes**

Data theme	Description	Example layers
Imagery	Multispectral satellite or airborne photography used for general mapping and mapping of land use and land cover within 20 miles of installation boundary.	Landsat thematic mapper IKONOS (satellite) SPOT (satellite) Digital ortho photos
Demographics	Human populations and changes to these populations over time within 20 miles and all counties surrounding the installation.	Census Bureau and TIGER data sets. Land use change maps Population change maps
Political	All political and jurisdictional data sets within 20 miles and all counties and states surrounding the installation	State and county boundaries Cities and towns
Land use	All factors affecting current and future land use within 20 miles and all counties surrounding the installation	Zoning Land ownership Property lines
Physical setting	Geography, topography, hydrology, and ecological setting of installation and surrounding area within 50 miles and all counties surrounding the installation.	Geology Contours and digital elevation Maps Rivers, lakes, oceans Current and past land cover and land use
General reference	Information and data required for common referencing and location of features on and surrounding the installation	Benchmarks Ground control points Reference base map
Critical Infrastructure	Features on and around the installation necessary for force protection and emergency response.	Medical/hospitals Transportation/roads Buildings Power/energy Real estate Utilities Police/security

Appendix C Sustainable Design and Development

C-1. Sustainable principles

"In our every deliberation, we must consider the impacts of our decisions upon the next seven generations." Law of the Iroquois Confederation. This is the way we must start thinking when we are doing our real property master planning. Sustainability is a concept that recognizes human civilization as an integral part of the natural world, and the natural world must be preserved and perpetuated if civilization is to sustain itself. Sustainable development—

a. Satisfies our needs and desires to improve our built environment while maintaining a balance with natural systems and their limited ability to accommodate that development.

b. Strives to create a balance between the natural and built environments to ensure the long-term survival of both.

c. Strives for no net loss to Nature. Sustainable planning therefore seeks creative ways to interject the values and principles of sustainable development into our decisionmaking process.

d. Is an integral part of a garrison commander's installation sustainability program in that it will help to ensure the long-term visibility of missions by reducing environmental impacts and managing resources. There are some basic principles that apply to sustainable planning and should guide the real property master planning process:

- (1) Strive to enhance the relationship between the natural and built environments
- (2) Establish the natural context as the framework for the built environment.
- (3) Endeavor to incorporate human development into the natural context at all scales.
- (4) In all decisions, reconfirm the relationship of nature to the built environment.
- (5) Use the continuous and iterative character of the planning process to emphasize sustainable development.

C-2. Sustainable factors

With these principles in mind, the following factors will be considered in developing an installation RPMP:

a. *Sustainable sites.*

(1) *Erosion, sedimentation, and water quality control.* Control erosion and pollutants to reduce negative impacts on water and air quality.

(2) *Site selection.* Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site. Select site based on functional adjacencies/relationships and land use compatibility.

(3) *Installation/base redevelopment.* Channel development to installation/base cantonment areas with existing infrastructure, protecting green fields and preserving habitat and natural resources.

(4) *Contaminated site redevelopment.* Rehabilitate damaged sites where development is complicated by real or perceived environmental contamination, reducing pressure on undeveloped land.

(5) *Alternative transportation.* Reduce pollution and land development impacts from automobile use.

(6) *Reduced site disturbance.* Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. (For multiple buildings/installations, opportunities exist to mitigate damaged areas in alternative areas/under other projects.)

(7) *Storm water management.* Limit disruption of natural water flows by minimizing storm water runoff, increasing onsite infiltration and reducing contaminants.

(8) *Landscape design to reduce heat islands.* Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat. (For multiple buildings/installations, strategies for heat island reduction, for example use of parking garages, might be shared among multiple projects/facilities.)

(9) *Light pollution reduction.* . Eliminate light trespass from the building site, improves night sky access, and reduces development impact on nocturnal environments. (For multiple buildings/installations, lighting has safety and force protection implications and sharing of lighting for walkways, and so on, needs to be addressed. In addition, implications for the design of lighting must extend to site/street lighting as well.)

(10) *Optimize site features.* Optimize utilization of the site's existing natural features and placement of man-made features on the site.

(11) *Facility impact.* Minimize negative impacts on the site and on neighboring properties and structures; avoid or mitigate excessive noise, shading on green spaces, additional traffic, obscuring significant views, etc.

(12) *Site ecology.* Identify and mitigate all existing site problems including contamination of soil, water, and air, as well as any negative impacts caused by noise, eyesores, or lack of vegetation, enhancing or creating new site habitat.

b. *Water efficiency.*

(1) *Water efficient landscaping.* Limit or eliminate the use of potable water for landscape irrigation. (For multiple buildings/installations, strategies for water efficient landscaping and/or opportunities for shared rainwater and storm runoff collection to supply irrigation systems need to be addressed.)

(2) *Innovative wastewater technologies.* Reduce generation of wastewater and potable water demand, while increasing local aquifer recharge. (For multiple buildings/installations, strategies for Innovative Wastewater Technologies such as shared gray water systems and onsite sewage treatment systems need to be addressed.)

(3) *Water use reduction.* Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

c. Energy and atmosphere.

(1) *Fundamental building systems commissioning.* Verify and ensure that fundamental building elements and systems are designed, installed and calibrated to operate as intended and buildings are energy efficient.

(2) *Minimum energy performance.* Establish the minimum level of energy efficiency for the building and systems. (For multiple buildings/installations, energy performance goals need to be established for the installation and then the individual building's performance can be set. Plans need to accommodate central energy systems.)

(3) *Chlorofluoro carbon reduction in heating, ventilation, air conditioning, and refrigeration equipment.* Reduce ozone depletion. (For multiple buildings/installations, chlorofluoro carbon reduction goals need to be set for installations.)

(4) *Optimize energy performance.* Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impacts associated with excessive energy use.

(5) *Renewable energy.* Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.

(6) *Measurement and verification.* Provide for the ongoing accountability and optimization of building energy and water consumption performance over time.

(7) *Green power.* Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis. (Energy/power strategies/plans should be established at the installation level and effectively integrate existing facilities, purchased power, green power, and distributed generation.)

(8) *Distributed generation.* Encourage the development and use of distributed generation technologies, which is less polluting than grid-source energy. (Energy/power strategies/plans should be established at the installation level and effectively integrate existing facilities, purchased power, green power, and distributed generation.)

d. Materials and resources.

(1) *Storage and collection of recyclables.* Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. (Recyclable strategies need to be determined in accordance with garrison waste management plans and ought to include in addition to recycling centers in facilities, installation-recycling centers. These strategies need to be developed in concert with local municipalities, and where there are no local programs, Army installations might take a lead to see that they are established.)

(2) *Building reuse.* If building sitings are appropriate for a building reuse, the structures are adaptable for reuse, and reuse is cost effective, the master plan should adopt this alternative. It extends the life cycle of existing building stock, conserves resources, retains cultural resources, reduce waste, and reduce environmental impacts of a construction program.

(3) *Construction waste management.* Divert construction, demolition, and land clearing debris from landfill disposal. Redirect recyclable material back to the construction or manufacturing process.

(4) *Resource reuse.* Extend the life cycle of targeted building materials through reuse, reducing environmental impacts of disposal and need for new construction materials. Manage a demolition program through building deconstruction and recycling/sale of reusable materials.

(5) *Recycled content.* Increase demand for building products that have incorporated recycled content material, reducing the demand on new raw material in the construction or manufacturing process.

(6) *Local/regional materials.* Increase demand for building products that are manufactured locally, reducing the environmental impacts resulting from transportation.

(7) *Rapidly renewable materials.* Reduce the use and depletion of finite raw and long cycle renewable materials by replacing them with rapidly renewable materials.

(8) *Forest Stewardship Council certified wood.* Encourage acquisition of Forest Stewardship Council certified wood-based materials and products.

(9) *Holistic delivery of facility.* Encourage a facility delivery process that actively engages all stakeholders in the design process to deliver a facility that meets all functional requirements while effectively optimizing tradeoffs among sustainability, first costs, life cycle costs and mission requirements.

e. Current mission.

(1) *Operation and maintenance.* Encourage the development of a facility delivery process that enhances efficient operation and maintenance of the facility.

(2) *Soldier and workforce productivity and retention.* Provide a high quality, functional, healthy and safe work environment to promote soldier and workforce productivity and retention.

(3) *Future missions.*

(4) *Functional life of facility and supporting systems.* Assess the functional life of a facility and its supporting systems to optimize the infrastructure investment.

(5) *Adaptation, renewal and future uses.* Encourage facility design that is responsive to change over time to maximize accommodation of future uses without creating waste and insuring maximum useful life of products.

Glossary

Section I Abbreviations

AC

Active Component

ACSIM

Assistant Chief of Staff for Installation Management

ACTS

Army Criteria Tracking System

ACUB

Army compatible use buffer

AR

Army regulation

AR

Army Reserve

ARNG

Army National Guard

ASA(ALT)

Assistant Secretary of the Army for Acquisition, Logistics, and Technology

ASA(I&E)

Assistant Secretary of the Army for Installations and Environment

ASIP

Army stationing and installation plan

BASOPS

base operations

CAR

Chief, Army Reserve

CIS

Capital Investment Strategy

COE

Chief of Engineers

DA

Department of the Army

DAIM-FD

Facilities Division, Assistant Chief of Staff for Installation Management

DAIM-ZS

Plans and Operations Division, Assistant Chief of Staff for Installation Management

DOD

Department of Defense

DPW

director of public works

EA

Environmental Assessment (formal NEPA document as opposed to environmental assessment, which is an informal environmental assessment that has not gone through the NEPA process)

EGIS

Enterprise Geographic Information System

EIS

environmental impact statement

EO

Executive Order

FFS

focused facility strategy (formally known as Army facility strategy)

GIS

Geographic information system

GOCO

Government-owned, contractor-operated

HQDA

Headquarters, Department of the Army

IDG

installation design guide

IFS

integrated facilities system

IMA

Installation Management Agency

IMA-ARD

Installation Management Agency, Army Reserve Division

ISR

installation status report

JLUS

joint land use study

JSRCFRB

Joint Services Reserve Component Facilities Review Board

LRC

long-range component

LUC

land use control

MACOM

major Army command

MC

mobilization component

MILCON

military construction

MIL-STD

military standard

MOU

Memorandum of Understanding

MPI

master planning instructions

NAF

Nonappropriated Fund

NCR

National Capital Region

NEPA

National Environmental Policy Act

NGB

National Guard Bureau

NGR

National Guard regulation

OACSIM

Office of Assistant Chief of Staff for Installation Management

OMA

Operations and Maintenance, Army

Pam

pamphlet

POM

Program Objective Memorandum

PPBE

Planning, Programming, Budgeting, and Execution

RC

Reserve Component

RDP

Range Development Plan

RPDP

real property development plan

RPI

real property inventory

RPLANS

Real Property Planning and Analysis System

RPMP

real property master plan

RPMPD

real property master plan digest

RPPB

real property planning board

SPOT

French term that translates to satellite for observation of terrain

SRC

short-range component

TAB

tabulation of existing and required facilities

TM

technical manual

UFC

unified facilities criteria

USACE

U.S. Army Corps of Engineers

Section II**Terms****Adequate facilities**

Those facilities that meet established Army standards for space and condition criteria (to include location criteria).

Army compatible use buffer (ACUB)

An ACUB is defined as a formal agreement between the Army and eligible entities for acquisition of land or interest in land and/or water rights from willing sellers. This agreement may provide for limiting encroachment on the installation through acquisition of development rights, cooperative agreements, conservation easements, and other means in accordance with applicable laws. Development and implementation of an ACUB may not constitute an acquisition of real property. Conveyances, as authorized by Section 2812 may supplement ACUBs or be executed individually. This agreement—

a. Permits the Secretary of Defense or the Secretary of a Military Department to enter into an agreement with an eligible entity (state, political subdivisions, or private sector conservation organization) to address the use of development of real property near a military installation for specific purposes; and to accept on behalf of the United States any property or interest acquired pursuant to such agreements.

b. Provides for the acquisition by eligible entity of all rights, title, interest in and to any real property; and sharing by the United States and the entity of the acquisition costs.

c. Requires the eligible entity, only upon the request of the secretary of the military department concerned, to transfer to the United States the minimum property or interests necessary to avoid encroachment from the use or management of the property.

d. Allows funds appropriated for operations and maintenance or research, development, testing and evaluation to be used for such agreements for purchase from willing sellers.

Army Installation Design Standards (IDS)

Army standards for site planning, buildings, vehicular and pedestrian circulation, landscaping, site elements (such as signage, utilities), force protection, and sustainable design and development for enhancing the installation environment and design. They provide detailed guidance for preparation of the IDG.

Area plan

This is an enlarged portion of the general site development plans that shows the proposed detailed development of complexes, utility services for a section of the installation, a complex firing range, or a single important building with its associated support elements. This plan may be short range but could show proposed long-range (10 to 15 years) physical changes. It generally includes roadways, pedestrian paths, parking, utility alignments, and so on. Common applications are the community center, airfield administration complexes, and so on. The area development plan

supports an RPMP by addressing and resolving localized comprehensive planning issues. For a proposed facility, an area development plan describes—

- a. Existing site conditions.
- b. Facilities servicing the site.
- c. Functions of the surrounding facilities and future development.
- d. Land uses.
- e. Transportation routes.

Army stationing and installation plan (ASIP)

The official Army system that documents authorized current and projected force structure (including other services, civilians, contractors and others) at installation level, for planning and programming purposes.

Army Installation Vision 2010

The blueprint for the Army's contributions to the operational concepts identified in Joint Vision 2010. It is the conceptual template for how the Army will channel the vitality and innovation of its soldiers and civilians, and leverage technological opportunities to achieve new levels of effectiveness as the land component of the joint war fighting team. Installation Vision 2010 defines tenets, goals, and strategies as they cascade from a model based on the Government Performance and Results Act and upon which much of the guidance and directives, and many management plans for operating and maintaining Army installations is built.

Army Reserve Regional Readiness Command

Commands subordinate to the CAR that manage and administer AR matters within specific geographic regions of the United States.

Automated Range Development Plan (ARDP)

A plan that automates the integration of the RDP, which is the garrison's prioritized list of range and training land requirements under the HQDA, Deputy Chief of Staff, G-3/5/7 Range and Training Land Program, with other garrison requirements that impact the training mission (for example, natural and cultural resource management requirements, pest management plans, hazardous waste plan, endangered species management plan, land use requirements, and so on) and graphically displays them on the garrison's ARDP Operational Overlay. The integration of garrison requirements with the doctrinal training requirement provides the garrison staff with a robust decision making capability, which supports sustainable ranges and development of encroachment mitigation measures. The ARDP also has an encroachment assessment component that should be used to help identify current and potential encroachment challenges.

Base operations (BASOPS) costs

Costs that include environmental compliance and conservation, pollution prevention, real property maintenance, base communications, and other activities vital to accomplishment of the base operations/support mission and to maintain adequate quality of life for our soldiers and their families. These include those support elements and services identified as indirect overhead by DA. Examples of BASOPS requirements include morale, welfare and recreation services; base services support; real estate acquisition and maintenance; facility support services; sustainment (maintenance and repair); minor construction; and environmental compliance. BASOPS requirements do not include operational mission support for tactical units such as training or tactical equipment maintenance, and do not support an exchange of war fighting information.

Carrying capacity

The maximum capabilities of the installation to support designated functions or activities without seriously degrading the function, activity, or assets of the installation or some portion thereof. Some examples are ability of the land to support training at certain levels of intensity, or availability of utilities (water, electricity, sewer) to support an activity, or ability of the transportation network to carry levels of traffic safely and efficiently.

Construction

The erection, installation, or assembly of a new facility. The acquisition, expansion, extension, alteration, conversion, or replacement of an existing facility. The relocation of a facility from one installation to another. Installed equipment made a part of the facility, related site preparation, excavation, filling, landscaping, or other land improvements.

Deconstruction

Selective building disassembly that preserves the integrity of the building materials and components so that they can be reused or recycled.

Defense access highways

Highways that are needed to support the movement of Department of Defense forces within the United States, and provide access to and between DOD installations.

District engineer, USACE

The operating arm of a division engineer responsible for supervision of major construction programs for multiple projects within an assigned geographical area. Also can provide reimbursable contracting and planning support to garrison commanders.

Division engineer, USACE

One of several USACE division engineers, USACE, who supervise the activities of certain District Engineers and the intervening management level between the Commander, USACE and district engineers (for example, U.S. Army Engineer Division, North Atlantic).

Enterprise GIS

A GIS that supports all or most functional areas within an organization, regardless of size and/or organizational complexity, that manages and processes large volumes of shared information that supports multiple business operations. It can be accessed and used seamlessly by many users who can be geographically and organizationally dispersed. All users access the same consistent information through local area networks, wide area networks, or the Internet. It often combines geographic data with other data types into a continuous set of information upon which the organization can make better decisions. The users range from the professional GIS power user who needs sophisticated software tools for complex geoprocessing to desktop GIS users who work with commercial off-the-shelf software applications to casual users who only need to view and query maps from an Internet browser. The foundation of EGIS is data standards. The architecture of an enterprise GIS should support industry standards in regard to data, communications, application development, and integration tools in order to leverage an organization's investment in data, information technology, and expertise.

Environmental noise management program

A program to control environmental noise to protect the health and welfare of people, on and off-post, impacted by all Army produced noise. The goal is to reduce community annoyance from environmental noise to the extent feasible consistent with Army training and materiel testing activities. Program includes the old Installation Compatible Use Zone program and Air Installation Compatible Use Zone program.

Environmental stewardship programs

Environmental, natural, and cultural resource programs that have been identified for inclusion in the RPMP environmental analysis and overlay of the LRC. The sustainable design and development policies and principles encompass these programs.

Executive Planning Board.

The senior planning board established at an installation to oversee the strategic planning efforts impacting on the operation and development of the installation, and the preparation and development of an installation strategic plan which is an amalgamation of other strategic plans and information. The senior mission commander chairs the board. Membership will consist of tenant unit commanders specified by the senior mission commander, the IMA region director, the installation commander, and others as specified by the senior mission commander.

Expansion capability

The potential for an installation to accommodate mobilization requirements successfully or the stationing of additional missions, units, activities, individuals, or functions.

Facility

Any interest in land, structure, or complex of structures together with any supporting road and utility improvements necessary to support the functions of an Army activity or mission. A facility includes the occupiable space it contains. Land, training areas, training and testing ranges are considered facilities. The class of facility is identified by a 5-digit facility category code (see DA PAM 415-28). Facility may also be called a real property facility.

Federal Regions

The 10 Federal Regions into which the 50 states have been placed: REGION I—Capital: Boston (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont); REGION II—Capital: New York City (New York, New Jersey, Puerto Rico, Virgin Islands); REGION III—Capital: Philadelphia (Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia); REGION IV—Capital: Atlanta (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee); REGION V—Capital: Chicago (Illinois, Indiana, Michigan, Minnesota,

Ohio, Wisconsin); REGION VI— Capital: Dallas—Fort Worth (Arkansas, Louisiana, New Mexico, Oklahoma, Texas); REGION VII—Capital: Kansas City (Iowa, Kansas, Missouri, Nebraska); REGION VIII—Capital: Denver (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming); REGION IX—Capital: San Francisco (Arizona, California, Hawaii, Nevada); REGION X—Capital: Seattle (Alaska, Oregon, Washington, Idaho).

Focused facility strategy

A HQDA managed initiative to improve the condition and quantity of specific facility types.

Garrison commander

The individual responsible for the daily operations of the garrison and installation property and providing for the health, safety, and welfare of the people living and working there. He/she directs comprehensive planning activities necessary to achieve and maintain excellent infrastructure and services.

Geographic information system (GIS)

A collection of computer hardware, software, and geographic data for capturing, storing, manipulating, analyzing, and displaying all forms of geographically referenced information.

Installation

For the purposes of this regulation, refer to the definition for installation in AR 405–45. For the purposes of this regulation, installation will also include Army Reserve Regional Readiness Commands.

Installation design guide (IDG)

An RPMP document prepared by a garrison that provides specific guidance on the architectural character of, and exterior and interior design parameters for the installation. All installation improvements, renovation projects, and new construction will comply with the IDG. The IDG will be prepared in accordance with the Army Installation Design Standards posted on the ACSIM Web site, using the model format provided.

Installation Management Agency (IMA)

A field-operating agency of the Office, Assistant Chief of Staff for Installation Management. It provides equitable, effective and efficient management of Army installations worldwide to support mission readiness and execution, enable the well-being of soldiers, civilians and family members, improve infrastructure, and preserve the environment. It is divided into seven Regions for operational purposes.

Installation Management Agency region (IMA region)

An operational subset of the IMA that executes IMA plans, policies, and guidance.

Installation support services

Those services provided by the garrison that support the garrison commander, and assigned mission units and tenant agencies in the conduct of their functions.

Installation sustainability program

Assists the garrison commander in identifying and defining short-, mid-, and long-term goals that will transition the installation into a responsive training and operating platform to meet current and future mission requirements while concurrently providing a support base for a high quality of life. This program identifies responsible offices, resource requirements, technology and policy requirements, and economical and efficient opportunities benefiting the installation and the region. The program is established in AR 200–1. Additional information is available on the Army Knowledge Online site under ACSIM and ODEP.

Integrated Facilities System (IFS)

An automated information collection system that encompasses the life cycle management of real property resources.

Land use controls (LUC)

LUCs are any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent or reduce risks to human health, safety and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and physical barriers intended to limit access to property, such as fences or signs. Legal mechanisms include restrictive covenants, equitable servitudes, and deed notices. Administrative mechanisms include notices, construction permitting, or land use management systems that may be used to ensure compliance with use restrictions. LUCs are used to mitigate either risks associated with exposure to contamination during or residual to cleanup, instead of eliminating those risks by removing or treating the contaminated media to 'unrestricted use' levels. LUCs may be imposed either during or subsequent to an environmental response conducted under the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA)

or corrective action under the Resource Conservation and Recovery Act. The term CERCLA applies to both surplus real property planned for transfer out of Federal control and for active installations. LUCs are established through the coordinated efforts of the installation master planner, Environmental Officer, installation staff Judge Advocate, and Director of Plans and Training, and approved by the garrison commander and the IMA Region Directorate. Land Use Plans will be annotated to reflect the LUCs and new land use if changed. During real property master planning of an Army installation, the real property master planner must consider limitations on potential uses of land associated with environmental contamination and cleanup. RPMP documentation will track LUCs imposed on installation land until it leaves federal ownership.

Major Army command (MACOM)

The command level immediately subordinate to that of the Chief of Staff, U.S. Army. There are a number of MACOMS in the Army. Each MACOM has command of units, organizations, and activities that share a common mission or function. For the purpose of this regulation, the CAR functions as a MACOM commander with regards to the real property master planning.

Master planning area (outside continental United States, except Alaska and Hawaii)

U.S. Army installations and real property holdings within a specific geographic area that are grouped together and designated as a master planning area for development of a single military community or installation.

Master planning instructions (MPI)

Real property master planning implementing information that prescribes technical guidance and procedures for the development of RPMPs.

Military Construction, Army (MCA)

A program for the acquisition of major construction projects and land during peacetime and under mobilization conditions. MCA requests requiring congressional line item authorization and funding. Project preparation and documentation is controlled by AR 415-15.

Military Construction, Army Reserve

Same definition as MCA as it applies to AR.

Military Construction, National Guard

Same definition as MCA as it applies to ARNG.

Mission commander

A commander responsible for the operational mission directed by Headquarters, Department of the Army.

Planning, Programming, Budgeting, and Execution (PPBE) process

The Army's primary resource management system. It constitutes a major decision-making process. It ties planning, programming, and budgeting together. It forms the basis for building a comprehensive plan in which budgets flow from programs, programs flow from requirements, requirements from missions, and missions from national security objectives. The system integrates centrally managed programs for manpower; research, development, and acquisition; and stationing and construction. The system also integrates the operations and maintenance, Army (O&M) budgets, and Army needs for manpower, housing and construction. It supports budget preparation from installation to departmental level. During execution, it provides feedback to the planning, programming, and budgeting process.

Privatization

Divesting Army utility plants, utility services, family housing, and possibly other BASOPS activities to public/private entities, allowing the Army to concentrate on the functions most critical to core Army missions. Privatization may or may not involve the leasing, permitting, or transfer of ownership of Army real property.

Program and Budget Guidance (PBG)

Covers force structure and associated manpower, appropriations of immediate interest, such as OMA, MCA, and Army family housing, procurement appropriations, and construction using trust funds and non-appropriated funds.

Program Objective Memorandum (POM)

The primary means for the Army leadership to allocate resources to support Army roles and missions. It translates planning decisions, Office, Secretary of Defense programming guidance, and congressional guidance into a detail allocation of forces, manpower, and funds. It presents the Army's proposal for a balanced allocation of its resources among centrally managed programs for manpower; operations; research, development and acquisition; and stationing

and construction within specified constraints. OSD reviews the POM and modifies it to reflect program decisions. The approved program provides the basis for Army budget estimates.

Real property allowance criteria

Authorized facilities or space planning criteria for a given unit, activity or function. ACTS is the primary source of space planning criteria.

Real property inventory (RPI)

A detailed inventory of each reportable item of real property. It serves as the basic source of information for the category, status, cost, area, capacity, condition, use, construction material, and capital improvements for each item of real property as defined by AR 415–28. The RPI is maintained at installation level and in the aggregate at HQDA.

Real property master plan (RPMP)

The garrison commander's plan for the management and development of the installation's real property resources. It analyzes and integrates the plans prepared by the DPW and other garrison staff, mission commanders and other tenant activities, higher headquarters, and those of neighboring communities to provide for orderly development, or in some cases, realignment and closure, of real property resources.

Real Property Planning and Analysis System (RPLANS)

An automated system that calculates real property allowances by facility category groups as defined in AR 415–28 and DA Pam 415–28. The TAB is produced using RPLANS.

Real property planning board (RPPB)

A board consisting of members of the command, operational, engineering, planning and tenant interests of the installation or community that advises the mission commanders regarding planning decisions (see chap 4 for further description).

Senior mission commander

The senior mission commander is the senior mission commander of an installation also responsible for executive level oversight of installation support services. The senior mission commander will be a general officer appointed on orders by HQDA.

Site

As defined in AR 405–45.

Sustainment

The maintenance and repair portion of sustainment, restoration and modernization. Maintenance and repair of real property includes maintenance and repair of buildings, structures, grounds, utilities systems, etc. within delegated authorization limits, to keep them in good working order. It includes regularly scheduled maintenance as well as anticipated major repairs or replacement of components that occur periodically over the expected service life of the facility. It may also include minor construction activities (erection, installation, or assembly of a new facility, or addition, expansion, or alteration of existing facilities within delegated authorization limits).

Sustainable design and development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Because many real property master planning decisions have long-term impacts, sustainability must be included. The interrelationship between environments, resources consumed, waste products, and use of facilities and land must be carefully designed and developed to preclude permanent damage to the future environment. It is a "cradle to cradle" process that assures future generations the same or better quality of life that we currently experience.

Sustainment, restoration, and modernization

Applies to all real property regardless of appropriation. In general, terms, it replaces real property maintenance, which normally only referred to work performed on real property using operations and maintenance funds. Sustainment maintains facilities in the current condition and includes regularly scheduled adjustments and inspections, preventative maintenance tasks, and emergency response for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically throughout the life cycle of facilities (for example, roofs, heating/cooling systems, and so on). Restoration and modernization improve facilities and are accomplished primarily with MILCON but can be done with operations and maintenance funding, depending on the amount of new construction work in the project (note: current work classification and funding constraints still apply). Restoration improves existing facilities to current standards while modernization adapts existing facilities to meet new standards, which support new missions or equipment. A benefit of the term sustainment, restoration, and modernization is to link the need to fund

sustainment fully (operations and maintenance funds) with the need to restore and/or modernize (operations and maintenance funds and/or MILCON funds) facilities.

Tabulation of existing and required facilities (TAB)

A tabular report of facility assets, requirements, excesses, and shortfalls. The TAB may be produced at the level of either individual facility category codes or facility activity codes (see AR 415–28 for a description of facility activity codes). RPLANS, which includes entries that reflect actual and specific user/mission real property facility requirements, will be used to produce the TAB. RPLANS-generated TABS are recognized by HQDA as part of the justification of construction programs.

Tenant unit, agency, or activity

A unit, agency, or activity that occupies facilities on an installation and receives support services from that installation.

The Army Plan (TAP)

A plan that documents Army leadership policy and provides resource guidance. It outlines national military strategy and security policy for the Army, states the Army’s priorities within expected resource levels, and guides development of the total Army program and budget. It records the Army objective force and provides additional guidance for bridging the gap between the planning force and the programmed force.

Vision

The garrison commander’s statement on how the installation will develop and improve over the next 20 years to adapt to the modernizing world, the changing Army, and our changing society. It expresses the desired relationship between the installation and the surrounding communities and the desired interaction of installation functions, activities and land uses. It also expresses how the garrison commander will satisfy future mission needs while maintaining excellent stewardship of the environment. Army installations are people as well as land and infrastructure. Therefore, the vision should express how quality of life remains a paramount issue in the operation, management and development of the installation.

Section III

Special Abbreviations and Terms

This section contains no entries.

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PIN 007060-000

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OneCol FORMATTER WIN32 Version 219

PIN: 007060-000

DATE: 05-12-05

TIME: 11:04:00

PAGES SET: 41

DATA FILE: C:\wincomp\r210-20.fil

DOCUMENT: AR 210-20

SECURITY: UNCLASSIFIED

DOC STATUS: REVISION

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APPENDIX D FORT LEWIS REGULATION 200-1

DEPARTMENT OF THE ARMY
HEADQUARTERS, I CORPS AND FORT LEWIS
Fort Lewis, Washington 98433-9500

FL Regulation
No. 200-1

1 November 2004

Environmental Quality
ENVIRONMENTAL PROTECTION AND ENHANCEMENT

	<u>PARAGRAPH</u>	<u>PAGE</u>
CHAPTER 1 GENERAL		
Purpose	1-1	1-1
Applicability	1-2	1-1
References	1-3	1-1
Explanation of Terms	1-4	1-2
Precedence of Federal, State and Local Environmental Laws and Regulations	1-5	1-2
Punitive Action	1-6	1-2
Federal Facility Environmental Compliance	1-7	1-2
Fort Lewis Environmental Policy	1-8	1-3
Installation and Regulatory Agency Relationships	1-9	1-3
Permits	1-10	1-3
Education and Training	1-11	1-4
Environmental Audits	1-12	1-4
CHAPTER 2 RESPONSIBILITIES		
Purpose	2-1	2-1
Directorate of Public Works	2-2	2-1
Environmental and Natural Resource Division Yakima Training Center	2-3	2-3
Joint Transportation Directorate	2-4	2-3
Directorate of Logistics	2-5	2-3
Directorate of Plans, Training and Mobilization	2-6	2-4
Preventive Medicine Services – Madigan Army Medical Center	2-7	2-4
Public Affairs Office	2-8	2-4
Safety Office	2-9	2-4
Staff Judge Advocate	2-10	2-5
Directorate of Contracting	2-11	2-5
Subordinate Commands, Other Staff Directorates and Activities	2-12	2-6
304th CMMC – Installation Munitions Office	2-13	2-8

*This regulation supersedes FL Reg 200-1, 1 February 2002

	<u>PARAGRAPH</u>	<u>PAGE</u>
CHAPTER 3 COMMITTEES		
Purpose	3-1	3-1
Fort Lewis Local Emergency Planning Committee	3-2	3-1
Installation Compatible Use Zone Committee	3-3	3-3
Solid Waste Advisory Committee	3-4	3-3
Lead Hazards Management Committee	3-5	3-4
Fort Lewis Water Council	3-6	3-5
Installation Sustainability Board	3-7	3-6
CHAPTER 4 ENVIRONMENTAL EXCELLENCE AWARDS		
Purpose	4-1	4-1
Fort Lewis Awards	4-2	4-1
Environmental Quality Award	4-3	4-2
National Resource Conservation Award	4-4	4-2
Pollution Prevention Award	4-5	4-2
Recycling Award	4-6	4-2
Energy Conservation Award	4-7	4-3
Annual Federal Energy Award	4-8	4-3
Historic Preservation Award	4-9	4-3
APPENDIX A - References		
APPENDIX B - Glossary		
APPENDIX C - Environmental Documentation Requirements for Proposed Actions		
APPENDIX D - Pollution Prevention		
APPENDIX E - Hazardous Material Management		
APPENDIX F - Hazardous Waste Management		
APPENDIX G - Solid Waste Management		
APPENDIX H - Air Pollution Management		
APPENDIX I - Water Resources Management		
APPENDIX J - Training Requirements		
APPENDIX K - Oil and Hazardous Substances Spill Control and Contingency Plans		
APPENDIX L - Environmental Compliance During Field Training		
APPENDIX M - Environmental Compliance for Operations at Motor Pools		
APPENDIX N - Environmental Compliance for General Support Maintenance		
APPENDIX O - Underground and Aboveground Storage Tanks (USTs and ASTs)		
APPENDIX P - Noise Pollution Abatement		
APPENDIX Q - Natural Resources Management		
APPENDIX R - Cultural Resources Management		
APPENDIX S - Digging Permit Procedures		
APPENDIX T - Requisition of Ozone Depleting Chemicals		
APPENDIX U - Hazardous Materials Substitution Program		
APPENDIX V - Training with Unserviceable Munitions		
APPENDIX W - Borrow Source Use		
APPENDIX X - Toxic Substance Management		

APPENDIX C

ENVIRONMENTAL DOCUMENTATION REQUIREMENTS FOR PROPOSED ACTIONS

1. PURPOSE. This appendix provides guidance for integrating environmental considerations into installation-wide planning and decision-making. It establishes policy and responsibilities for ensuring that required environmental documentation is prepared for proposed Fort Lewis actions.
2. KEY APPLICABLE REGULATIONS.
 - a. The National Environmental Policy Act (NEPA) establishes policies and goals for the protection of the environment. NEPA requires the systematic examination of possible and probable environmental consequences of implementing a proposed action.
 - b. 32 CFR 651, *Environmental Effects of Army Actions*, establishes policy, responsibilities and procedures for implementing the requirements of NEPA into Army planning and decision making.
3. POLICY. It is the policy of Fort Lewis to:
 - a. Avoid or minimize adverse environmental consequences while performing all mission activities.
 - b. Ensure that the environmental consequences are considered in the decision process for implementing any Fort Lewis action, operation or project.
 - c. Prepare required environmental documentation and obtain the necessary federal, state, regional, and local authorization before executing any action requiring such documentation and authorization.
4. ACTIONS REQUIRING ENVIRONMENTAL ANALYSIS. The general types of proposed actions requiring environmental impact analysis under NEPA, unless categorically excluded or otherwise included in existing NEPA documentation, include:
 - a. Policies, regulations, and procedures (for example, Army and installation regulations).
 - b. New management and operational concepts and programs, including logistics; RDT&E; procurement; personnel assignment; real property and facility management (such as master plans); and environmental programs such as Integrated Natural Resource Management Plan (INRMP), Integrated Cultural Resources Management Plan (ICRMP), and Integrated Pest Management Plan. NEPA requirements may be incorporated into other Army plans in accordance with 40 CFR 1506.4.
 - c. Projects involving facilities construction.

d. Operations and activities including individual and unit training, flight operations, overall operation of installations, or facility test and evaluation programs.

e. Actions that require licenses for operations or special material use, including a Nuclear Regulatory Commission (NRC) license, an Army radiation authorization, or Federal Aviation Administration air space request (new, renewal, or amendment), in accordance with AR 95-50.

f. Materiel development, operation and support, disposal, and/or modification as required by DOD 5000.2-R.

g. Transfer of significant equipment or property to the ARNG or Army Reserve.

h. Research and development including areas such as genetic engineering, laser testing, and electromagnetic pulse generation.

i. Leases, easements, permits, licenses, or other entitlement for use, to include donation, exchange, barter, or Memorandum of Understanding (MOU). Examples include grazing leases, grants of easement for highway right-of-way, and requests by the public to use land for special events such as air shows or carnivals.

j. Federal contracts, grants, subsidies, loans, or other forms of funding such as Government-Owned, Contractor-Operated (GOCO) industrial plants or housing and construction via third party contracting.

k. Request for approval to use or store materials, radiation sources, hazardous and toxic material, or wastes on Army land. If the requester is non-Army, the responsibility to prepare proper environmental documentation may rest with the non-Army requester, who will provide needed information for Army review. The Army must review and adopt all NEPA documentation before approving such requests.

l. Projects involving chemical weapons/munitions.

5. RESPONSIBILITIES.

a. Proponents at all levels will:

(1) Identify the proposed action, the purpose and need, and reasonable alternatives for accomplishing the action.

(2) Fund and prepare NEPA analyses and documentation for their proposed actions. This responsibility will include negotiation for matrix support and services outside the chain of command when additional expertise is needed to prepare, review, or otherwise support the development and approval of NEPA analyses and documentation. These NEPA costs may be borne by successful contract offers.

(3) Ensure accuracy and adequacy of NEPA analyses, regardless of the author. This work includes incorporation of comments from appropriate servicing Army environmental and legal staffs.

(4) Ensure adequate opportunities for public review and comment on proposed NEPA actions, in accordance with applicable laws and EOs as discussed in Sec. 651.14 (e). This step includes the incorporation of public and agency input into the decision-making process.

(5) Ensure that NEPA analysis is prepared and staffed sufficiently to comply with the intent and requirements of federal laws and Army policy. These documents will provide enough information to ensure that Army decision makers (at all levels) are informed in the performance of their duties (40 CFR 1501.2, 1505.1). This result requires coordination and resolution of important issues developed during the environmental analysis process, especially when the proposed action may involve significant environmental impacts, and includes the incorporation of comments from an affected installation's environmental office in recommendations made to decision makers.

(6) Adequately fund and implement the decision including all mitigation actions and effectiveness monitoring.

(7) Prepare and maintain the official record copy of all NEPA analyses and documentation for which they are the proponent. This step will include the provision of electronic copies of all EAs, final EISs, and Records of Decision (RODs), through their chain of command, to AEC, and forwarding of those same documents to the Defense Technical Information Center (DTIC) as part of their public distribution procedures. In addition, copies of all EAs and FNSIs (in electronic copy) will be provided to ODEP. A copy of the documentation should be maintained for six years after signature of the FNSI/ROD.

(8) Maintain the administrative record for the environmental analysis performed. The administrative record shall be retained by the proponent for a period of six years after completion of the action, unless the action is controversial or of a nature that warrants keeping it longer. The administrative record includes all documents and information used to make the decision. This administrative record should contain, but is not limited to, the following types of records:

(a) Technical information used to develop the description of the proposed action, purpose and need, and the range of alternatives.

(b) Studies and inventories of affected environmental baselines.

(c) Correspondence with regulatory agencies.

(d) Correspondence with, and comments from, private citizens, Native American tribes, Alaskan Natives, local governments, and other individuals and agencies contacted during public involvement.

(e) Maps used in baseline studies.

(f) Maps and graphics prepared for use in the analysis.

(g) Affidavits of publications and transcripts of any public participation.

(h) Other written records that document the preparation of the NEPA analysis.

(i) An index or table of contents for the administrative record.

(9) Identify other requirements that can be integrated and coordinated within the NEPA process. After doing so, the proponent should establish a strategy for concurrent, not sequential, compliance; sharing similar data, studies, and analyses; and consolidating opportunities for public participation. Examples of relevant statutory and regulatory processes are given in Sec. 651.14 (e).

(10) Identify and coordinate with public agencies, private organizations, and individuals that may have an interest in or jurisdiction over a resource that might be impacted. Coordination should be accomplished in cooperation with the Installation Environmental Offices in order to maintain contact and continuity with the regulatory and environmental communities. Applicable agencies include, but are not limited to:

(a) State Historic Preservation Officer.

(b) Tribal Historic Preservation Officer.

(c) U.S. Fish and Wildlife Service.

(d) Regional offices of the EPA.

(e) State agencies charged with protection of the environment, natural resources, and fish and wildlife.

(f) USACE Civil Works regulatory functions, including Clean Water Act, Section 404, permitting and wetland protection.

(g) National Marine Fisheries Service.

(h) Local agencies and/or governing bodies.

(i) Environmental interest groups.

(j) Minority, low-income, and disabled populations.

(k) Tribal governments.

(l) Existing advisory groups (for example, Restoration Advisory Boards, Citizens Advisory Commissions, etc.).

(11) Identify and coordinate, in concert with environmental offices, proposed actions and supporting environmental analyses with local and/or regional ecosystem management initiatives such as the Mojave Desert Ecosystem Management Initiative or the Chesapeake Bay Initiative.

(12) Review Army policies, including AR 200-1 (Environmental Protection and Enhancement), AR 200-3 (Natural Resources--Land, Forest, and Wildlife Management), and AR 200-4 (Cultural Resources Management) to ensure that the proposed action is coordinated with appropriate resource managers, operators, and planners, and is consistent with existing Army plans and their supporting NEPA analyses.

(13) Identify potential impacts to (and consult with as appropriate) American Indian, Alaskan Native, or Native Hawaiian lands, resources, or cultures (for example, sacred sites, traditional cultural properties, treaty rights, subsistence hunting or fishing rights, or cultural items subject to the Native American Graves Protection and Repatriation Act (NAGPRA)). All consultation shall be conducted on a Government-to-Government basis in accordance with the Presidential Memorandum on Government-to-Government Relations with Tribal Governments (April 29, 1994) (3 CFR, 1994 Comp, p. 1007) and AR 200-4 (Cultural Resources Management). Proponents shall consider, as appropriate, executing Memoranda of Agreements (MOAs) with interested Native American groups and tribes to facilitate timely and effective participation in the NEPA process. These agreements should be accomplished in cooperation with Installation Environmental Offices in order to maintain contact and continuity with the regulatory and environmental communities.

(14) Review NEPA documentation that relies upon mitigations that were not accomplished to determine if the NEPA analysis needs to be rewritten or updated. Such an update is required if the unaccomplished mitigation was used to support a FNSI. Additional public notice/involvement must accompany any rewrites.

b. Installation Commanders will:

(1) Establish an installation (command organization) NEPA program and evaluate its performance through the Environmental Quality Control Committee (EQCC) or its equivalent, as required by AR 200-1, Environmental Protection and Enhancement.

(2) Designate a NEPA POC to coordinate and manage the installation's (command organization's) NEPA program, integrating it into all activities and programs at the installation. The installation commander will notify the MACOM of the designation.

(3) Establish a process that ensures coordination with the MACOM, other installation staff elements (to include PAOs and tenants) and others to incorporate NEPA requirements early in the planning of projects and activities.

(4) Ensure that actions subject to NEPA are coordinated with appropriate installation organizations responsible for such activities as master planning, natural and cultural resources management, or other installation activities and programs.

(5) Ensure that funding for environmental analysis is prioritized and planned, or otherwise arranged by the proponent, and that preparation of NEPA analyses, including the involvement of the public, is consistent with the requirements of this part.

(6) Approve NEPA analyses for actions under their purview. The Adjutant General will review and endorse documents and forward to the NGB for final approval.

(7) Ensure the proponent initiates the NEPA analysis of environmental consequences and assesses the environmental consequences of proposed programs and projects early in the planning process.

(8) Assist in the review of NEPA analyses affecting the installation or activity, and those prepared by DOD and other Army or federal agencies, as requested.

(9) Provide information through the chain of command on proposed actions of national interest to higher headquarters prior to initiation of NEPA documentation.

(10) Maintain official record copies of all NEPA documentation for which they are the proponent and forward electronic copies of those final EISs and EAs through the MACOM to AEC.

(11) Ensure that the installation proponents initiate required environmental analyses early in the planning process and plan the preparation of necessary NEPA documentation.

(12) Ensure NEPA awareness and/or training is provided for professional staff, installation-level proponents, and document reviewers (for example, master planning, range control, etc.).

(13) Solicit support from MACOMs, CBTDEVs, and MATDEVs, as appropriate, in preparing site-specific environmental analysis.

(14) Ensure that local citizens are aware of and, where appropriate, involved in NEPA analyses, and that public comments are obtained and considered in decisions regarding proposals.

(15) Use environmental impact analyses to determine the best alternatives from an environmental perspective, and to ensure that these determinations are part of the Army decision process.

c. Environmental officers (at the Installation, MACOM, and Army activity level) shall, under the authority of the Installation Commander:

- (1) Represent the Installation, MACOM, or activity Commander on NEPA matters.
- (2) Advise the proponent on the selection, preparation, and completion of NEPA analyses and documentation. This approach will include oversight on behalf of the proponent to ensure adequacy and support for the proposed action, including mitigation monitoring.
- (3) Develop and publish local guidance and procedures for use by NEPA proponents to ensure that NEPA documentation is procedurally and technically correct. (This includes approval of Records of Environmental Consideration (RECs).)
- (4) Identify any additional environmental information needed to support informed Army decision-making.
- (5) Budget for resources to maintain oversight with NEPA and this part.
- (6) Assist proponents, as necessary, to identify issues, impacts, and possible alternatives and/or mitigations relevant to specific proposed actions.
- (7) Assist, as required, in monitoring to ensure that specified mitigation measures in NEPA analyses are accomplished. This monitoring includes assessing the effectiveness of the mitigations.
- (8) Ensure completion of agency and community coordination.

d. The SJA will:

- (1) Provide legal opinion to proponents concerning the applicability of exemption by law to environmental documentation for proposed actions.
- (2) Provide other legal assistance concerning required environmental documentation for proposed actions.
- (3) Review all EAs and EISs for legal sufficiency.

e. The PAO will assist the Commander in preparing for public hearings or public meetings regarding proposed Fort Lewis actions.

f. The YTC Installation Commander will review EAs, FNSIs, EISs, and RODs for YTC proposed actions.

g. The ENRD-YTC will coordinate environmental documentation for proposed YTC actions and will:

- (1) Provide technical guidance and assistance to proponents.
- (2) Conduct all coordination with federal, state, regional and local authorities concerning required environmental documentation, in coordination with the Fort Lewis ENRD and the SJA .
- (3) Review and approve RECs and EBSs for YTC proposed actions.
- (4) Prepare and/or review EAs and FNSIs, and forward through the Fort Lewis ENRD for approval by the Fort Lewis Garrison Commander.
- (5) Assist ENRD in the preparation of EISs.

6. SUMMARY.

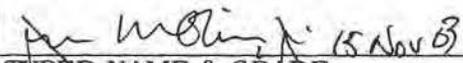
a. The broad spectrum of proposed actions range from minor to major. These actions may or may not be environmentally controversial or have a significant impact on the environment. Regardless of the action, the environmental impact must be evaluated and considered in the planning and decision-making process using the procedures established in this regulation.

b. Failure to prepare and provide necessary environmental documentation may result in unnecessary delays or disapproval of project implementation and possible legal action.

c. Consideration of environmental consequences of a proposed project is not only a requirement of the law; the environmental analysis and consequent actions to eliminate or minimize adverse environmental impacts of the project will help ensure continued future sustainable mission accomplishment at Fort Lewis and its sub-installations.

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APPENDIX E LAND USE DECONFLICTION PROCESS

STAFF SUMMARY		DATE 30 October 2003	
<p><i>MKS</i> <i>2 Nov</i></p> THRU: Garrison Commander TO: Deputy Commanding General/Chief of Staff		FROM: <i>Stephen Perrenot</i> STEPHEN T. PERRENOT, COLONEL, EN Director of Public Works	
SUBJECT Land Use Deconfliction Process Description Document and Education Plan <i>Tasker #'s 0308-03 and 0308-04</i>		ACTION OFFICER  TYPED NAME, GRADE, & PHONE Bill Van Hoesen GS-11, 966-1780	SUSPENSE
PROBLEM OR REASON FOR ACTION At the Installation Sustainability Board (ISB) meeting on 8 August 2003, it was determined that the Land Use Deconfliction process needed a formal implementing directive.			
FACTS/DISCUSSION <ol style="list-style-type: none"> 1. A new process for ensuring all potential conflicts for current and future land use has been considered, addressed, and briefed at the 8 August 2003 Installation Sustainability Board meeting. This process assists with the installation sustainability efforts by ensuring that the effects of all activities, existing and new, are evaluated in concert with the resources available to properly support them in a sustainable manner. 2. The ISB agreed to formalize this as a routine installation process at the 8 August 2003 Installation Sustainability Board meeting and tasked the preparation of a document that describes the Land Use Deconfliction Process and another document that outlines an education plan for the process. 3. Both the description document and the education plan have been consolidated into one document and are attached. 4. Upon approval, Land Use Deconfliction becomes a pilot project for 365 days, at which time it will be evaluated for effectiveness and implementation as an official installation planning tool. 			
RECOMMENDATION The Garrison Commander approves and signs the attached Land Use Deconfliction Process document (<u>Red Tab</u>) and the Deputy Commanding General/Chief of Staff approves the document.			
COORDINATION			
OFFICE	SIGNATURE	CONCUR	NONCONCUR
DPTM	/s/	x	
G8/DCSRM	/s/	x	
DOL	/s/	x	
DCA	/s/	x	
1/25 IBCT	/s/	x	
CDR YTC	/s/	x	
MAMC	/s/	x	
G3 TRAINING	/s/	x	
SJA	/s/	x	
ENCLOSURES	APPROVED (Signature)	DISAPPROVED (Signature)	
1	 TYPED NAME & GRADE James M. Collins, JR, MG, DCG, C/S	TYPED NAME & GRADE James M. Collins, JR, MG, DCG, C/S	

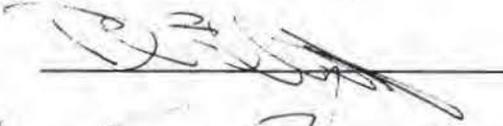
LAND USE DECONFLICTION PROCESS
FOR
FORT LEWIS, WASHINGTON

LAND USE DECONFLICTION PROCESS FOR FORT LEWIS, WA

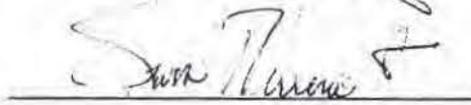
Prepared by: ~~6~~ Bill Van Hoesen
NEPA Program
Program Manager



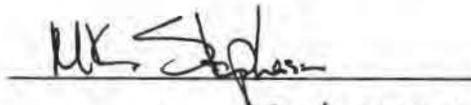
Reviewed by: Paul T. Steucke
Chief, Environmental and
Natural Resources Division



Submitted by: ~~Stephen~~ T. Perrenot
COLONEL, EN
Director of Public Works



Approved by: Michael T. Stephenson
COLONEL,
Garrison Commander



3 Nov 2003
Date

1. Land Use Deconfliction Process

1.1. Purpose and Need

The Land Use Deconfliction Process is a Fort Lewis specific Installation Management Agency (IMA) integrated planning process that combines information sources with knowledgeable personnel, to facilitate well-informed decision-making for actions on and affecting Fort Lewis. This tool will serve as a pilot project for 365 days at which time it will be evaluated for effectiveness and implementation as an official installation planning tool.

Currently, the primary means of coordination of activities and projects on Fort Lewis occurs through the distribution of project submittals to a limited audience late in the planning process. The current process augments miscommunication and time spent on distributing and gathering project information, and at times leads to re-planning. The current process can lead to inefficiencies that impinge on timelines, procedures, and results. For example, although written comments from individuals are important feedback, the lack of interaction between individuals as a group leads to piecemeal planning. The installation as a whole bears the long-term costs of mitigating these inefficiencies.

The purpose of the Land Use Deconfliction Process is to utilize organized meetings that focus on combining information sources with institutional knowledge to coordinate and integrate activities and projects related to Fort Lewis. The emphasis of this process is on preliminary, collaborative, and interactive assessments of proposals based on the most accurate information available.

The Land Use Deconfliction Process was initiated by Public Works (PW) and prompted by the need for well-organized and valuable coordination on activities and projects that directly and indirectly involve various programs, divisions and directorates on Fort Lewis. This process supports Fort Lewis Sustainability initiatives and can serve as a tool to assist with offsetting encroachment issues.

1.2. Scope

The Land Use Deconfliction Process is intended for units, tenants, and Garrison staff. It is expected that Fort Lewis personnel will make use of this process for coordinated planning and improved management.

Each organization identifies a lead and alternate point of contact. The lead and alternate contacts are knowledgeable of their respective organizations and programs. This network of people serves as a pool of specialized individuals to assist with planning installation activities and projects. Specific organizations are requested to attend Land Use Deconfliction meetings on an as-needed basis, subject to the proposals being assessed.

In order to coordinate activities and projects through the Land Use Deconfliction Process, a proponent must be identified. A proponent is the person or organization responsible for a specific proposed activity or project on or near Fort Lewis. The proponent provides information pertinent to the proposal to initiate the process.

1.3. Procedures

The Land Use Deconfliction Process involves:

1. **Input** of basic information resources, such as databases, documents, and studies coupled with
2. **Throughput**, which entails the awareness and assessment of inputs by installation personnel in a collaborative setting in order to provide
3. **Output** for better management by providing decision-makers with courses of action to facilitate the follow-on decision-making process.

1.3.1. Input

The process relies on various sources of information including geographic information systems (GIS) data, installation databases, photographs, and text documents, which can be electronically linked to each other. GIS and related databases on Fort Lewis provide the majority of the information used at Land Use Deconfliction meetings.

1.3.2. Throughput

The focal point of the process is the throughput. This is when installation specialists and stakeholders convene to assess proposals based on the most accurate information available.

Once an activity or project surfaces, the proponent submits their proposal to an IMA representative at Fort Lewis for the Land Use Deconfliction Process. The following provides a basic outline of initiating the throughput portion of the deconfliction process:

- **Proponent prepares a basic proposal that includes the following details:**
 - Who – the persons and groups involved
 - What – the name and description of the proposal
 - Where – geographic location and boundaries
 - When – duration and frequency
 - How - equipment and actions necessary
- **Proponent provides proposal to IMA representative at Fort Lewis for evaluation of legitimacy and presentation phase:**

The person receiving the proposal is based on the location or context of the proposal. A phone call or e-mail should be sent to the facilitator if the project is located off-post or if a location for the project has not yet been determined.

Facilitator: Public Works – Environmental and Natural Resources Division

Cantonment Representative: Public Works – Planning Division

Ranges/Training Area Representative: Directorate for Plans, Training and Mobilization – Range Division

Real Estate Representative: Public Works – Planning Division

- **Meeting Preparation:**

Proposal information ends up with the facilitator (Public Works, Environmental and Natural Resources Division) who plans meeting logistics with GIS personnel

The facilitator gathers necessary information and reserves the facilities

Participants are determined based on proposal

E-mail meeting request sent out to participants

- **Convene a Deconfliction Meeting:**

If the lead contact is unable to make the meeting, then the alternate(s) will be responsible to attend

At the meeting the proposal is presented, discussed, and assessed to determine the next steps

Monthly Land Use Deconfliction meetings are held for routine and scheduled planning proposals. Meeting logistics are prepared by Public Works. The format of the meetings centers on the visual display of GIS maps with the use of a projector and screen. This format ensures a synchronized discussion. Occasionally an intense or urgent proposal surfaces that entails a short, intensive, focused meeting of selected participants and individuals.

Combined institutional knowledge from various individuals and organizations allows for the simultaneous exchange of information and concerted planning efforts. This synergistic interaction by personnel enhances awareness and management of potential risks.

1.3.3. Output

The Land Use Deconfliction Process assists with decision-making. The output of the process identifies installation impacts and potential courses of action for better-informed decisions. Hard-copy map views of the proposals are also produced to assist with decision-making.

Following each meeting a summary is written and distributed to participants. The summary serves as a record of discussion topics and pertinent findings. Maps are assembled and amended during deconfliction meetings. These maps are also available as an output to interested participants.

The process assists with:

- Identifying expansion capabilities, based on current or known future missions
- Providing a proactive, pre-planning process for coordinating and integrating projects and activities on or affecting Fort Lewis
- Resolving conflict between proposed activities and projects and appropriate land uses
- Facilitating long range planning through the Real Property Master Plan and other installation planning documents for enhanced mission accomplishment and quality community support

2. Land Use Deconfliction Process Education Plan

The purpose of the Education Plan is to inform units, tenants, and Garrison staff what the Land Use Deconfliction Process is, how it is conducted, and what purpose it serves, so that those organizations are empowered to participate in planning and decision making processes governing development and utilization of space on the installation.

2.1. Short Term Plan (1 week – 3 months)

2.1.1. Daily Bulletin

The Daily Bulletin will be used to help publicize meetings, caucuses, and other events where coordination between two or more directorates is required.

Public Works will submit reminders about regularly scheduled meetings for inclusion in the Daily Bulletin no less than 10 calendar days prior to each meeting. Public Works will submit announcements for special meetings/activities (such as caucuses) to be posted as soon as practicable prior to each special activity.

2.1.2. Northwest Guardian (Fort Lewis official newspaper)

The newspaper will be used primarily to draw the attention of the Fort Lewis community to the Land Use Deconfliction Process by relating it to recent, ongoing, or upcoming events taking place on the installation.

Public Works will coordinate with the newspaper editor to plan two articles during the 365-day pilot project period. Both articles will serve primarily as information pieces for the general Fort Lewis public. The first article will run within 60 days of the Installation Sustainability Board's (ISB's) approval of the overall plan. It will summarize the "Who, What, When, Where, Why, and How" of the process. The second article will run approximately halfway into the pilot project period, and serve as a progress report.

If the plan is successful and the decision is made at the end of the pilot project period to formalize the plan, a third article would be written to summarize gains realized by the installation through the use of the pilot program, and announcing the movement to formalize the plan.

2.2. Long Term Plan (3-6 months)

2.2.1. Web page

The web page will serve as a central coordination tool for all affected stakeholders, while also helping to educate Fort Lewis personnel on more specific details of how the process works.

Public Works will host a link for a Land Use Deconfliction web page on its Garrison-wide Intranet. The web page will include a calendar of events, including routine and special meetings; a list of topics currently under consideration/being staffed; and points of contact so that visitors can request more information.

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APPENDIX F JBLM PUBLIC WORKS PROJECT REVIEW PROCEDURES

Public Works, Fort Lewis Environmental Division		Page 1 of 3
Procedure: Standard Operating Procedure for Project or Proposal Review (Tier 3)		
Document ID: PWE-153		
Document Owner:	Approval:	Revision: 3
William Van Hoesen	Paul T. Steucke, Jr.	Revision date: 25 May 07
NEPA Program Manager	Chief, ED	Original Date: 18 Oct 02

Public Works, Environmental Division

STANDARD OPERATING PROCEDURE FOR PROJECT OR PROPOSAL REVIEWS

PURPOSE

The purpose of this Environmental Division (ED) SOP is to increase customer satisfaction by:

- Providing timely reviews;
- Ensuring proposals are compliant with existing laws and regulations;
- Allowing staff the opportunity to find avenues for the achievement of installation sustainability goals and initiatives; and
- Reducing the negative affects of global warming (climate change).

APPLICABILITY

This procedure applies to:

- All proponents who desire to have their proposals reviewed for environmental compliance or achievement of the installation sustainability goals;
- All ED personnel (*ED project review group*) involved in compliance (statutory or regulatory) issues;
- All ED personnel associated with sustainability goals and initiatives;
- All proposals that have the ability to affect the environment on and/or off the installation(s).

DEFINITIONS

Division task folder: A folder on the MS Outlook Public Works Public Folder that contains the current list of tasks (projects or proposals) requiring ED review and, if necessary, comment. See EMS-235 on how to establish shortcuts to division folders.

Division task: A task in MS Outlook that contains project documents in need of division, directorate, or Army agency review. Tasks at a minimum contain or identify the title, project manager, critical documentation and review suspense dates.

Review packets: This may include Engineering Services work orders, Planning MILCON projects, COE design specifications, Stormwater Management Plans, Environmental Protection Plans, NEPA documents, Fort Lewis management plans, Fort Lewis circulars, regulations, policy statements, pamphlets, supplements, or any document(s) requiring review and comment from environmental division staff.

SUPPORTING DOCUMENTS

EMS-235	Identification and Incorporation of Legal and Other Requirements in Public Works Contracts and Work Specifications, and other Project Documentation. (Tier 2)
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PROCEDURE STEPS

INDIVIDUAL(S)	STEP	ACTION PERFORMED
Proponents or project managers (PM's)	1	Prepares project documentation.
	2	Creates tasks in MS Outlook and attaches documentation. Follows procedures in EMS-235.
	3	Sends email notifications to division screener of need for project reviews. Ensure task suspense allows for adequate time for review.
	4	Completes columns under "Action taken on comment by:" and resubmits to Division Screener.
	5	Once reviews are complete, prints task memo, inserts into project file, and deletes task from folder.
Division Screener	1	Receives notification from proponent (PM) that a task has been created and that a review is requested.
	2	Reviews task contents for adequacy and makes a determination of which program areas need to review.
	3	Responsible for starting, tracking, ensuring progress, and ending the review process for each task.
	4	Adds the " <i>ED project review group</i> " table to tasks and identifies the assigned reviewers.
	5	Forwards proponents (PM's) email to <i>ED project review group</i> alerting them of task availability. Emails will list assigned reviewers and task suspense date.
	6	Receives comments from review group, consolidates comments, and forwards comments to proponents (PM's).
	7	Completes table when all assigned reviewers either reply to task or fail to meet suspense date. Prints out completed tasks for recordkeeping purposes.
	8	Periodically informs branch or division chief of which assigned reviewers routinely miss review suspense's.
<i>Project review group</i>	1	Receives email notifications from screener of task availability.
	2	Conducts review by suspense date.
	3	If necessary, opens NPD 32 and inputs substantive comment(s).
	4	Saves NPD 32 to folder of choice and attaches NPD 32 to the notification email in a reply back to the division screener.
	5	If reviews produce no comments, then a "no comment" reply in the body of notification emails back to the division screener is all that is required.
Division and/or branch chiefs	1	Periodically assesses task review status' and rate employees according to their review performance.

DOCUMENT REVISION HISTORY

Original Document Issue Date: 18 Oct 2002		
REVISION NUMBER	DATE OF REVISION	REVISION SUMMARY
3	25 May 07	1. Changes designations and acronyms to reflect transformation of Fort Lewis to the Standard Garrison Organization format.
		2. Complies with Executive Order 12873 which requires federal agencies to "incorporate waste prevention and recycling in the agency's daily operations" by encouraging electronic copies for review purposes.
		3. Speeds up the review process by allowing concurrent rather than sequential reviews.
		4. Mandates use of form NPD 32.

Public Works, Fort Lewis		Page 1 of 4
Procedure: Identification and Incorporation of Legal and Other Requirements in Public Works Contracts and Work Specifications, and other Project Documentation		
Document ID: EMS-235		
Document Owner: Paul T. Steucke, Jr.	Approval: Paula J. Wofford	Revision: 3 Revision date: 15 April 2007
Chief, Environmental Division (ED)	Deputy Director, Public Works	Original Date: 23 February 2000

PURPOSE

In order to standardize, streamline and accelerate the review process for Public Works (PW) projects and/or proposals, this procedure is utilized to identify and incorporate applicable legal, health, safety, environmental, system, and other requirements into draft project or proposal documentation. Implementation of this procedure will ensure that relevant, critical, and applicable requirements are incorporated and documented before the project or proposal is awarded and/or executed.

This Standard Operating Procedure (SOP) allows divisions to develop and implement their own specific *tier 3* internal review procedures from this *tier 2* SOP.

APPLICABILITY

This procedure applies to all projects or proposals processed and/or managed by any PW division. It applies to projects and proposals by other organizations (i.e., other garrison directorates, resident organizations, Corps of Engineers, WSDOT, etc.) forwarded to PW for review and comment.

DEFINITIONS

Review packets: These include MILCON (MCA/1391) projects, to include their resulting Stormwater Management Plans, Environmental Protection Plans; Work Order (4283) contract specifications and drawings; National Environmental Policy Act (NEPA) documents; Fort Lewis management plans (i.e., Emergency Operations Management Plan); Fort Lewis regulations, circulars, policy statements, pamphlets, supplements; or any PW generated document(s) (i.e., SOP's) requiring review and comment from internal PW, other garrison, or other non-Fort Lewis IMCOM staff.

Task: A PW identified need for review of a project or proposal.

Task folder: A folder that presently exists within the MS Outlook PW public shared folders. This task folder is subdivided into PW divisions where PW project or program managers create, track and finalize reviews of their projects or proposals within their own division's sub-folders.

Exception

Project reviews directed through Maximo (outcome of PW committee review) supersede this process.

SUPPORTING DOCUMENTS

Each division may create Tier 3 documents that reference this tier 2 document for their overarching project review procedures.

PROCEDURE STEPS

Responsible	Step	Action
Project Managers within Public Works	1	Will either: Prepare documentation (i.e., SOW, management plan, SOP, regulation, etc.) for PW or garrison review; or Shepherd non-PW (other garrison, other federal, state, county, municipal, and regional planning agencies) documentation (i.e., COE design specs, environmental protection plans, regional traffic improvement plans, etc.) through the PW organization when a response back to the proponent is requested;
	2	If not already completed, create a shortcut to your division's task folder (see figures 1 & 2).
	3	Will open their division task folder and create new task. Attach 3 files to task: <ul style="list-style-type: none"> task request (memo or division generated standard form) documentation needing review and comment or web link (i.e., SOWs, management plans, regulations, contract specifications), and form NPD 32 (review comments form) with "PROJECT, LOCATION, PROJECT MANAGER, AND IJO/SPEC/PKG" cells filled in. The suspense of the review will be selected in the "due date" calendar drop down box.
	4	Will send an email to the appropriate reviewers notifying them of the posting of the task and the start of the task review period.
	5	Will, as needed, annotate in the task text box significant information associated with the task: <ul style="list-style-type: none"> Location of hard copies if not available electronically; Assigned reviewers; When project IPR's or other meetings are planned;
	6	Will delete their tasks from their division folder when review period is over.
Reviewers	1	Will, if not already completed, create shortcuts to the task folders most likely to access on a regular basis (see figures 1 & 2).
	2	Will allocate time to complete the reviews by the "due date."
	3	Will enter substantive comments on form NPD 32 and submit completed form via email or by posting into task (if option is available) to the project manager. If form NPD 32 is only available as "read only", reviewers may want to save a copy prior to submittal.
	4	The appropriate PW task folders will be checked at least weekly to determine review requirements.
Branch/Division chiefs	1	Ensure personnel within their organization are following the review procedures and complete their reviews on or before the "due date."
	2	Ensure division <i>tier 3</i> project review procedures are added to their division's task list for reference purposes.
Business Operations & Integration Division/Information Technology staff	1	Assign or remove project managers, reviewers, and Branch/Division chiefs permissions from the various PW task folders as needed or requested.

This screenshot shows how to access the Public/PW/Task/Division folders while in Outlook.

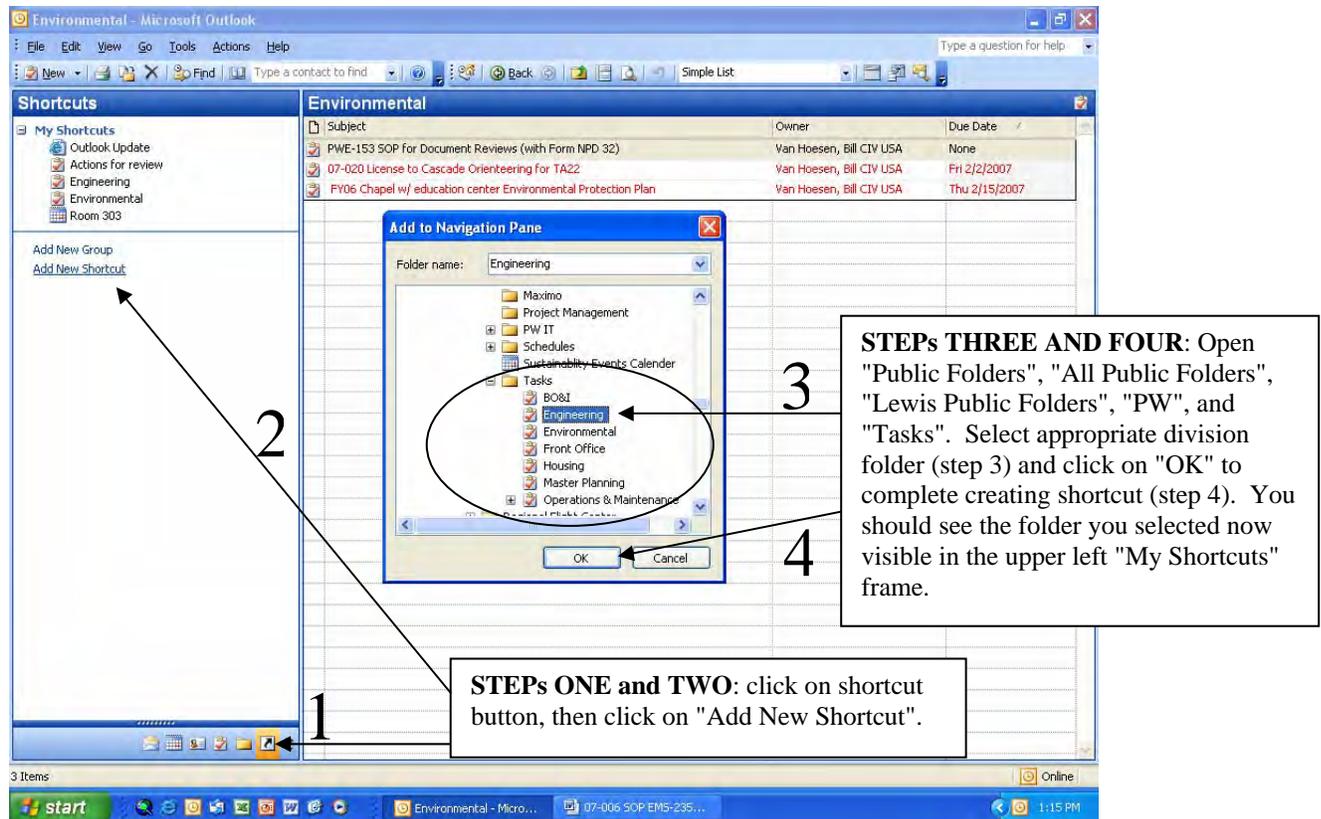


Figure 1.

This screenshot shows the Engineering task folder with the list of projects requiring review.

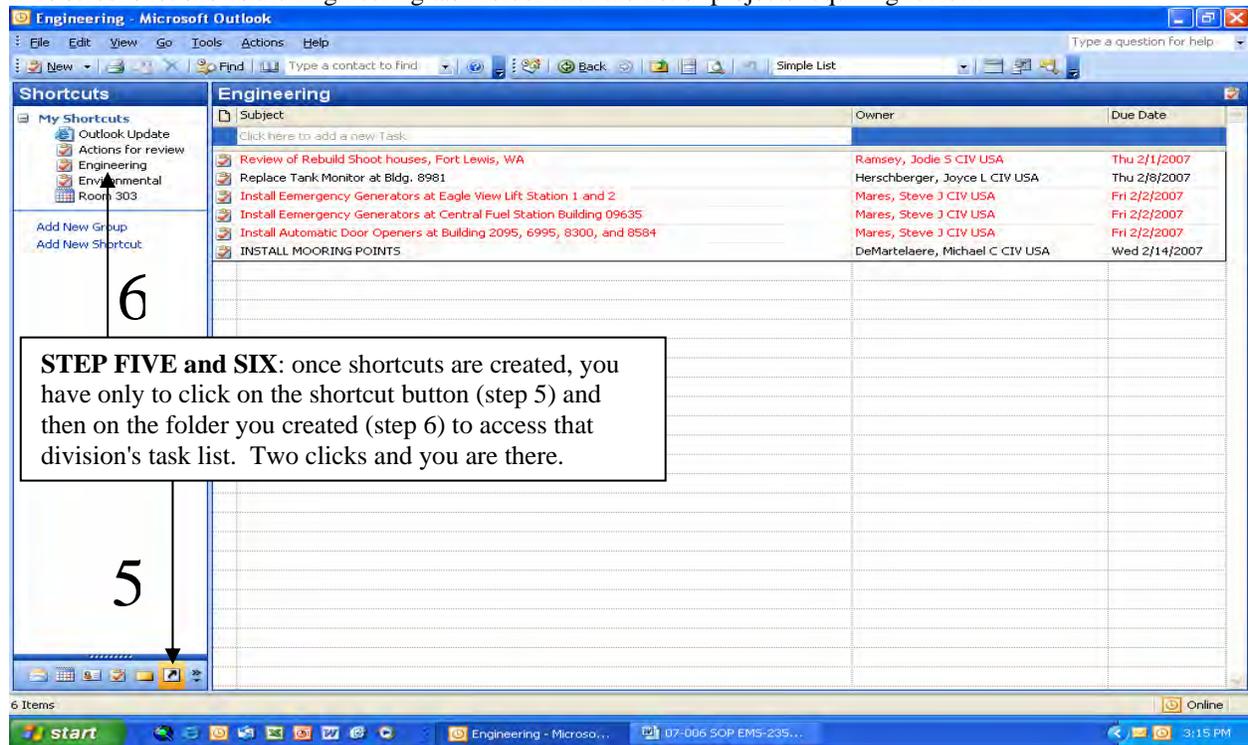


Figure 2.

DOCUMENT REVISION HISTORY

Original Document Issue Date		
REVISION NUMBER	DATE OF REVISION	REVISION SUMMARY
1	1 May 2000	Changes step #1 of the ECMD Project Manager's responsibilities to show correct procedural document reference. Should be PWC-006, Project Review Best Practice's Guide, not PWC-009, Professional Services Best Practices Guide.
2	6 December 2002	Changed procedures ENRD uses to conduct project reviews when a Project Directive requires environmental coordination.
3	15 March 2007	<ol style="list-style-type: none">1. Removes tier 3 processes from this overarching process. Tier 3 processes should instead reference this SOP.2. Allows for concurrent rather than sequential reviews thereby shortening the review period needed to complete reviews.3. Procedures for project or proposal review, once a requirement for BOID (vice WMC), ESD (vice ECMD), and ED (vice ENRD) exclusively, are now expanded for all PW divisions.4. Removes Appendix 1, Process Flow Chart, from SOP as it is no longer applicable.5. Allows for all IMCOM personnel within organizations listed in the Public Folders to have access to the documentation for review, not just PW.

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APPENDIX G FORT LEWIS REGULATION 350-30

DEPARTMENT OF THE ARMY
HEADQUARTERS, I CORPS AND FORT LEWIS
Fort Lewis, Washington 98433-9500

CHANGE
NO.1

23 November 2005

Training
FORT LEWIS RANGE REGULATION

1. Fort Lewis Regulation 350-30, 29 Mar 00, Fort Lewis Range Regulation, is changed as follows: Remove the old pages and insert new pages (enclosure):

Remove Pages: 12-1 through 12-4

Insert Pages: 12-1 through 12-4

2. Post this change per DA PAM 25-40

3. File this change in front of the publication.

4. Direct comments and suggested improvements to the Director of Plans, Training, Mobilization, and Security (DPTMS), Attention: IMNW-LEW-PL-TR (Mail Stop 16), DSN 357-6165 or commercial (253) 967-6165.

Encl

//Original signed by//
DAVID J. MCKENNA
Colonel, GS
Chief of Staff

DISTRIBUTION:
B, C, D, G

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CHAPTER 12

CHEMICAL TRAINING MUNITIONS

12-1. GENERAL.

- a. Lethal, incapacitating, or persistent chemical agents may not be used in training.
- b. Mortar and field artillery smoke projectiles are fired per Chapter 8 and weapon and ammunition publications.
- c. Riot control agents may be used in training only under the supervision of a Chemical Corps officer or NCO, or a graduate of an installation/command NBC school. For Special Forces teams, NBC-qualified personnel must have been involved in the training planning process. Only CS in capsule or powder form may be used in a CS chamber.
- d. The point of smoke generation for M56 and M58 generators must be at least 200 meters from wetlands, water bodies, or streams.
- e. Public Works Environmental Office (ENRD) maintains a smoke/no smoke map. Unit chemical officers must contact ENRD for copies of the map.

12-2. PLANNING OF TRAINING.

- a. Use of riot control agents, smoke generating equipment, or smoke pots must be included on the RFMSS request that schedules the training. If known, grids of release points must be listed. Clearance for use of any number of smoke generators or smoke pots must be obtained daily from Range Operations during site opening calls. Additionally, on days when smoke pot use is scheduled, Range Operations will check with the Puget Sound Clear Air Agency (PSCAA) to determine whether an indoor burn ban is in effect. If so, no smoke pot sites will be allowed to go hot.
- b. Trainers will provide a print-screen copy of the RFMSS request to PW ENRD (Bldg 2012) annotated to include unit designation, point of contact and phone number, purpose and description of the smoke mission, location, date/time, and type/number of smoke devices to be used.

12-2. CONDUCT OF TRAINING.

- a. All personnel must carry a protective mask during exercises involving smoke. Personnel must mask:

(1) Before exposure to any concentration of hexachlorothane (HC) smoke produced by M8 white smoke grenades, smoke pots, artillery rounds, or metallic powder obscurants, and also to any exposure to violet smoke.

(2) When passing through or operating in dense smoke causing visibility to be less than 50 meters.

(3) When operating in or passing through a smoke haze with visibility greater than 50 meters, and a duration of exposure exceeding four hours.

(4) Anytime exposure to smoke produces breathing difficulty, eye irritation, or discomfort.

(5) When using smoke during urban training (MOUT) that includes operations in enclosed spaces.

DANGER: THE PROTECTIVE MASK IS NOT EFFECTIVE IN OXYGEN DEFICIENT ATMOSPHERES. CARE MUST BE TAKEN NOT TO ENTER CONFINED SPACES WHERE OXYGEN MAY HAVE BEEN DISPLACED. BURNING-TYPE GRENADES MAY NOT BE USED INSIDE CLOSED BUILDINGS OR CONFINED SPACES.

CAUTION: HC SMOKE WILL NOT BE USED WITHIN LESCHI TOWN, REGENBURG, OR THE LIVE FIRE VILLAGES ON RANGES 28 AND 31.

(6) Smoke generator personnel will mask when they cannot stay upwind of the smoke.

b. Trainers must positively control riot control agents, smoke generating equipment, smoke pots, and smoke grenades.

(1) Riot control agents or any obscuring clouds of smoke must not enter any of the following areas:

(a) Cantonment/housing areas or cross the installation boundary,

(b) East Gate Road between Highway 507 and the cantonment area,

(c) Any public route listed in Chapter 14. If smoke may obscure a hard-surface road in or around a TA, OICs must post road guards to report obscuration and halt traffic. OICs must also be alert to forest fire hazards from burning-type grenades, smoke pots, or equipment. Smoke generation OICs must consult current meteorological conditions to keep obscurants within limits described above and below.

(2) Smoke grenades and CS may not be released closer than 300 meters from an Installation boundary, a road open to use by the public per Chapter 14, or a cantonment area. OICs must ensure that a smoke or CS cloud will not drift into other units' activities. The maximum amount of smoke or CS to be released at one time is that sufficient to provide coverage given the size of the area, time required, and concentration desired. Unit OICs must consider actual weather and wind conditions on site which may make the 300-meter buffer insufficient, and must modify release points accordingly.

(3) HC smoke pots may not be released closer than 1500 meters from an Installation boundary, a road open to use by the public per Chapter 14, or a cantonment area. OICs must ensure that the HC cloud will not drift into other units' activities or across roads that might be used by other units. The maximum amount of HC smoke to be released at one time is limited to that sufficient to provide coverage given the size of the area, time required, and concentration desired. NOTE: Under certain atmospheric conditions, a 1500-meter safety buffer may not be sufficient. Commanders must make the final safety determination.

(4) Due to the requirement for personnel exposed to these agents to be masked, OICs of units using HC, violet, or phosphorus (metallic obscurant) smoke must ensure that all downwind personnel are either masked or are sure not to be exposed.

c. Smokepots and grenades must be kept dry until used and must be fired outdoors in an area clear of combustibles. Personnel should stay at least 30 meters from burning smokepots and 10 meters from burning grenades.

d. Riot control agents will not be used within 100 meters of open water.

e. When training with M56 and M58 smoke generators, refer to Section 7.0, "Operator's Guide for Smoke Releases" in the Fort Lewis Final Air Quality Impact Study for Smoke Training at Fort Lewis, Washington dated October 1999. In particular:

(1) Determine a release scenario, release location, and time period for the training.

(2) Obtain a weather forecast for the smoke training duration.

(3) Determine the stability class for each forecast hour using the FLWSTAB computer program.

(4) Determine restrictions for ambient PM10 standards and ensure that the area of adverse environmental impact lies totally with the Fort Lewis boundary. If it does not, relocate the release point and/or wait until more favorable meteorological conditions are forecast.

12-3. REPORTING REQUIREMENTS.

a. Units training with riot agents or smoke must report to Range Operations, during radio or telephone Training Area checkout, number of gallons of fog oil, number of pounds of graphite, number of mortar or artillery smoke rounds, number of smoke grenades and or/smoke pots, and number of CS grenades expended. Units will also report duration of actual obscuration operations.

b. Range Operations will track use of fog oil, graphite, artillery smoke, mortar smoke, smoke grenades, and smoke pots to ensure Fort Lewis daily and annual limits are not exceeded. Limits are:

(1) No more than 1875 gallons of fog oil and 3600 pounds of graphite per day. No more than 42,120 gallons of fog oil and 75,000 pounds of graphite per calendar year.

(2) No more than 100 mortar smoke rounds and 65 artillery smoke rounds per day. No more than 1940 mortar smoke rounds and 437 artillery smoke rounds per calendar year.

(3) No more than 251 smoke grenades and 24 smoke pots per day. No more than 28,670 smoke grenades and 275 smoke pots per calendar year.

c. Range Operations will provide PW ENRD a quarterly report with to-date totals of fog oil, graphite, mortar smoke, artillery smoke, smoke grenades, and smoke pots. PW ENRD will make appropriate calendar-year reports to regulatory agencies.

DEPARTMENT OF THE ARMY
Headquarters, I Corps and Fort Lewis
Fort Lewis, Washington 98433-9500

FL Regulation
350-30

29 March 2000

Training
FORT LEWIS RANGE REGULATIONS

CONTENTS

<u>TITLE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>
Chapter 1 – GENERAL		
Purpose	1-1	1-1
Applicability and Scope	1-2	1-1
Responsibilities	1-3	1-1
Safety Policy and Risk Management	1-4	1-1
Authorized Use	1-5	1-2
Use Reporting	1-6	1-2
Officer-in-Charge (OIC) and Range Safety Officer (RSO)		
Certification Requirements	1-7	1-2
Range Computer Operator Certification	1-8	1-3
Range Communications and Unit Emergency		
Contact Capability	1-9	1-3
Emergency Check-Fire Signal	1-10	1-5
Medical and Lifeguard Support	1-11	1-5
Accidents and Incidents	1-12	1-5
Medevac	1-13	1-5
Field Uniform and Hearing Protection	1-14	1-6
Speed Limits	1-15	1-6
Light Line	1-16	1-6
Seasonal Fire Hazards and Restrictions	1-17	1-7
Pyrotechnics and Fires	1-18	1-7
Gates	1-19	1-7
Privately-Owned Vehicles (POVs)	1-20	1-8
Unit or Event-Driven Construction	1-21	1-8
Maps	1-22	1-8
Range Control Location Update	1-23	1-8
Overwatch and Annual Cleanup	1-24	1-8

This regulation supersedes FL Reg 350-30, 1 Oct 85, FL Reg 350-33, 1 Jun 94, and FL Reg 350-34, 17 Jul 95

<u>TITLE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>
Smoking and Alcoholic Beverages	1-25	1-8
Spectators and Family Members	1-26	1-9
Off-Post Training	1-27	1-9
Recommendations for Change	1-28	1-9
 Chapter 2 – DEFINITIONS		
 Chapter 3 – ENVIRONMENTAL CONSIDERATIONS		
General	3-1	3-1
Policy	3-2	3-1
Environmental Review and Maneuver Damage Control	3-3	3-1
Environmental Concerns	3-4	3-1
Information and Assistance	3-5	3-3
 Chapter 4 – SCHEDULING		
General	4-1	4-1
Range and Maneuver Complex Management	4-2	4-1
Airspace Management	4-3	4-1
Daily Range Schedule	4-4	4-1
The Scheduling Process	4-5	4-2
Multiple Use of Training Areas	4-6	4-2
Scheduling of Range Construction and Repair	4-7	4-2
Range Facility Management Support System (RFMSS)	4-8	4-2
Processing of HFL Forms 473 and 2035	4-9	4-2
 Chapter 5 – AMMUNITION		
General	5-1	5-1
High-Hazard Dud-Producing Munitions	5-2	5-1
Ammunition Prohibited from Use During Training	5-3	5-2
Small Arms and Grenades	5-4	5-2
Demolitions, Artillery, and Mortars	5-5	5-2
Training with Live Mines	5-6	5-2
Pyrotechnics	5-7	5-3
Misfires, Hangfires, and Malfunctions	5-8	5-3
 Chapter 6 – IMPACT AREAS		
General	6-1	6-1

<u>TITLE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>
Duds	6-2	6-1
Impact Requirements	6-3	6-1
Barriers and Guards	6-4	6-1
Impact Area Trespass	6-5	6-1
Impact Area Target Placement and Maneuver	6-6	6-2
Digging and Construction in Suspected Dud Areas	6-7	6-2
 Chapter 7 – DIRECT FIRE RANGES AND LASERS		
General	7-1	7-1
Warning Signals and Signs	7-2	7-1
Targets	7-3	7-1
Range Reconnaissance	7-4	7-2
Range and Equipment Receipt	7-5	7-2
Downrange Visibility	7-6	7-2
Conduct of Range Firing	7-7	7-2
Unit Range Police and Overwatch	7-8	7-3
Range Fires	7-9	7-3
Lasers	7-10	7-4
 Chapter 8 – INDIRECT FIRE		
General	8-1	8-1
Fixed Firing Points	8-2	8-1
PADS and Paladin Firing	8-3	8-2
Mortar Firing	8-4	8-2
Field Artillery Firing	8-5	8-3
Mortar and Artillery Firing Incidents	8-6	8-3
Excess Propellant Charge Increments	8-7	8-5
 Chapter 9 – LIVE FIRE EXERCISES		
General	9-1	9-1
Planning	9-2	9-1
Range Walks	9-3	9-1
Contracts	9-4	9-1
Overlays	9-5	9-1
Firing	9-6	9-2
After-Action Review	9-7	9-3
 Chapter 10 – DEMOLITIONS		

<u>TITLE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>
General	10-1	10-1
Demolitions Limits	10-2	10-1
Improvised Explosive Devices (IED)	10-3	10-1
Demolitions Effects Simulators (DES)	10-4	10-1
 Chapter 11 – AIRSPACE CONTROL		
General	11-1	11-1
Airspace Use and Facilities	11-2	11-1
Notice to Airmen (NOTAM)	11-3	11-1
Use of the Rainier Military Operations Area (MOA)	11-4	11-2
Use of R6703A, B, C, D	11-5	11-2
Flight Following and Airspace Advisory	11-6	11-3
High Performance Aircraft Operations and Ordnance	11-7	11-3
Drop Zone Operations	11-8	11-3
Aerial Gunnery	11-9	11-5
 Chapter 12 – CHEMICAL TRAINING MUNITIONS		
General	12-1	12-1
Conduct of Training	12-2	12-1
 Chapter 13 – NON-FIRING TRAINING FACILITIES		
General	13-1	13-1
Conduct of Training	13-2	13-1
Maintenance	13-3	13-1
 Chapter 14 – MANEUVER TRAINING AREAS		
General	14-1	14-1
Close-In Training Areas (CTAs)	14-2	14-1
Cantonment Areas	14-3	14-1
Scheduling	14-4	14-1
Training Facilities in TAs	14-5	14-2
Conduct of Training	14-6	14-2
Foot Marches	14-7	14-3
Vehicular Marches	14-8	14-3
Waterborne Operations	14-9	14-4
Water Crossing	14-10	14-5
Vehicle Swim Operations	14-11	14-5

<u>TITLE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>
Road Closures for Training	14-12	14-5
Tracked Vehicle Crossing Easements	14-13	14-7
Military and Non-Military Compatible Uses	14-14	14-7
 Chapter 15 – NON-TRAINING USE		
General	15-1	15-1
Hunting and Fishing	15-2	15-1
Outdoor Recreation	15-3	15-2
Off-Duty Shooting	15-4	15-2
Fort Lewis Area Access Office	15-5	15-2
Non-Military Use	15-6	15-3
Firewood	15-7	15-4
Training Conflicts	15-8	15-4
 Chapter 16 – RANGE CONTROL SYSTEM		
General	16-1	16-1
Range Headquarters	16-2	16-1
Range Operations Branch	16-3	16-1
Range Inspection Section	16-4	16-1
Live Fire Section	16-5	16-1
Area Access Section	16-6	16-1
Range Facilities Branch	16-7	16-2
Range Supply Section	16-8	16-2
Range Maintenance Detail	16-9	16-2
Integrated Training Area Management (ITAM) Program	16-10	16-3
Range Control Publications	16-11	16-3
 Appendix A – References		
 Appendix B – Ranges		
 Appendix C – Training Facilities		
 Appendix D – Training Areas		
 Appendix E – Targets		
 Appendix F – DPCA Recreational Areas in Training Areas		
 Appendix G – Non-Permit Access Routes		

Appendix H – Authorized Activities for Maneuver Training Area Access

Appendix I – Unauthorized Activities in Maneuver Training Areas

CHAPTER 1

GENERAL

1-1. **PURPOSE.** This regulation sets policy and procedures for using the Fort Lewis range complex; implements AR 210-21, AR 385-62, AR 385-63, and AR 385-64; and complements FL Regs 200-1, 350-1, and 350-2. It supersedes previous editions of FL Reg 350-30, FL Reg 350-33 (Land Use Policy) and FL Reg 350-34 (Scheduling of Ranges and Maneuver Land at Fort Lewis and Yakima Training Center).

1-2. **APPLICABILITY AND SCOPE.** This regulation governs scheduling and control of Fort Lewis ranges, non-firing training facilities, maneuver land, and FAA special use airspace. It applies to all range complex users, military and civilian. For guidance on scheduling and use of Yakima Training Center, see FL Reg 350-31 (Yakima Range Regulations).

1-3. **RESPONSIBILITIES.** Fort Lewis range complex users must be familiar with this regulation. Commanders and persons in charge of training and other permitted activities must ensure compliance.

1-4. **SAFETY POLICY AND RISK MANAGEMENT.**

a. Safety is a command responsibility. Range Control and the Command Safety Office provide safety oversight in support of commanders.

b. AR 385-63 is the primary reference for live fire operations. AR 385-62 applies during missile firing. Range and firing point OICs and RSOs must be familiar with portions of those regulations covering their events.

c. The goals of the Fort Lewis range safety program are:

- (1) Enhance safe, realistic live fire training.
- (2) Prevent fratricide in live fire training and combat.
- (3) Protect civilian and military populations who live and work in the vicinity of live fire ranges.
- (4) Protect the environment from the effects of live fire training.

d. The Risk Management Process, described in FL Pam 385-1-1, FM 100-14, FM 25-101 and FM 101-5, will be used to manage risks during all training.

e. Units using live fire ranges will employ Risk Management procedures to identify operational hazards and implement appropriate controls to minimize training mission risk. Formal risk management documentation is required on major training exercises, such as combined arms live fire exercises (CALFEX), prior to execution.

1-5. AUTHORIZED USE.

a. Range complex use requires scheduling or a use permit. For non-military use, see Chapter 15. Recon by military personnel for future training is authorized after check-in at Range Operations, Bldg 4074.

b. Trainers must notify Range Operations of unlawful or suspect acts, such as wood cutting, brush gathering, dumping, dirt bike or 4-wheel-drive vehicle driving, persons discharging fire arms, or abandoned vehicles or remains of vehicles. Range Operations will inform the Military Police.

1-6. USE REPORTING.

a. Use of ranges and non-firing training facilities is recorded during the opening radio call, per the checklist issued by Range Operations. Units using maneuver training areas must establish a training unit TOC for emergency contact per Para 1-9.

b. Use of Training Areas (TAs) is reported by the training OIC, in person or by telephone (967-6371/7974) or radio (FM 41.10/40.20, VHF 141.125), prior to 1200 each day that a TA is occupied. Range Operations will provide updates on fire hazard conditions. During initial check-in at Range Operations, the training OIC must identify the unit TOC location, either in garrison or field, by building number or UTM grid, and per Para 1-9 must also provide the TOC emergency contact phone number.

1-7. OFFICER IN CHARGE (OIC) AND RANGE SAFETY OFFICER (RSO) CERTIFICATION REQUIREMENTS. OICs and RSOs are certified by the unit commander or agency head and briefed by Range Control. Rank requirements are at Table 1-1.

a. Direct-fire ranges and non-firing facilities:

(1) The OIC/RSO is instructed by the unit or agency on this regulation, training doctrine, the duties of the position, and the activity to be conducted.

(2) The commander or agency head completes a certificate per Figure 1-1 and sends the original to Range Control. The certificate is valid for six months from date, and only one per unit will be kept at Range Control.

(3) Certified OICs and RSOs must receive the Range Control Safety Briefing at Range Control (Bldg 4074, Stryker and Kaufman Avenues, Main Post). It may be seen 24 hours per day without advanced notice, and is valid for 6 months. OICs and RSOs also view an environmental video at the same time.

b. Indirect fire:

(1) Field artillery and mortar units must have a Command Safety Certification Program for the indirect fire chain of command, per AR 385-63.

Certification is required for firing battery commanders, battery XOs, Paladin platoon leaders, mortar platoon leaders, fire direction officers, chiefs of firing battery, gunnery sergeants, mortar platoon sergeants, artillery section chiefs, mortar squad leaders, and fire support team personnel.

(2) A record of certification will be kept at the unit. Indirect fire OICs/RSOs must be certified per Figure 1-2 by the battalion commander or separate company/battery commander. Only the commander may sign. Safety briefings and certificate handling are per Para 1-6a.

(3) Command Safety Certification programs must be reviewed before the first live fire event by the Command Safety Office and the Range Officer. Programs will be filed at Range Control and must be reviewed annually thereafter.

c. Attendance at the Safety Briefing is recorded by Range Operations on the unit certificate.

d. Persons involved in accidents or incidents will be suspended from OIC/RSO duties during investigations.

1-8. RANGE COMPUTER OPERATOR CERTIFICATION. Units provide operators for computer-driven ranges. Range Control conducts classes to certify unit operators. Priority for class attendance is to units with a computer-driven range scheduled in the next calendar month. Stand-bys are taken until the class is full. Certification is valid for six months, at which time the operator must attend a recertification class. Class dates, times, and locations are announced to units by email. Range Control maintains a master list of personnel certified to operate range computers.

1-9. RANGE COMMUNICATIONS AND UNIT EMERGENCY CONTACT CAPABILITY.

a. Units training anywhere on the range complex must have at least one FM or VHF radio capable of netting with Range Operations (FM 41.10/40.20, VHF 141.125) for check-in, checkout, and emergencies. Range Operations is the net control station. Aircraft must communicate with GAAF Flight Operations Center (FM 34.60, VHF 141.5, UHF 393.3) per FL Reg 95-1.

b. The above frequencies are reserved for range and aviation safety nets. Unit business or internal unit radio checks are prohibited on these nets.

c. Some activities require constant monitoring of the Range Safety Net. See Appendices B and C, and facility SOPs, for specific guidance by site. Range Operations initiates periodic radio checks with these locations. Units not responding will be visited by a Range Inspector. If a second visit is required for non-response not caused by equipment failure, the unit must replace the OIC.

d. Units using training areas (TA) must monitor Range Operations by FM or VHF radio during their entire occupation period. Monitoring may be by individual

element, field TOC, or garrison TOC. When a garrison TOC monitors, it must have direct radio contact with field units. Off post units, whether Active, Reserve, other services, or foreign forces, must also establish a TOC, either in garrison or field, and monitor Range Operations. This TOC must have a telephone connection, hard-wired or cellular, accessible to home station personnel to pass emergency and administrative traffic directly to the unit.

e. During initial check-in at Range Operations, unit representatives must identify TOC location, either in garrison or field, by building number or UTM grid, and must also provide the TOC contact phone number. Range Operations will pass this contact phone number to the I Corps FOD/EOC, MP Desk, PAO, and other agencies usually called by home station and concerned family members with administrative or emergency traffic.

f. The Directorate of Information Management (DOIM) telephone cable system extends to most ranges, facilities, and training areas. All DOIM telephone services are not available at all sites on the range cable system. Telephone protector terminals (mag drops) will be installed by DOIM in response to a request memo prepared by the unit. The memo must be delivered to Bldg 6071, Colorado Avenue near the PX main gas station, at least 15 working days prior to the event. DOIM telephone personnel will provide service to the existing mag drop closest to the facility or unit field location. The unit then completes the connection with field wire. Independent unit taps into the DOIM range cable system are prohibited. The request memo must contain the following information:

- (1) Unit requesting service.
- (2) Service required date.
- (3) Unit POC name and telephone number.
- (4) Training Area or Range number for each line requested.
- (5) Grid coordinates of unit location.
- (6) If known, grid coordinates and terminal number of nearest mag drop.
- (7) Type of service required (dial line, class of service, mag).
- (8) Unit IMO signature.

g. Range Operations will not pass administrative messages between garrison and field. Units must use internal radio, or the DOIM Range Switch at telephone 967-4151. Callers must know the range drop number of the field location, which is listed on the DA Form 3938 that activated the service.

1-10. EMERGENCY CHECKFIRE SIGNAL. Should Range Operations need to cease-fire all ranges, the command "Check Fire, Freeze!" will be given over the Range Operations radio net. All units will immediately cease firing and move away from weapons. OICs and RSOs will secure weapons, ammunition, and propellants, and ensure settings on sights and other fire control equipment are not changed. Range Operations will verify cease-fires with a net call to hot ranges and firing points.

1-11. MEDICAL AND LIFEGUARD SUPPORT.

a. Basic medical support on the range complex is provided by soldiers qualified in Common Task first aid skills. Non-military range complex users must have persons qualified in basic first aid.

b. Unit commanders provide MOS-qualified military medics, combat lifesavers, or EMT-qualified personnel when required by doctrinal publications governing the training to be conducted or by unit policy. These personnel must be currently certified and equipped with an aid bag.

c. Water operations require lifeguards and safety boats. See FL Reg 350-2 (Training Support).

1-12. ACCIDENTS AND INCIDENTS.

a. All accidents or incidents on the range complex must be reported to Range Operations immediately (phone 967-7974/6371, FM 41.10/40.20, VHF 141.125). Units must also comply with regulatory and unit SOP guidance on reporting accidents and incidents through operations, personnel, and logistics channels. Control of weapons, ammunition, and equipment must be maintained during emergency response.

b. Minor injuries that do not threaten life, limb, or sight will be given basic first aid and moved to Madigan Army Medical Center by unit transportation. More serious injuries will be evacuated by air or ground ambulance per medevac information below. Medevac request guidance is included in all SOPs issued by Range Control.

c. Accidents or incidents resulting in serious injury or fatality, causing damage to equipment or vehicles, or involving weapons or ammunition, will be investigated by law enforcement, safety, logistics, or ammunition surveillance agencies. Except for actions required to fight fire and treat casualties, accident or incident sites must be secured and all equipment, vehicles, and personnel kept in place until released by appropriate authority.

1-13. MEDEVAC. Should an accident or incident result in injury that threatens life, sight, or limb, the site OIC will call a check-fire, ensure first aid is initiated, and request air evacuation as follows:

a. Call Range Operations (phone 967-6371/7974, FM 41.10/40.20, VHF 141.125), inform the Range Operations Duty NCO that a medevac is needed, and provide the following:

- (1) Unit and name of person making request.
- (2) Site name/grid coordinates.
- (3) Number of patients and nature of injury.
- (4) Unit radio frequency and call sign, if additional unit radios are on site.
- (5) Hazards to aircraft.
- (6) Method of marking the landing zone.

b. The site OIC will not break contact with Range Operations until released, and will not disturb the area except to treat injuries or fight fire.

c. If Range Operations cannot be reached, the OIC should contact 54th Medical Company (FM 38.90, callsign GRAY DUSTOFF, phone 967-5405/2427). These are 54th Med Co emergency lines and will not be used for routine business.

d. Weather at Fort Lewis may prevent air evacuation. The OIC should not delay ground evacuation if flight conditions are marginal. If 54th Med Co cannot respond, Range Operations will request Madigan ground ambulance and inform the OIC.

1-14. FIELD UNIFORM AND HEARING PROTECTION.

a. Military training on the range complex must be conducted in helmet and LBE/LBV, as a minimum. The rule is "Train as you will fight."

b. Hearing protection is required at any event involving live fire of any caliber, explosives, blanks, or exploding pyrotechnics.

1-15. SPEED LIMITS. The speed limit on paved or unpaved range roads is 25 mph unless otherwise marked. Road conditions may require lower speeds. Vehicles overtaking or meeting marching troops must slow to 10 mph.

1-16. LIGHT LINE. During hours of darkness, all unpaved roads in TAs must be traveled in blackout or parking lights. Exceptions are:

- a. Emergency-response vehicles.
- b. Night Vision Driving (NVD) convoys. See Chapter 14.

c. Vehicles carrying troops to or from training facilities located in TAs. Such vehicles must observe the requirements in Chapter 14.

d. Vehicles on the public routes listed in Chapter 14, or on the high-speed portion of East Gate Road west of State Route 507.

1-17. SEASONAL FIRE HAZARDS AND RESTRICTIONS. Seasonal forest fire hazards restrict use of tracer and other potentially incendiary ammunition. These restrictions do not apply to the Artillery Impact Area, including all indirect firing points and Ranges 50 through 81. Units are informed of restrictions during daily range and training area opening call-ins. Regardless of season, trainers must ensure flame-producing pyrotechnics are not used on or near fuels that may start a forest fire. Troop fires are for food preparation only. Throwing away burning materials is prohibited. Fire hazard levels posted at Range Control and announced to units during check-in calls are:

a. Level I: Tracers, pyrotechnics, and troop fires authorized.

b. Level II: Tracers outside the Artillery Impact Area (Ranges 50-81), and any pyrotechnics use prohibited. Troop fires allowed on roads, gravel or other cleared surfaces only.

c. Level III: Tracers outside the Artillery Impact Area (Ranges 50-81), pyrotechnics, and troop fires prohibited.

1-18. PYROTECHNICS AND FIRES.

a. OICs must be alert to forest fire hazards associated with pyrotechnics. Fire hazard levels and restrictions are above.

b. Forest fires will be reported to Range Operations immediately (FM 41.10/40.20, VHF 141.125, phone 967-6371/7974). Troops on the scene will attempt to control fires, as long as personnel are not endangered.

c. Troop fires for food preparation in TAs are prohibited during the fire danger season, which is 1 June through 31 October annually. This season may be extended dependent on rainfall. At other times troop fires are authorized at the discretion of the commander. Trees may not be felled for troop fires. Fires must be completely out before the unit leaves the area.

1-19. GATES.

a. Gates are installed around the cantonment areas and at some Training Area access points.

b. Gates around the cantonment areas and on the Installation perimeter are controlled by the Military Police. Information on closure and access is available from the MP Desk.

c. Gates between Training Areas and into range and impact areas are controlled by Range Operations. A list of gates, controls, and status is available from Range Operations.

1-20. PRIVATELY OWNED VEHICLES (POVs). Routine use of POVs as transportation to training on the range complex is prohibited. Range complex POV passes are issued by Range Operations for leaders' recons or visits to training during daylight hours when military vehicles are not available. Units without access to military vehicles may request use of POVs in support of major events by memo to the Range Officer. Military weapons and ammunition may never be transported in POVs.

1-21. UNIT OR EVENT-DRIVEN CONSTRUCTION. Construction on or additions to ranges and facilities must be approved by Range Control. Barriers and emplacements must be removed after use. Some construction may require environmental consideration.

1-22. MAPS.

a. The current Military Installation Map (MIM) for Fort Lewis is Sheet V791S, Edition 4-DMA, scale 1:50,000, based on the 1983 North American Datum.

b. Symbols overprinted by DMA on the Fort Lewis MIM are accurate to 100 meters and are not to be used for survey, fire control, or other critical safety or location functions.

c. Fort Lewis maps are obtained per FORSCOM Suppl 1 to AR 115-11. For details call the DOL Map Warehouse, 967-7777.

1-23. RANGE CONTROL LOCATION UPDATE. The location of Range Control on the Edition 4-DMA MIM, at ET317154, is out of date. Range Control is now in Bldg 4074 at the intersection of Stryker and Kaufman Avenues, ET28751520.

1-24. OVERWATCH AND ANNUAL CLEANUP. FL Reg 210-10 assigns ranges, facilities, and TA overwatch to units. Units conducting overwatch maintenance or police, or semiannual cleanup, must schedule per Chapter 4.

1-25. SMOKING AND ALCOHOLIC BEVERAGES.

a. Smoking areas on training sites will be designated by the OIC, at least 20 meters from ammunition, pyrotechnics, and other flammables. During the fire hazard season from June through October, smoking on the range complex is prohibited except on roads or other specially prepared areas free of flammable materials.

b. Alcoholic beverages are prohibited on the range complex except as described in FL Reg 210-1. Ranges, facilities, or training areas may not be scheduled for picnics or social events.

1-26. SPECTATORS AND FAMILY MEMBERS.

a. Spectators or family members on training sites must be coordinated with Range Operations. Minors may not fire weapons. Ranges, training facilities, and training areas may not be scheduled only for family events.

b. Spectators must be controlled by the OIC, kept clear of hazard areas, briefed on safety, and provided hearing protection.

1-27. OFF-POST TRAINING.

a. Training outside the boundaries of Fort Lewis is scheduled per FL Reg 350-2.

b. All highway and railroad bridges, overpasses, and power line towers on or near Fort Lewis are off limits to training.

1-28. RECOMMENDATIONS FOR CHANGE. Range complex users are encouraged to comment on this regulation to Commander, I Corps and Fort Lewis, ATTN: AFZH-PTM-R, Box 339500 MS16C, Fort Lewis, WA 98433-9500.

TABLE 1-1

OFFICER-IN-CHARGE (OIC) AND
RANGE SAFETY OFFICER (RSO) REQUIREMENTS

Weapon System or Device -----	OIC -----	RSO -----
Practice hand or rifle grenade; sub-cal devices; lasers; firing devices or simulators; trip flares; small arms; machineguns.	SSG & up	SSG & up
Chemical training munitions and smoke.	SGT & up	SGT & up
Aerial gunnery; air defense weapons; flame throwers; HE hand or rifle grenades; mines and demolitions; mortar; recoilless weapons; rockets.	SFC & up	SSG & up
Artillery	SFC & up	SFC & up
Live-fire exercises using organic weapons.	SFC & up	SSG & up
CALFEX using external fire support.	Officer	Officer

NOTE 1: OICs and RSOs must be qualified on the weapon or device being used and certified per this chapter.

NOTE 2: NBC OICs and RSOs must hold an NBC MOS or have graduated from an installation or command NBC school.

NOTE 3: For activities not listed above, the unit commander determines the grade of the OIC and RSO based on individual qualification and unit or command policy.

(Unit Letterhead Required)

MEMORANDUM FOR DPTMS Range Division, ATTN: Operations Officer

SUBJECT: Certificate of Qualification for B Battery, 5th Battalion, 32d Field Artillery

1. Reference FL 350-30, (I Corps and Fort Lewis Range Regulations).
2. The following personnel are trained per the reference and are certified to perform duties listed. Request Range Control Safety Briefing and clearance to receipt for and operate training facilities as OIC or RSO.

<u>NAME</u>	<u>RANK</u>	<u>SSN</u>	<u>CERTIFICATION</u>
Ayers, Pat R.	SSG	213-56-4496	See para 3
Conrad, Bryan	CPT	050-11-2246	OIC/RSO, NBC (graduate of Fort Polk school), plus Para 3
Larson, Dale M.	SFC	876-54-3210	RSO only, Rifle, pistol, NBC (graduate of USAREUR school)
Palmer, Elizabeth	SGT	838-02-1098	RSO only, NBC (MOS 54E)
Thurman, Ed E.	1LT	012-34-5678	OIC/RSO, Rifle, pistol, Recondo
Simpson, Rock E.	SFC	112-54-0987	OIC/RSO, Rifle, pistol, NBC (MOS 54E)

3. (Commanders may use this paragraph for a comprehensive list of weapons, skills, or facilities to avoid excessive bulk in the Para 2 certification column above or to list special qualifications or limitations.)
4. This certificate is effective for one year from date or until superseded, and supersedes all previous certificates from this unit.

SIGNATURE OF UNIT COMMANDER, OR
INDIVIDUAL ON ORDERS AS ACTING
COMMANDER

NOTE: Letterhead required. Only the Commander may sign, or a person on orders as Acting Commander.

NOTE: Para 3 should contain all applicable information.

NOTE: NBC qualification must be indicated either by MOS or by school attended.

Figure 1-1

S A M P L E

(Unit Office Symbol)

(date)

MEMORANDUM FOR RANGE OFFICER

SUBJECT: Indirect Fire Command Safety Certificate for (Unit)

1. Reference:

a. AR 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat.

b. FL Reg 350-30, I Corps and Fort Lewis Range Regulations.

2. The following personnel have been trained and tested per the references and are certified to perform duties as listed:

NAME	RANK	SSN	UNIT	DUTY
WATSON, C.E.	CPT	123-45-1234	A/3-82	FA OIC, FP RSO
REGAN, MIKE	1LT	123-45-6789	C/3-82	FP RSO
MACKEY, R.	SFC	123-45-6789	C/3-82	FA OIC, FP RSO

XX
XXXXX

MIKOLASHEK, P.T.	1LT	123-45-6789	D/4-31	Mortar OIC, RSO
GRUBB, R.A.	SFC	123-45-6789	D/4-31	Mortar RSO

3. This certificate is effective for six months from date, or until superseded.

DAVID CHAUNDLER
LTC, FA
COMMANDING

Figure 1-2

CHAPTER 2

Definitions

- 2-1. APPROVED OVERLAY. A piece of tracing paper authenticated by the Range Officer or Range Operations Officer, containing a surface danger zone for weapons firing or other graphical training descriptions, and marginal information.
- 2-2. CHECK-FIRE. A cease fire imposed on a unit or units because of an unsafe condition or to accommodate other activities.
- 2-3. COLD STATUS. The condition of a part of the range complex occupied by a unit not conducting training. For example, a unit on a range under administrative check-fire for a meal is in cold status.
- 2-4. DAILY RANGE SCHEDULE. A list of scheduled activities on the range complex for a given day, prepared at 1200 two working days prior. The Daily Range Schedule meets the AR 385-63 requirement for 24-hour notice of firing and is distributed by Email to Fort Lewis units.
- 2-5. DEMOLITIONS EFFECTS SIMULATOR (DES). A device that provides realism in conduct of demolitions training without extended safety distances. DES uses live detonating cord, fuzes, and blasting caps but eliminates the primary explosive.
- 2-6. DROP ZONE SAFETY OFFICER (DZSO). The safety-certified individual in charge of a drop zone during a personnel drop.
- 2-7. DUD. Explosive ordnance that has been armed but not detonated. Also referred to as unexploded ordnance (UXO). Any object that appears to be a dud is presumed to be one. If an item of ordnance has not been fired or armed, it is not a dud. See Hangfire and Misfire.
- 2-8. EXPLOSIVE ORDNANCE DISPOSAL (EOD). An ordnance unit that identifies, recovers and disposes of explosive ordnance.
- 2-9. HANGFIRE. A delay in function of a propelling charge train at the time of firing. A hangfire is not a dud and will be handled by unit personnel on site per weapon manuals.
- 2-10. HOT STATUS. The condition of a part of the range complex occupied by a unit conducting training. For example, a drop zone in use by paratroops is in hot status.
- 2-11. IMPROVISED EXPLOSIVE DEVICE (IED). A demolition charge assembled from non-DODIC materials. IEDs are authorized by TRADOC for Special Forces reclassification training.

2-12. LIVE-FIRE EXERCISE (LFX). Firing different from the designed purpose of an established range, or conducted off a scorecard-type range. Requires a Range Control contract. See chapter 9.

2-13. MISFIRE. A complete failure of a loaded weapon to fire, due to firing mechanism failure or fault in the propelling charge explosive train. A misfire is not a dud and will be handled by unit personnel per weapon manuals.

2-14. MINIMUM SAFE DISTANCE (MSD). The nearest distance that unprotected personnel not involved in firing may stand to a mortar tube in hot status.

2-15. OFFICER-IN-CHARGE (OIC). The safety-certified individual in charge of a training facility.

2-16. RAINIER MILITARY OPERATIONS AREA (RAINIER MOA). The vertical and lateral Fort Lewis airspace allocated by the FAA to segregate military aviation from other IFR traffic, and to identify to other VFR traffic the location of these military activities. See AR 95-1 and Area Planning 1, DoD Flight Information Pamphlet (FLIP), and chapter 11, below.

2-17. RANGE. A training facility on which live fire is conducted. Ranges may be permanent facilities or temporary sites. See appendix B.

2-18. RANGE COMPLEX. The portion of Fort Lewis reserved for training, including ranges, training facilities, training areas, FAA Restricted Airspace R6703, and the Rainier MOA. See appendices B, C, and D.

2-19. RANGE SAFETY OFFICER (RSO). The safety-certified individual in charge of safety on a training facility. The RSO has no other duties during the training event.

2-20. RESTRICTED AIRSPACE R6703. United States airspace allocated to Fort Lewis by the FAA for indirect-fire, parachute, and aviation training. R6703 is divided into areas A, B, C, and D. No indirect-fire weapons may shoot from outside R6703. See chapter 11.

2-21. SEIBERT STAKES. Metal or plastic poles with red, yellow, and white bands at the top, emplaced to identify selected environmentally sensitive areas. Vehicle movement, digging, and bivouac are prohibited inside Seibert-staked areas.

2-22. SURFACE DANGER ZONE (SDZ). An area calculated from data provided in AR 385-62 and AR 385-63 which will contain the effects of given weapons fire.

2-23. TRAINING AREA. A numbered subdivision of the Fort Lewis range complex used primarily for non-firing maneuver training. See appendix D.

2-24. TRAINING FACILITY. Structures on or portions of the range complex used for training that do not include weapons fire. See appendix C.

CHAPTER 3

ENVIRONMENTAL CONSIDERATIONS

3-1. GENERAL. Fort Lewis exists to support Active and Reserve Component military training. Environmental constraints conserve the range complex and ensure compliance with Federal laws and Army regulations. Constraints are managed by Range Control and the Public Works Environmental and Natural Resource Division (ENRD). Unit commanders prevent environmental damage.

3-2. POLICY. Army environmental practice comes from the National Environmental Policy Act (NEPA), which commits Federal government agencies to consider effects of proposed actions during decision processes. When an action will significantly affect the environment, the consideration process must be documented. Fort Lewis policy is in FL Reg 200-1, which also contains guidance on environmental compliance during field training in appendix C.

3-3. ENVIRONMENTAL REVIEW AND MANEUVER DAMAGE CONTROL.

a. Units must appoint and train Environmental Compliance Officers and Hazardous Waste Technicians per FL Reg 200-1. Trainers must include the impact of training during planning. Areas of specific concern are listed below, and are shown on the Fort Lewis 1:50,000 Environmental Coordination Map, available from the DOL Map Warehouse.

b. Range Control reviews resource requests for possible environmental impact with assistance from Public Works Environmental and Natural Resources Division (PW ENRD).

c. If documentation is needed, the trainer proposing the activity prepares and coordinates. Range Control and PW ENRD provide technical expertise.

d. Maneuver plans must include protection of sensitive areas and damage repair. This includes removal of all barriers and barrier material, refilling of tactical excavations, and removal of trash and waste.

e. Damage outside that approved in the training plan must be reported immediately to Range Operations (FM 41.10/40.20, VHF 141.125, phone 967-6371/7974).

3-4. ENVIRONMENTAL CONCERNS. Environmental concerns on Fort Lewis are:

a. Live-fire training noise, addressed as follows:

(1) Normal hours for firing demolitions, field artillery, and mortars are 0700-2200 daily. Exceptions are approved by DPTMS and are requested in Blocks 5b

and 6 of HFL Form 473 during scheduling. Exceptions require ten duty days to process.

(2) Demolitions charge sizes are limited per chapter 10.

(3) There are no limits on small arms firing or hand-launched blast simulators, except during forest fire hazard periods. See chapter 1.

b. Riot agents and smoke, addressed in chapter 12.

c. Protection of salmon, water quality, and riparian habitat in Muck Creek (ET 282049-ET 439068), addressed through limits on ammunition impact and through use of authorized fording sites. Locations of fords are in chapter 14. Artillery or mortars must not impact within 225 meters of the creek bed.

d. Protection of eagles roosting along lower Muck Creek (ET 282049 to ET 324056), addressed through limits on direct-fire small arms in the South Impact Area, except Ranges 87, 91, and 93, from 1 December through 31 March annually, and by airspace restrictions along the Nisqually River-Muck Creek corridor. See appendix B and FL Regs 95-1 and 420-5.

e. Protection of endangered plant species, reforestation zones, and known archaeological sites, addressed as follows:

(1) Tracked vehicles may not leave the main roads on the prairies in TA 21 and 22, including Darby, Merrill, and El Guettar Drop Zones. Off-road vehicular operations are prohibited in all timber reforestation areas, research natural areas, and in other specially designated areas marked by Seibert stakes, signs, and/or fencing. Non-military motorcycles or dirt bikes must remain on hard surface roads.

(2) A PW dig permit is required for all digging or trenching with mechanized equipment. The OIC of digging operations must provide a 1:50,000 scale overlay of proposed ditching or trenching to PW Utilities Division. PW processing of digging permits includes ENRD review. Hand-dug foxholes do not require permits, but all holes must be filled and leveled. Digging is not allowed inside Seibert-staked areas, nor on the prairies in TAs 21 and 22, including Darby, Merrill, and El Guettar Drop Zones.

(3) Units discovering or excavating bones, building foundations, or other signs of human activity must report same to Range Operations for transmission to Public Works.

f. Prevention of spills of hazardous materials and waste, including POL products, fuel, NBC items, field sanitation items, paints, or other chemical items is addressed as follows:

(1) POL and hazardous wastes will never be dumped on the ground. Abandoning any hazardous material or empty container is also prohibited.

(2) Vehicle maintenance may not be done within 100 meters of streams or lakes. Loaded fuel tankers and trailers will not be transported across water during bridging or rafting operations.

(3) Refueling points must be at least 100 meters from water sources. Residue from draining oil, anti-freeze, coolant, or other automotive fluids must be returned to garrison for recycling. POL or hazardous waste spills on the ground or into water sources will be reported immediately to Range Operations (FM 41.10/40.20, VHF 141.125, phone 967-6371/7974). Units discovering spills or abandoned hazardous materials or waste will report the location to Range Operations. Units must not attempt to recover abandoned items without coordinating with PW Environmental Services HAZMAT for proper disposition of items.

3-5. INFORMATION AND ASSISTANCE.

a. PW Environment and Range Control will assist trainers at any stage of planning with advice on possible impact of exercise scenarios.

b. Environmental awareness materials are produced by the Range Control Integrated Training Area Management (ITAM) office and are available on request. These include Soldier-Leader Cards, posters, and leaflets.

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CHAPTER 4
SCHEDULING

4-1. GENERAL.

a. Any use of the range complex must be reserved through the Range Scheduling Section.

b. Good scheduling requires unit training resource personnel know the Commander's intent and are authorized to negotiate alternative sites and dates at scheduling conferences.

4-2. RANGE AND MANEUVER COMPLEX MANAGEMENT.

a. Ranges and capabilities are listed in appendix B. See also chapters 1, 7, 8, 9, and appendix E.

b. Training facilities not intended for weapons live-fire are listed in Appendix C. Occupation, use, and clearance information is contained in Chapter 13, facility SOPs, and appropriate field manuals.

c. Maneuver land is divided into numbered and lettered Training Areas per appendix D and the Fort Lewis 1:50,000 Military Installation Map. Shared use of TAs is the norm at Fort Lewis. Trainers needing sole use of land must coordinate with Range Control and I Corps G3 prior to the Range Scheduling Conference for the period concerned.

4-3. AIRSPACE MANAGEMENT. Fort Lewis military airspace use is governed by FL Reg 95-1 and chapter 11. Aviators must be aware of local airspace rules and restrictions.

4-4. DAILY RANGE SCHEDULE. The Daily Range Schedule is the AR 385-63 24-hour notice of firing, and is published by email two duty days prior to effective date.

4-5. THE SCHEDULING PROCESS.

a. Range Control, in coordination with I Corps G3, hosts Range Scheduling Conferences. Conferences are announced in writing. Priorities are determined by I Corps G3, based on the Corps Master Training Calendar and unit input.

b. Reserve Component trainers may schedule detailed training resource packages for the fifth month out from each Monthly Range Scheduling Conference.

c. MSCs and tenant units must ensure training events are updated on the I Corps Master Training Calendar at least one week before Range Scheduling Conferences.

d. Units must send a representative knowledgeable of the training program and the scheduling process and authorized to make decisions on alternate facilities, areas, or dates. Range Control offers a detailed briefing on the scheduling process for S3s and unit training resource personnel.

e. Units must maintain records on conference bids. Conference time will not be taken for unit repetition of prior requests. Unit training resource managers will verify records, as needed, between Scheduling Conferences.

4-6. MULTIPLE USE OF TRAINING AREAS. All Fort Lewis Training Areas (TAs) are scheduled for multiple units unless sole use is approved by I Corps G3. Unit representatives will be informed of TA coordination requirements during scheduling conferences. The first MSC or tenant unit to schedule into a TA or a training facility in a TA becomes the land coordinator for that TA. All subsequent bids for that TA will be directed to the land coordinator before being accepted. Land coordinator clearance for shared use is required before final scheduling at Range Control. Final approval for a training event rests with Range Control. **It is strongly recommended unit land coordinators use photocopies of the Fort Lewis 1:50,000 MIM or other graphic as a tool in recording land allocations in TAs.**

4-7. SCHEDULING OF RANGE CONSTRUCTION AND REPAIR. Range Control, in coordination with ITAM, PW, Corps of Engineers, or the troop construction unit performing a project, will forecast and block out ranges and facilities for construction and repair using I Corps G3 priority.

4-8. RANGE FACILITY MANAGEMENT SUPPORT SYSTEM (RFMSS). Fort Lewis Range Division has implemented RFMSS to allow electronic access by units to scheduling information. The RFMSS Users' Handbook is distributed during software installation. Resupply of the handbook is available by calling Range Division Automation, 967-1552. Units not yet on RFMSS request installation and training through Range Scheduling.

4-9. PROCESSING OF HFL FORMS 473 and 2035. Units not on RFMSS will schedule using HFL Form 473 (Training Resource Request) and cancel using HFL Form 2035 (Cancellation of Training Facility).

a. HFL Forms 473 may be delivered to Range Scheduling immediately after the Monthly Range Scheduling Conference for that period, but must be submitted no later than D-30 days before the event. Reservations not backed by HFL Forms 473 at D-30 will be voided, opening those facilities/TAs for first-come bookings.

b. Instructions for HFL Form 473 are on the back of the form. Three copies are required; one copy will be returned to the unit with control numbers, coordination requirements, and other Range Scheduling annotations in red ink. HFL Forms 473 for shared-use resources must show coordination with all higher priority units prior to submission. Computer generated HFL Forms 473 may be used, per Director of Information Management (DOIM) procedure.

c. Reservations secured by HFL Form 473 are cancelled by HFL Form 2035. Unit trainers should provide HFL 2035 as soon as the scheduled facility is no longer needed. Cancellation and rescheduling are done through Range Scheduling only; units may not conduct independent internal reallocation of facilities.

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CHAPTER 5
AMMUNITION

5-1. GENERAL.

- a. Ammunition use and field storage at Fort Lewis is governed by FL Reg 700-20.
- b. Ammunition will remain in sealed containers until immediately before firing. Unpackaged ammunition must be protected from the elements. **Precutting charges for mortar or artillery firing is prohibited.**
- c. Ammunition loss must be reported immediately to the Military Police Desk. Units without access to phone service will inform Range Operations by radio (FM 41.10/40.20, VHF 141.125).
- d. Ammunition .50 cal and below found by units on post will be accepted by the ASP, Bldg M001, no questions asked. Ammunition above .50 cal and suspected duds will be left in place and reported to Range Operations immediately. Range Operations will notify 707th Ordnance Company (EOD).
- e. Military ammunition may never be transported in POVs.
- f. Ammunition may never be abandoned, destroyed, concealed, or fired indiscriminately to avoid turn-in.
- g. All residue must be removed from ranges or training sites.
- h. Range OICs training with dud-producing munitions must report total number of duds to Range Operations during close-out calls at the end of each day.
- i. Seasonal fire hazard restrictions are per chapter 1.

5.2. HIGH-HAZARD DUD-PRODUCING MUNITIONS. Weapons firing ammunition that produces high-hazard duds may be fired only on ranges designated for that purpose as follows:

- a. M203 and MK19 40mm HE and HEDP ammunition is fired only on Range 79.
- b. Piezoelectric-fuzed ammunition, including anti-tank HEAT, is fired only on Range 59.

5-3. AMMUNITION PROHIBITED FROM USE DURING TRAINING. Improved conventional munitions (ICM) and sub-munitions and depleted uranium (DU) munitions are not fired at Fort Lewis. There are no exceptions.

5-4. SMALL ARMS AND GRENADES.

a. Live-fire exercises requiring overhead small arms fire must use ammunition identified as cleared for overhead fire by NSN.

b. Blank and ball ammunition will never be mixed during movement, issue, or turn-in.

c. HE hand grenade throwing on any range must stop immediately and Range Operations be called if a thrown grenade does not explode. Range Operations will inform EOD.

d. Units using HE hand grenades on live-fire exercises must ensure the target area is free of holes, ditches or high grass that may conceal a dud.

5-5. DEMOLITIONS, ARTILLERY, AND MORTARS.

a. Range OICs and RSOs must be familiar with and have on site publications governing handling and firing of demolitions and ordnance.

b. U.S. artillery ammunition fired on Fort Lewis must be cleared for overhead fire. Firing points on the edge of the Artillery Impact Area are designated for non-cleared ammunition. Foreign forces commanders must certify non-U.S. artillery ammunition brought from national stocks.

c. Mortars may never be fired over any personnel.

d. Propellant charge increments must be kept dry. If there is doubt as to whether moisture has affected propellants, the charge or round must not be fired. Charges will NEVER be pre-cut. Excess increments must be burned daily or prior to leaving each firing position, whichever occurs first.

5-6. TRAINING WITH LIVE MINES. Live mine training guidance below is drawn from AR 385-63 and HQs DA (DAMO-TR) message DTG 290845Z Jul 97, Subject: Training Policy for Non-Self Destructing Anti-Personnel Landmines (NSD APL). Live mine training is authorized as follows:

a. U.S. Army forces, except for Korea, will not employ minefields that include non-self destructing anti-personnel landmines, inert or live, at home station training or combat training centers, including simulations. There are no U.S. Army restrictions on training with self-destructing/self-activating landmines. There is no restriction on the use of the M18A1 Claymore mine in a command detonated configuration.

b. Units outside Korea will not use inert M14 or M16A1 in tactical or protective minefield training unless the training event is directly related to a clear, anticipated requirement to employ these mines in a Korean exercise. Units on the Korea TPFDD but not actually preparing for a Korean exercise will not train with M14 or M16A1 mines.

c. Live training is allowed with M15, M19, and M21 mines. **No live training is allowed with M14 or M16A1 mines at Fort Lewis, without exception.** Live mines may not be buried in training. Approved mines may be armed and disarmed no more than 25 times per mine.

d. No tilt rods, trip wires, or booby traps will be used with live mines.

e. Live and inert mine training will not take place in the same location, to avoid mixing mine types.

5-7. PYROTECHNICS.

a. Pyrotechnics use may be restricted during dry weather, per chapter 1.

b. Dud or malfunctioning pyrotechnics must be marked in place and reported to Range Operations for EOD notification.

c. Pyrotechnic devices emplaced but not used must be retrieved, saved, and returned to the ASP. Commercial firecrackers will not be used in training.

d. Aerial flares will not be set off within 1000 meters of Gray Army Airfield, or when any aircraft is overhead.

5-8. MISFIRES, HANGFIRES, AND MALFUNCTIONS.

a. A misfire or hangfire occurs when the propellant chain does not function and the round does not leave the tube. These are handled by the unit per weapons publications. EOD does not respond to malfunctions unless unit actions fail to resolve the situation.

b. Malfunctions include early discharge, premature detonation, or short rounds. Procedures are:

(1) Check-fire the range. Equipment, ammunition, residue, and debris will not be disturbed except to treat casualties, if necessary.

(2) Inform Range Operations of the malfunction. If medevac is needed it will be processed immediately. Otherwise an incident description will be provided. Range Operations will inform I Corps EOC/FOD, the ASP, EOD, and Command Safety. The unit must make required reports through logistics channels.

(3) The ASP will notify the Quality Assurance Specialist for Ammunition Surveillance (QASAS), who will investigate as needed and clear the unit to move or fire the weapon or other ammunition.

(4) The unit will inform Range Control of QASAS directives before resuming firing or moving from the range.

CHAPTER 6

IMPACT AREAS

6-1. GENERAL. Fort Lewis has four permanent impact areas (North Fort, Central, Artillery, South). Special-use impact areas may be activated for specific training events. Impact areas are marked with warning signs and barriers, and are off limits to all personnel except as approved by Range Control. Passing hazard warnings and barriers without Range Control permission is forbidden. CAUTION: The road along the south side of the Artillery Impact Area from Range 52 to Mortar Point 13 is off limits, as are the roads in the South Impact Area.

6-2. DUDS. Unexploded ordnance (UXO) is extremely hazardous and **MUST NOT BE DISTURBED**. Unexploded ordnance will not be removed from impact areas. Any dud or ammunition item higher than .50 cal found along the boundary of or outside an impact area will be reported to Range Operations (FM 41.10/40.20, VHF 141.125, telephone 967-6371/7974) immediately for evaluation by EOD. Ammunition .50 cal and lower found on post will be turned into the ASP, Bldg M001.

6-3. IMPACT REQUIREMENTS.

a. Firing on ranges and firing points must cause impact in the designated impact area. Impact outside an authorized area will be reported to Range Operations immediately.

b. Live-fire exercise OICs must identify to their personnel the azimuth or deflection and elevation limits per range contracts and overlays that will keep firing hazards within the designated impact area.

6-4. BARRIERS AND GUARDS.

a. Some ranges have barrier and guard requirements. See range SOPs. Placement of these barriers and guards are the responsibility of the unit.

b. Barriers may be permanently emplaced gates or temporary barricades. Barricades receipted from Range Supply will be returned immediately after firing.

c. Hazard area guards placed by a unit must have radio or telephone communication with the range or exercise CP. Roving patrols must have radio contact with the CP.

6-5. IMPACT AREA TRESPASS. Anyone observing personnel or vehicles in an impact area must inform Range Operations immediately. Range Operations will call a check-fire as needed and request MP assistance at the site.

6-6. IMPACT AREA TARGET PLACEMENT AND MANEUVER.

a. Units desiring to emplace targets in or maneuver through permanent impact areas must schedule this activity. Detailed coordination with Range Control is required.

b. Unit work parties in impact areas must be scheduled and must be cleared into the impact area by Range Operations using radio, per Chapter 1. There are no exceptions.

c. Unit plans for target placement or maneuver in a dudded impact area must include a unit-conducted, EOD-assisted surface sweep. The following must be included in unit planning:

(1) Direct coordination between units and EOD is encouraged as early as possible. EOD requires Range Control verification that terrain is scheduled for the event. Requests are by memorandum through Range Control to 707th Ordnance Company (EOD) not less than 30 days prior to the event.

(2) The unit must provide a range sweep detail, composed and equipped as follows:

(a) OIC (SFC and up); RSO (SSG and up); Safety NCOs; staking party (size determined in coordination with EOD); and MOS 91B/91C medic or combat lifesaver with aid bag.

(b) Dedicated evacuation vehicle with litter and driver; vehicles for transportation of explosives, marking materials, and scrap; and reliable radio communications with Range Operations.

(c) Dud marking stakes and fluorescent tape obtained from Range Supply (quantities determined in coordination with EOD).

d. During operations in a dudded area, all personnel must wear helmet, flak vest, eye protection, and work gloves.

6-7. DIGGING AND CONSTRUCTION IN SUSPECTED DUD AREAS.

a. Construction of permanent facilities by Corps of Engineers contractors in suspected dud areas requires clearance of unexploded ordnance to the depth required for the project.

b. Construction of permanent facilities by Engineer troop units requires a surface sweep for UXO by the unit and EOD, plus risk analysis and protective measures per the Fort Lewis SOP and FORSCOM waiver for digging in suspected dud areas.

c. Digging of target emplacements, objectives, foxholes, and other excavations by engineer or maneuver units in suspected dud areas, in support of live-fire maneuver and other training events, requires measures per sub-para b, above.

d. Work parties must be cleared into the impact area by Range Operations per Para 6-6b, above.

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CHAPTER 7

DIRECT FIRE RANGES AND LASERS

7-1. GENERAL

a. Direct fire ranges are scheduled per Chapter 4. No range may be used unless it has been scheduled and until hot status has been received from Range Operations. Active ranges and hazard areas are announced in the Daily Range Schedule.

b. Troops may not go beyond the firing line on electrical ranges or ranges where dud producing munitions are fired. Exceptions are authorized by Range Operations and may require escort by EOD.

c. OICs and RSOs must ensure firing is kept within range limits as set by boundary markers or approved overlays. Marksmanship range limits are marked with red-and-white barber poles, reflective panels, or triangular red-and-white panels. Maneuver range limits are as designated by the range OIC. Illuminated range limits are provided on Ranges 12 and 30. When other ranges are used for night fire, the OIC and RSO must mark limits with easily identified devices.

d. Central Impact Area (Ranges 1 thru 47) OICs and RSOs must watch for low-flying aircraft downrange. If aircraft appear to be on a hazardous course in relation to targets and authorized impact, the OIC will call a local check-fire and inform Range Operations.

7-2. WARNING SIGNALS AND SIGNS.

a. Scarlet flags are flown at hot ranges during daylight hours. After dark, red blinking lights are posted.

b. Warning signs and barriers are posted on impact area boundaries. Impact areas are extremely hazardous, and entry past a warning sign without Range Control permission is prohibited.

c. A white flag on a range indicates maintenance personnel are downrange and must be contacted before any other activity begins.

7-3. TARGETS.

a. The Range Electrical Target Section is responsible for hard-wired targetry. Units will not tamper with electrical target systems in any way. Electrical target problems should be reported immediately to Range Operations FM 41.10/40.20, VHF 141.125, telephone 967-6371/7974).

b. Portable radio controlled targets and hostile fire simulators are obtained from DPTMS Training Support Center (TSC). Radio controlled devices must be placed per the range contract, used per TSC instructions, and protected from weapons fire.

c. Requests for non-electric small arms targets (rifle/MG zero, KD, personnel silhouette and stake sets) are made in the Remarks section of the RFMSS request or the HFL Form 473 used to schedule the event. The unit must list type and number of targets, date of firing, pickup date, return date, point of contact (POC), and phone number. See Appendix E.

d. Requests for gunnery targets are based on the standard target codes and order format in Appendix E.

e. OICs will not receive clearance from ranges until all targets and target debris are returned. These are due the first duty day after firing.

7-4. RANGE RECONNAISSANCE.

a. Reconnaissance of scheduled ranges 1-3 days prior to training is encouraged. After checking in at Range Operations and signing for key and SOP packet, the OIC and RSO should review both the SOP and the range description in Appendix B of this regulation, confirm the unit's scheduled firing hours, check target availability, and visit the range. Recon parties must not activate range systems when a white flag and/or lock-out/tag-out notices on range towers indicate that Range Maintenance personnel are downrange. Materials issued for a recon must be returned the same day.

b. Problems noted will be reported to Range Operations. The Range Facilities Branch will attempt repair. If the range cannot be made usable, Range Operations will assist in coordinating a similar range.

7-5. RANGE AND EQUIPMENT RECEIPT. The OIC or RSO must sign for the range and its support equipment from Range Operations, Bldg 4074. Targets are receipted from Range Supply, Bldg 4076. Support equipment must be returned the first duty day after firing. If the receipt holder is replaced during training, the relieving OIC or RSO must sign for the range and property at Range Operations and Range Supply. Special arrangements may be made for property transfer in the field during multi-day exercises.

7-6. DOWNRANGE VISIBILITY. The OIC must cease firing if the most distant downrange target to be used is obscured by darkness, fog, or smoke.

7-7. CONDUCT OF RANGE FIRING.

a. Ranges, support packets, and targets may be signed out the duty day before firing. The unit may not occupy the range until its first scheduled day. Occupation

must be reported to Range Operations per the opening checklist issued with the facility packet.

b. When the unit is ready to go hot the OIC will complete the opening checklist and call Range Operations (FM 41.10/40.20, VHF 141.125). Opening and closing are by radio only. The Range Operations Shift NCO will obtain information from the opening checklist, record the range in hot status, issue a user's code, and give initials as authentication.

c. During firing, the OIC and RSO both must be on site and in control. Should the OIC or RSO have to leave, the range will be put in check-fire and Range Operations notified.

d. If constant radio watch is required per appendix B and the range SOP, a designated RTO will monitor and respond to Range Operations radio checks.

e. The Range Inspection Section may visit ranges to check safety and compliance with regulations, and to provide assistance as needed. Range Inspectors are authorized to check-fire ranges if safety violations are noted.

f. Range Inspection must check police, general range condition, and removal of ammunition residue prior to unit clearance from ranges. Range Inspectors will also enter range towers to ensure controls are properly secured and, on computer-driven ranges, equipment and heaters/air conditioners are properly set. The OIC schedules checkout per the opening checklist. Nightfire range OICs will schedule a daylight time for clearance the next morning prior to closing.

g. Final clearance from a range requires return of all range support materials issued by Range Operations and Range Supply. Accounts become delinquent on the second working day after training is complete.

h. The unit must take trash to garrison dumpsters or the landfill in unit-provided trash containers. Ammunition residue must be taken to the ASP.

7-8. UNIT RANGE POLICE AND OVERWATCH.

a. Ranges are policed by using units. Trash accumulation or damage found on a range must be reported by the OIC to Range Operations prior to request for hot status. A Range Inspector will be dispatched to determine responsibility for cleanup or repair.

b. Range overwatch is assigned in FL Reg 210-10.

7-9. RANGE FIRES.

a. Range fires may occur anywhere on the range complex at any season.

b. On ranges where dud-producing ammunition is fired, the OIC will report a downrange fire to Range Operations (FM 41.10/40.20, VHF 141.125, phone 967-6371/7974) and then observe. On all other ranges, the OIC will report the fire to Range Operations and begin firefighting.

c. Fires in uprange administrative areas will be fought. In all situations, until PW Forestry fire crews arrive the OIC must ensure unit personnel, equipment, and ammunition are not endangered. The first PW Forestry representative to arrive will assume control and direct firefighting assisted by the OIC.

7-10. LASERS.

a. Fort Lewis line-of-sight backstops confine laser operations to the firing points and targets areas listed below. Lasing in other modes or from other locations requires a range contract per Chapter 9. Laser firing points must be scheduled per Chapter 4. Lasing is considered to be live fire, and powered laser devices must be treated as loaded weapons.

b. Lasers are fired into the Artillery Impact Area from Range 74 and OPs 2, 3, 8, and 9. Laser range SOPs list limits and device control requirements. Laser training inside the cantonment area is prohibited.

c. Laser operations require a laser Range OIC and RSO, certified per Chapter 1. Both must be familiar with the equipment in use and with Chapter 19 and Appendix B of AR 385-63, and must be on-site during laser operations.

d. In event of loss of control of a laser device, such as an activated device being dropped or knocked over, the RSO will call an immediate check fire, inactivate the device, and inform Range Operations. Personnel who may have been exposed to a laser beam require immediate medical examination by an ophthalmologist.

e. Laser power sources will not be connected until the OIC and RSO are ready to go hot. Powered lasers must be aimed into the impact area.

f. Unless the OIC has coordinated with Range Control to conduct designating, the AN/TVQ-1 GLLD will be used in range finding mode only.

CHAPTER 8

INDIRECT FIRE

8-1. GENERAL.

a. This chapter discusses live fire of mortars and field artillery. For firing hours, see chapter 3. Indirect fire must be within FAA Restricted Airspace R6703, which is activated on a real-time basis by Range Operations through Seattle Tower. Units must request activation of R6703 not less than 30 minutes prior to firing. See also chapter 11.

b. OICs firing illumination and smoke rounds must compute and apply safe canister impact. When firing illumination during Fire Hazard Level 2 or 3, flares must land on open prairie, not in trees. If wind or other factors preclude this, illumination may not be fired. Fire hazard levels are in chapter 1.

c. Mortars and field artillery may not be fired when targets are masked by fog, smoke, or other obscurants unless an impact-locating radar is used. Regardless of visibility, all impacts must be observed. Rounds sensed as lost must never be repeated until firing data, weapon lay, and propellant increments are checked.

d. Observed fire may be conducted from any location where the target area can be seen. If a FIST will observe fire from other than a bunker OP, the training area occupied must be scheduled by the unit.

8-2. FIXED FIRING POINTS.

a. Artillery and mortar points listed in appendix B are established by 4th order survey and recorded in the Fort Lewis Trig List. Artillery point monuments are shell cases embedded in concrete. Mortar point monuments are power pole stumps. Mortar platoon base pieces must be within 100 meters of the monument. Artillery pieces on fixed points must be sited so the greatest displacement from the monument along the gun target line is 250 meters left or right in width, by 100 meters front or rear in depth.

b. Mortar OICs or RSOs must sign for the point and support equipment and be present throughout use. Artillery OICs (usually the battalion S-3 or FDO) may sign for and open firing points used by all units in the battalion, and must be in the field throughout firing. If the receipt holder is replaced during a multi-day exercise, the unit may coordinate with Range Operations for field transfer of responsibility and property. Otherwise, OICs must transfer receipts at Range Control.

8-3. PADS AND PALADIN FIRING.

a. Artillery units may establish firing points anywhere inside R6703 A, B, or D. Targets must be located inside the PADS impact area, identified in the PADS SOP issued by Range Operations. During PADS firing, the unit occupies a firing point surveyed by PADS or GPS and transmits opening information to Range Operations (FM 41.10/40.20, VHF 141.125) per the PADS SOP and the artillery opening checklist.

b. Paladin firing is conducted per the Paladin Safety Procedures memorandum executed between 1-37 FA and Range Control. Copies are maintained at Range Operations and 1-37 FA.

c. The PADS SOP and Paladin memorandum are reviewed annually by Range Control, Command Safety, and firing units to ensure currency.

8-4. MORTAR FIRING.

a. Overhead fire by mortars is prohibited. OICs and RSOs must ensure no personnel are under the trajectory. Because of the overhead fire prohibition, PADS or GPS mortar firing requires a range contract and TA closures. See chapter 9.

b. 81mm and 120mm mortars must be laid using the M2 aiming circle or the M2 compass. The lay must always be checked by an independent aiming circle. The requirement for an aiming circle as check instrument will not be waived.

c. 60mm mortars must be laid per above unless aiming circles are not authorized by TOE at the battalion level. In this case, 60mm mortars will be laid and checked with two M2 compasses. Check readings between compass and mortar sight, and between lay and check compass, must agree within 10 mils. There are no exceptions to the requirement for a separate check instrument.

d. 60mm, 81mm, and 120mm direct lay, direct alignment, and 60mm hand-held firing, are done as follows:

(1) The OIC must confirm with an M2 compass the azimuth of fire is within safe limits per the mortar point SOP.

(2) For direct lay and hand-held firing, the gunner must be able to see the target. For direct alignment, the squad leader must be able to see the target.

(3) The RSO must choose downrange reference points as visual limit markers and station himself to ensure the weapon is within these limits at all times.

(4) 60mm hand-held firing is limited to Charge 1 and below.

(5) 60mm direct lay and direct alignment are limited to Charge 2 and below for HE M720. HE M49 and WP M39 may be fired at all charges.

f. OICs will ensure mortars are separated by the distance required in the weapon FM. The bursting radius of the ammunition being fired is the minimum safe distance (MSD) from each tube, inside which nonessential personnel are not permitted.

8-5. FIELD ARTILLERY FIRING.

a. All ammunition components (propellant, projectile, fuze) must be certified for overhead fire.

b. At least one commissioned officer must be present on each hot firing point. This officer, usually the executive officer, is the Position Commander and performs duties per Chapter 11, AR 385-63. The Position Commander may also be OIC, although that duty is best performed by the fire direction officer. The Position RSO must be an SFC or higher.

c. Artillery surface danger zones (SDZs) are established by AR 385-63. Hazard Areas A through E vary dependent on weapon and ammunition. Access to Areas A, B, and C requires permission from Range Operations. Personnel not involved in training may occupy Area D and that portion of Area E greater than 350 meters from the weapon. Artillery firing OICs will consider Area D occupied by personnel other than troops in training at all times. Only weapon crews, unit members involved in firing, unit-sponsored visitors, and Range Control personnel may be within 350 meters of the weapon. On some firing points this requires guards on range roads along the battery front. These guards may block roads only during live fire missions.

d. The firing points in TA 12 between Chambers Lake and the railroad close the Roy Cutoff Road and the picnic sites on Chambers Lake. Range Control will inform DPCA Outdoor Recreation when these points are scheduled. Units must lock the gates at the north and south ends of the Roy Cutoff Road, along the rail line, and at the outlet to Chambers Lake, using unit locks and chains. Battery personnel must be alert for trespassers bypassing gates to the front or flanks of the howitzers.

e. Artillery units must have an internal Range Safety and Firing SOP.

8-6. MORTAR AND ARTILLERY FIRING INCIDENTS.

a. Any projectile seen or suspected to have hit outside approved limits will be reported to Range Operations (FM 41.10/40.20, VHF 141.125) immediately as follows:

(1) Name, unit, and location of person reporting.

(2) Date, time, and location of impact.

(3) Any injury to personnel. If injuries require evacuation, Range Operations will initiate medevac immediately, then record the information below.

(4) Number of rounds.

(5) If an airburst, estimated height.

(6) If a ground burst, whether the crater has been found. NOTE: If a crater is available, the reporting unit or individual will ensure it is not disturbed until a Range Control investigator arrives.

(7) Equipment damage, if any.

b. Range Operations will:

(1) Order check-fire of all ranges and firing points by broadcasting the command "Check Fire, Freeze" on the Range Control nets. This command is used only for firing incidents, and requires all units monitoring the net to cease operations until specifically reopened by Range Control.

(2) Initiate medevac, if needed.

(3) Dispatch a Range Control investigator and notify the senior artillery headquarters S-3 assistance is needed.

(4) Notify the following (in order):

(a) Medevac and MAMC (as needed).

(b) EOC during duty hours, or the I Corps FOD after duty hours.

(c) ASP (as needed)

(d) EOD (as needed).

(5) Monitor medevac and the investigation, and return units to hot status as the incident is isolated in the field. Return to hot status is allowed by the Range Officer, Range Operations Officer, or DPTMS, on advice from investigators.

(6) Direct inquiries to EOC or the FOD.

c. Units on ranges and firing points required to monitor Range Operations will cease firing at the command of "Check Fire, Freeze" from Range Operations. OICs or Position Commanders will:

- (1) Have crews fall in at the rear of pieces.
- (2) Preserve as-fired data on weapons and aiming circles.
- (3) Prevent movement of ammunition components and tools.
- (4) Monitor the Range Operations radio net.

NOTE: Only investigators may check data, propellant, fire control instruments, craters or other aspects of firing or impact points.

d. The Range Control investigator will make an initial report of findings to DPTMS, and will inform the appropriate MSC, or RCSB for Reserve Component firing, a formal investigation is required. If the team cannot determine which of several units is responsible, all MCSs involved must investigate. Unit investigating officer(s) must be on site within one hour of notification, and will be briefed by Range Control and unit personnel. A report must be forwarded to DPTMS within 10 calendar days of the incident, with an information copy to Command Safety.

8-7. EXCESS PROPELLANT CHARGE INCREMENTS. Excess increments will be burned at the end of each day, or before leaving a firing position, whichever occurs first, as follows:

- a. Select a gravel road free of brush, leaves and other combustible material, at least 65 meters from personnel or equipment.
- b. Place increments in a single-layer row not more than 12 inches wide. Igniter powder must be placed in a train not more than two inches wide at the upwind end of the increments so the powder will burn into the wind.
- c. Lay a 5-meter train of combustible material perpendicular to and at the downwind end of the increments. Light this at the end farthest from the charges.
- d. Monitor the burn site for at least 15 minutes to ensure that the blaze is completely out.

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CHAPTER 9

LIVE FIRE EXERCISES

9-1. GENERAL. Live fire maneuver training is a critical component of preparation for combat. Live fire exercises require close cooperation between the unit and Range Control to ensure maximum safety and flexibility for training inside the maneuver box, and the safety of non-involved personnel outside the box.

9-2. PLANNING.

a. Range Operations notifies units that a live fire contract is required by attaching a contract packet to the RFMSS scheduling confirmation or HFL Form 473 requesting the range or site. The unit commander appoints a firing OIC to plan and conduct the event. If an event will be conducted by multiple OICs, all must participate in the entire contract cycle. If an OIC is changed during planning or execution, the process must be repeated.

b. The OIC meets with the Range Operations Live Fire NCO **not less than 14 duty days prior to the event** to discuss scenario and training objectives. Range Operations will advise on safety, environmental considerations, and terrain limitations. If there are environmental concerns, Range Operations will assist the OIC in contacting PW Environment.

9-3. RANGE WALK. The planning session is followed by a range walk, if required, where the scenario is applied to the ground to set the maneuver box and firing limits. These are used to construct surface danger zone (SDZ) overlays.

9-4. CONTRACTS.

a. The live fire contract records unit measures to ensure weapons effects remain inside the maneuver box and firing limits. The contract packet may include SDZ overlays.

b. The contract establishes firing controls and terrain restrictions. Commanders must ensure chain of command review of the exercise throughout. Once finalized by the OIC and Range Operations, the contract cannot be changed at any level without review by Range Control. **The contract must be final and approved not less than 5 days prior to the event.**

9-5. OVERLAYS.

a. The OIC prepares SDZ overlays and, as needed, a Training Area closure and guard plan. Overlays must be completed at least five duty days prior to firing.

b. Overlays are prepared by the OIC in two copies on tracing paper, NSN 7530-00-235-4033. Acetate or other media will not be accepted. Technical assistance, tracing paper, and instruments are available at Range Control. Some overlays may be prepared on the Range Control ArcView impact area map, per direction of the Armor Master Gunner or Live Fire NCOIC.

c. SDZ outlines must show start-fire and cease-fire lines, and azimuths of firing limits in both grid and magnetic. Marginal information follows:

- (1) Range or firing event.
- (2) Date(s) of firing.
- (3) Weapons and ammunition included.
- (4) At least 2 UTM grid reference points.
- (5) Scale, map sheet name, and edition.
- (6) Name, rank, unit, and telephone of preparer.
- (7) Signature of preparer and date signed.
- (8) Signature of the Range Control official who reviewed and approved the overlay, and date signed.

d. One copy of the approved contract and overlay is with the OIC on the range during firing; the others are kept at Range Control until the end of the event.

9-6. FIRING.

a. Live fire maneuver scheduling must include time for set-up and range clearance. The downrange effects areas of many ranges at Fort Lewis overlay others, so access to impact areas is not automatically approved by the contract and must be arranged and reported daily by the OIC. Ranges must be scheduled and opened for occupation and set-up as well as for firing. Impact area entrance clearance must be obtained per chapter 6.

b. During set-up the OIC tests guard communications and internal safety and control systems. All road guards must have communications with the unit exercise command post, and the CP must establish radio communications with Range Operations.

c. Prior to opening for live fire, the OIC ensures road guards and barriers are in place, communications are operational, and special requirements imposed for the exercise are in effect. During firing, the OIC and RSO must keep weapons effects in the SDZ area.

d. The unit must conduct non-firing rehearsals and MILES or blank-fire training before using live ammunition. Units must successfully complete daylight live fire before progressing to night operations. Commanders two levels up will proof subordinate unit live fire exercises.

e. Event sites must be repaired by the unit. Emplacements must be filled and barriers and ammunition residue removed. Missile wire must be recovered.

9-7. AFTER-ACTION REVIEW. Unit commanders and event OICs are encouraged to include Range Control support as part of AARs, and to provide suggested improvements to the Range Operations Officer.

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CHAPTER 10

DEMOLITIONS

10-1. GENERAL.

a. Demolitions firing includes exploding materials and devices not fired from weapons. Most demolitions firing events are live fire exercises and governed by Chapter 9.

b. Demolitions training must stop during or on approach of an electrical storm. Caps must be moved away from personnel and other demolitions.

c. Above-ground misfires are cleared by the unit, not EOD.

10-2. DEMOLITIONS LIMITS.

a. Demolitions fired on Fort Lewis must be within the limits below. These limits are based on ICUZ Study 54-34-3468-83 (full title in appendix A). Exceptions are on a case-by-case basis.

b. C-4 and TNT demolition charges and detonating cord are limited to 20 pounds in any one detonation or group of simultaneous detonations. Separate detonations must occur within 1/10 second to be considered simultaneous. Demolition charges above the weight of standard issue 1/4 pound or 1 pound blocks may be assembled only for specific training, such as timber cutting.

c. Bangalore torpedoes are limited to two sections in any simultaneous detonation.

d. 15-pound shaped charges are limited to five charges in any simultaneous detonation.

e. 40-pound cratering charges are limited to two charges per hole, maximum four holes per shot, in any simultaneous detonation. The maximum training cratering charge cannot exceed 320 pounds.

f. Claymore mines are limited to 10 in any simultaneous detonation. Multiple Claymores must be at least five meters apart, per FM 23-23. Other high-explosive mines may be fired in training for demonstration purposes.

10-3. IMPROVISED EXPLOSIVE DEVICES (IED). IED firing must be supported by the unit mission.

10-4. DEMOLITIONS EFFECTS SIMULATORS (DES). DES are authorized for use in Fort Lewis TAs, as follows:

a. Use of DES must be scheduled on the RFMSS request or HFL 473 covering the event. The TA/site must be opened by radio with Range Operations for live fire. DES usually requires a range contract per chapter 9.

b. The DES minimum safe distance (MSD) for personnel in the open is 50 meters. MSD for personnel behind cover is 20 meters.

c. No more than 150 meters of detonating cord may be used in a single shot.

d. Only M11 and M14 blasting caps will be attached to detonating cord for initiation. When initiating with the M14 a minimum of one-minute of time fuze will be used. M12 or M13 caps will be used in conjunction with M11 caps to achieve the minimum safe distance. MDI caps may be attached to detonating cord only when a qualified safety person or observer-controller is present.

e. DES will not be placed inside vehicles, aircraft, tents, bunkers, or structures. DES will not be thrown.

CHAPTER 11

AIRSPACE CONTROL

11-1. GENERAL. Training airspace is managed in coordination with ranges, non-firing facilities, and land. This chapter covers training in the airspace bounded by R6703, the Rainier MOA, or the reservation boundary, whichever extends further.

11-2. AIRSPACE USE AND FACILITIES. Airspace use includes Range Control managed sites and activities that activate the MOA or R6703, or that require a Notice to Airmen (NOTAM), as follow:

- a. Artillery and mortar firing.
- b. Close Air Support (CAS), Joint Anti-Armor Training (JAAT) or aircraft reconnaissance (recce).
- c. Parachute drops and low-altitude parachute extraction system (LAPES) operations.
- d. Field and assault airstrip operations.
- e. Helicopter air-to-air combat training.
- f. Aviation unit FTX from a ground base in a Training Area.
- g. Radio-controlled munitions aerial target (RCMAT) and unoccupied aerial vehicle (UAV) operations and model aircraft flying.

11-3. NOTICE TO AIRMEN (NOTAM).

a. FAA Regulations require NOTAM when a hazard exists to the safe flow of air traffic. NOTAMs for indirect fire and demolitions in R6703 are requested for the firing unit by Range Operations on the Daily Range Schedule. Units are notified of NOTAM requirements for other events by Range Scheduling in Block 15 of HFL Form 473 during processing. Detailed guidance on NOTAM requests is provided by GAAF Operations.

b. Airspace users request NOTAMs through Range Scheduling, using the format at Figure 11-1, not less than three duty days before the event. Range Scheduling verifies that a ground site has been reserved and forwards NOTAM requests to GAAF Operations immediately after processing. GAAF publishes NOTAMs at the appropriate time, both locally and through Seattle Flight Service Station.

c. Upon NOTAM publication, GAAF places a copy of HFL Form 1173 in Base Operations for unit pickup the duty day before the scheduled event. Ground sites for NOTAM activities, such as parachute drop zones, will not be issued to training OICs by Range Operations unless a copy of HFL Form 1173 is on hand during facility sign-out.

d. Parachute NOTAMs include only the area one nautical mile around the outline of the DZ as shown on the 1:50,000 Fort Lewis Military Installation Map. See Fig 11-2.

e. Units cancelling or delaying activities published by NOTAM must inform GAAF Operations and Range Scheduling immediately.

11-4. USE OF THE RAINIER MILITARY OPERATIONS AREA (MOA).

a. The Rainier MOA is FAA-controlled for Fort Lewis use under Range Control management. Lateral and vertical limits are published in Seattle Sectional Aeronautical Chart and Seattle VFR Terminal Area Chart.

b. FAA Seattle Tower activates the MOA on a real-time basis on notification either by Range Operations or by participating fixed-wing aircraft. The MOA is not activated for or by Army rotary-wing aircraft. Scheduling is by Range Control only, in response to unit requests per Figure 11-3. New events, or changes to scheduled events, must arrive at Range Operations in time for two-hour notice to Seattle Tower.

c. When the MOA is active, access for IFR traffic is controlled by Seattle Tower.

11-5. USE OF R6703A, B, C, D.

a. "Controller" and "user" are special terms in FAA Restricted Airspace. The controller of R6703 is the FAA. The user of R6703 is Fort Lewis, with day-to-day management by Range Control. Range Operations has direct phone contact with Seattle Approach and GAAF.

b. R6703 is composed of subunits R6703A (surface - 14,000 feet), R6703B (surface - 5,000 feet), R6703C (surface - 14,000 feet), and R6703D (surface - 5,000 feet). See Figure 11-5. R6703 A, B, and D are continuously available 0700-2300 daily, and other times by NOTAM two hours in advance. R6703C is only available by NOTAM two hours in advance. R6703 is activated for:

(1) Aerial delivery of live or simulated ordnance.

(2) Surface-to-surface and surface-to-air firing of munitions when projectiles, fragments, obscuration, or other effects rise more than 45 meters above ground level (AGL).

(3) Laser weaponry and targeting devices.

(4) Parachute operations which must be conducted in a restricted area per FAA Regulation (FAR) Part 105.

- (5) Aircraft lights-out operations between sunset and sunrise.
- (6) Cargo paradrop activities.
- (7) UAV flights.

c. R6703 is activated by the FAA on request from Range Operations, based on the using unit opening call. Since the FAA activates R6703 on a real-time basis and must reroute air traffic, 30 minutes' notice is required from the using unit. Scheduling of R6703 is done only by Range Control. New events, or changes to scheduled events, must arrive at Range Operations in time for two-hour notice to the FAA.

d. When R6703 is active, access for aircraft not involved in the training event is per published NOTAM.

11-6. FLIGHT FOLLOWING AND AIRSPACE ADVISORY. GAAF Bullseye Radio provides flight following and airspace advisory service on FM 34.60, VHF 141.5, and UHF 393.3 on a 24-hour/seven-day basis unless otherwise noted by NOTAM. Range Operations does not respond to aircraft requests for advisory.

11-7. HIGH PERFORMANCE AIRCRAFT OPERATIONS AND ORDNANCE.

a. Coordination and initial scheduling for high performance aircraft are by DD Form 1972, Joint Tactical Air Strike Request, with scheduling per Figures 11-3 and 11-4. Aircraft below 2000 feet MSL inside the GAAF traffic area must be in contact with Gray Tower. Checkfires imposed for high performance aircraft will be lifted when the aircraft clears the MOA. The Fort Lewis Artillery Impact Area is used for BDU-33 or other training flash-smoke air-delivered ordnance only.

b. Close Air Support (CAS).

(1) CAS must be controlled by a Forward Air Controller (FAC). The FAC will establish contact with Range Operations (FM 41.10/40.20, VHF 141.125) not less than 30 minutes prior to scheduled TOT, and must monitor Range Operations continuously until the mission is complete. Range Operations will call the FAC for unscheduled periodic radio checks.

(2) Block times are enforced. If other scheduled training precludes block time extensions, mission aircraft must be turned away.

11-8. DROP ZONE OPERATIONS.

a. Parachute drop zones (DZ) are scheduled separately from the Training Areas in which they are located. Parachute drops are scheduled by block times for events plus equipment and personnel recovery.

b. A DZ survey must be on file at Range Control before any DZ can be used. Authorized uses for established Fort Lewis DZs are in Figure 11-2 below.

c. Hazards. R6703 will be activated for night jumps by unilluminated paratroops, IFR, or cloud impeded drops inside the restricted area. Other types of drops inside R6703, and all paradrops outside R6703, are without statutory protection to the jumper. Per FAA Regulation FAR Part 105, each person jumping between sunset and sunrise outside of R6703 must be equipped with a light visible for at least three statute miles.

d. Procedures.

(1) DZs will be manned and operated per current airborne regulations and doctrine. Non-military jumps will be conducted per United States Parachute Association (USPA) guidelines and rules. DZs must be signed for by the DZSO, DZSNCO or CCT. Personnel to be listed as OIC of drops, whether Army or USAF, must be Safety Certified per Chapter 1. During night personnel drops, a member of the DZSO party must use NVG to track jumpers.

(2) DZs will be opened and closed on the Range Operations net (FM 41.10/40.20, VHF 141.125) by the unit or agency scheduled through RFMSS or on HFL Form 473. Back-up communications are required. When an Army DZSO is present, that person will request opening; during USAF-only drops, the CCT will open. Once a DZ is opened, the Range Operations net must be monitored at all times by the DZSO or CCT.

(3) Range Control will inform GAAF Operations of DZ hot status, type of drop, TOT, aircraft type, and clearance for mission aircraft to enter the restricted area. GAAF Operations will use the information to answer queries from mission aircraft on DZ status and entry clearance. There will be no simultaneous operations by more than one unit on any DZ, and only one set of marker panels at a time may be displayed on a DZ. Block times are enforced.

(4) The DZSO or CCT will give Range Operations 30-minute and 10-minute warnings. At the 30-minute warning, Range Operations will impose required check-fires. Use of Point Salines DZ by fixed wing aircraft requires check-fires of all indirect firing points. See Appendix C for other conflicts. The 10-minute warning will be passed to GAAF Operations when Abrams or Point Salines DZs are in use, so Runaway 33 east departures can be suspended during the actual airdrop.

(5) Paradrops without DZ-to-air communication are conducted as follows:

(a) The RFMSS electronic request or HFL Form 473, and NOTAM request must include notice that a drop will be Ground Mark Release System (GMRS), Computed Air Release Point (CARP) or All Weather Aerial Delivery System (AWADS).

(b) The DZSO or CCT must open the DZ through Range Control before placing marking panels.

(c) Range Control will inform GAAF Operations of DZ status.

(d) Based on 30 and 10 minute warnings from the DZSO or CCT, Range Control will impose necessary check-fires.

(6) Check-fires will be lifted when the DZSO or CCT informs Range Operations that mission aircraft have departed the MOA and that all jumpers are accounted for on the ground.

(7) Aircraft operating under 2000 feet MSL within five statute miles of GAAF must be in contact with Gray Tower.

e. Shared use by Ground and Air Units.

(1) Drop Zones are not part of the TAs in which they are located, and are off limits to ground units unless scheduled for ground training. Hot DZs are off limits to all personnel and vehicles not authorized by the DZSO or CCT. Construction of tactical emplacements and barriers on DZs must be approved by Range Control and cleared from DZs immediately upon completion of training.

(2) When DZs and surrounding TAs are scheduled for simultaneous air and ground use by different units, coordination is required, with later-scheduled units coordinating up to the first scheduled. Coordination is noted on the RFMSS request return or on HFL Form 473. First-scheduled units cannot forbid shared use of TAs or DZs. See chapter 14. In addition, all ground-use unit OICs must find the DZSO/CCT party on the DZ and personally coordinate activities on the day of training.

(3) Pacemaker Assault Strip and the adjacent Extraction Zone (LAPES Strip) may be scheduled for air use when TA 14 and/or Rogers DZ are allocated for ground use. Pacemaker is not available for ground use, and is always off limits to vehicles not involved in an air landing operation.

f. Non-Participating Aircraft within DZ Airspace. The DZSO or CCT will report aircraft crossing DZ airspace designated by NOTAM. However, Seattle Tower monitors mission aircraft location and occasionally routes an IFR flight across an active DZ.

11-9. AERIAL GUNNERY. Limited helicopter aerial gunnery is possible at Fort Lewis as a live fire exercise per chapter 9. Aircraft involved in door gunnery must use brass catchers to contain cartridges.

S A M P L E

AFZH-XXX

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Request for Notice to Airman (NOTAM)

1. Request NOTAM be published for (operation) to be conducted by (unit) on (date), as follows:

- a. Unit: 14th MI Bn
- b. Date and block time of operation: 28 Jan 88 1100-1500
- c. Type of operation and, if airdrop, TOT and type of drop: TOT
- d. Location of operation (if airdrop, DZ name and grid coordinates):
Rogers DZ EH 001001

2. To be completed by GAAF:

- a. For airdrops, distance from center of DZ to nearest VOR (radial and NM) (to be completed by GAAF): 1 mile
- b. FAA facility for contact (to be completed by GAAF): Seattle
- d. Altitudes (AGL): 2000 ft
- e. Aircraft type, unit, and tactical call sign: C5A, 3rd Air Cav, Bulldog
- f. Radio frequencies to be used, air-to-air and air-to-ground: 20 MHZ and 41.35 MHZ

2. Remarks (Include notice of operation in which there will be no radio contact between aircraft and ground team, or no-lights night drops, or a drop through clouds).

3. Point of contact is (name, unit, duty title, telephone number): CPT Chevron 14th MI Bn, 967-6666.

SIGNATURE OF UNIT COMMANDER

DROP ZONE	CAPABILITIES	REMARKS
ABRAMS N. APPROACH (CTA 6)	PERS, HAHO, HALO	IN R6703D.
ABRAMS S. APPROACH (TA 6)	PERS, HAHO, HALO, CDS HVY EQUIP, SAIB, NIGHT	IN R6703D.
AMERICAN LAKE (VIC TA 2)	PERS, CRRC	WATER DROP, OUTSIDE R6703. NO ON FL SPEC MAP.
ANZIO (TA 13)	PERS	OUTSIDE R6703.
DAKTO (TA 12)	PERS	IN R6703D. ROTARY WING AIRCRAFT ONLY.
DARBY (TA 21)	PERS, HAHO, HALO, CDS, SATB	IN R6703C.
EL GUETTAR (TA 22)	PERS, HAHO, HALO, CDS, HVY, EQUIP, SATB	IN R6703C.
MARION (TA 18)	PERS	OUTSIDE R6703. ROTARY WING AIRCRAFT ONLY.
MERRILL N. APPROACH (TA 21)	PERS, HAHO, HALO, SATB, NIGHT	IN R6703C.
MERRILL S. APPROACH (TA 21)	PERS, HAHO, HALO, SATB	IN R6703C.
MYTKINA (TA 19)	PERS, HAHO, HALO, NIGHT	IN R6703C.
PACEMAKER (TA 14)	PERS, HAHO, HALO, SATB, NIGHT, LAPES	OUTSIDE R6703.
POWELL (GAAF)	PERS, HAHO, HALO	OUTSIDE R6703. NOT ON FL SPEC MAP
PT DE HOC (TA 18)	PERS, HAHO, HALO, HVY EQUIP, NIGHT	IN R6703A.
PT SALINES (TA 6)	PERS, HAHO, HALO, CDS, HVY EQUIP, SATB, NIGHT, AWADS	IN R6703D.
PUGET SOUND (VIC TA 1)	PERS, CRRC	WATER DROP. OUTSIDE R6703. NOT ON FL SPEC MAP.
ROGERS (TA 14)	PERS, HAHO, HALO, CDS, HVY EQUIP, SATB, NIGHT	OUTSIDE R6703.
YALU (TA 21)	INACTIVE	USE BY REQUEST.

Figure 11-2

S A M P L E

AFZH-PTM-R (340a)

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Close Air Support at Fort Lewis

1. Reference letter Det 6, 14 Jan 85, SAB, enclosed.
2. Reference request is scheduled with the following exceptions:

DATE	TOT (LOCAL)	AREA	MISSION	REASON
30 Jan 87	1100	R6703 and MOA	CAS	Conflict with 2-75 Inf
	1500	R6703 and MOA	CAS	Jumpmaster School, Pt Salines DZ.

3. Changes to TOTs require sufficient lead time to guarantee 2-hours notice by Range Operations to Seattle Center and GAAF Operations for alterations to posted NOTAMs. NOTAM requests must be submitted IAW Chapter 11, FL Reg 350-30, NLT 3 working days prior to the event.
4. Range Control POC is SFC Williams, 967-6371/7974.

Encl

A.J. WELLER
Range Officer

DISTRIBUTION:

1st Bde, 25th ID(L) S-3	2/75th Rangers S-3
3d Bde, 2d ID S-3	1 SFG(A) S-3
81st Bde S-3	62d AW
GAAF Operations	RCSB

SEATTLE ARTCC, 3101 AUBURN WAY S. AUBURN, WA 98002
 FAA FLIGHT SEVERICE STATION, 7233 AIRPORT WAY S, SEATTLE, WA 98108
 AASF-1, CAMP MURRAY, TACOMA, WA 98430

Figure 11-3

S A M P L E

ALO CPT Cameron

05 March 1999

Close Air Support At Fort Lewis

Range Scheduling

1. Request scheduling for USAF tactical aircraft to conduct Close Air Support operations at Fort Lewis with elements of the 3rd Bn 60th Inf on the dates and times listed below:

<u>DATE</u>	<u>TOT (LOCAL)</u>	<u>AREA</u>	<u>MISSION</u>
28 Jan 91	1100	R6703 and MOA	CAS
	1500	R6703 and MOA	CAS
29 Jan 91	1100	R6703 and MOA	CAS
	1500	R6703 and MOA	CAS
30 Jan 91	1100	R6703 and MOA	CAS
	1500	R6703 and MOA	CAS

2. All missions will be flown in R6703 and the Rainer MOA using Visual Flight Rules. Control will be provided by a Forward Air Controller (callsign: BREWERY) on Frequency 290.6 MHZ. BREWERY will open with Range Operations not less than 30 minutes prior to TOT.

3. Coordination of conflicts will be accomplished by Division ALO as required.

4. USAF point of contact is Captain Cameron, AV 357-7108.

ROBERT PIZZI, Lt Col, USAF
Division Air Liaison Officer

Figure 11-4

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CHAPTER 12

CHEMICAL TRAINING MUNITIONS.

12-1. GENERAL.

a. Lethal, incapacitating, or persistent chemical agents may not be used in training.

b. Mortar and field artillery smoke projectiles are fired per chapter 8 and weapon and ammunition publications.

c. Riot control agents may be used in training only under the supervision of a Chemical Corps officer or NCO, or a graduate of an installation/command NBC school. For Special Forces teams, NBC-qualified personnel must have been involved in the training planning process. Only CS in capsule or powder form may be used in a CS chamber.

d. Use of riot control agents, smoke generating equipment, or smoke pots must be included on the RFMSS electronic request or HFL Form 473 that schedules the training. If known, grids of release points must be listed. Clearance for use of any number of smoke generators or smoke pots must be obtained daily from Range Operations during site opening calls. Additionally, on days when smoke pot use is scheduled, Range Operations will check with the Puget Sound Clear Air Agency (PSCAA) to determine whether an indoor burn ban is in effect. If so, no smoke pot sites will be allowed to go hot.

e. The point of smoke generation for M56 and M58 generators must be at least 200 meters from wetlands, water bodies, or streams.

12-2. CONDUCT OF TRAINING.

a. Trainers must positively control riot control agents, smoke generating equipment, smoke pots, and smoke grenades.

(1) Riot control agent or any obscuring cloud of smoke must not enter cantonment/housing areas or cross the installation boundary, East Gate Road between the East Gate and the cantonment area, or any public routes listed in chapter 14. If smoke may obscure a hard-surface road in or around a TA, OICs must post road guards to report obscuration and halt traffic. OICs must also be alert to forest fire hazards from burning-type grenades, smoke pots, or equipment.

(2) Smoke grenades and CS may not be released closer than 300 meters from an installation boundary, a road open to use by the public per chapter 14, or a cantonment area. OICs must ensure that a smoke or CS cloud will not drift into other units' activities. The maximum amount of smoke or CS to be released at one time is

that sufficient to provide coverage given the size of the area, time required, and concentration desired. Unit OICs must consider actual weather and wind conditions on site which may make the 300-meter buffer insufficient, and must modify release points accordingly.

(3) HC smoke pots may not be released closer than 1500 meters from an Installation boundary, a road open to use by the public per chapter 14, or a cantonment area. OICs must ensure that the HC cloud will not drift into other units' activities or across roads that might be used by other units. The maximum amount of HC smoke to be released at one time is limited to that sufficient to provide coverage given the size of the area, time required, and concentration desired. For additional guidance on use of smoke pots drawn from Volume 1, "Toxicity of Military Smokes and Obscurants" by the Committee on Toxicology, National Research Council, see the Table below:

ATMOSPHERIC CONDITION	WIND SPEED	DISTANCE AT PEAK CONCENTRATION
Night (stable)	4 km/hr	3900 meters
	11 km/hr	2000 meters
Day (neutral)	4 km/hr	1100 meters

NOTE: Under certain atmospheric conditions, a 1500-meter safety buffer may not be sufficient. Commanders must make the final safety determination.

(4) Due to the requirement for personnel exposed to these agents to be masked, OICs of units using HC, violet, or phosphorus (metallic obscurant) smoke must ensure that all downwind personnel are either masked or are sure not to be exposed.

b. Smokepots and grenades must be kept dry until used and must be fired outdoors in an area clear of combustibles. Personnel should stay at least 30 meters from burning smokepots and 10 meters from burning grenades.

c. Riot control agents will not be used within 100 meters of open water.

d. All personnel must carry a protective mask during exercises involving smoke. Personnel must mask:

(1) Before exposure to any concentration of hexachlorothane (HC) smoke produced by M8 white smoke grenades, smoke pots, artillery rounds, or metallic powder obscurants, and also to any exposure to violet smoke.

(2) When passing through or operating in dense smoke causing visibility to be less than 50 meters.

(3) When operating in or passing through a smoke haze with visibility greater than 50 meters, and a duration of exposure exceeding four hours.

(4) Anytime exposure to smoke produces breathing difficulty, eye irritation or discomfort.

(5) When using smoke during urban training (MOUT) that includes operations in enclosed spaces.

DANGER: THE PROTECTIVE MASK IS NOT EFFECTIVE IN OXYGEN DEFICIENT ATMOSPHERES. CARE MUST BE TAKEN NOT TO ENTER CONFINED SPACES WHERE OXYGEN MAY HAVE BEEN DISPLACED. BURNING-TYPE GRENADES MAY NOT BE USED INSIDE CLOSED BUILDINGS OR CONFINED SPACES.

CAUTION: HC SMOKE WILL NOT BE USED WITHIN A MOUT SITE.

(6) Smoke generator personnel will mask when they cannot stay upwind of the smoke.

e. Units training with riot agents or smoke must report, during Training Area checkout, number of gallons of fog oil, number of pounds of graphite, number of smoke grenades and or/smoke pots, and number of CS grenades expended.

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CHAPTER 13

NON-FIRING TRAINING FACILITIES

13-1. GENERAL.

a. Non-firing training facilities are training structures and sites managed by Range Control that do not involve live fire. See appendix C.

b. Training facilities are scheduled per chapter 4. Those located in training areas (TAs) are scheduled separately from the surrounding maneuver land. Units training in a TA may not enter an unoccupied training facility or interfere with another unit's scheduled training on a facility.

13-2. CONDUCT OF TRAINING.

a. Facility OICs and, as required, RSOs must be safety certified per chapter 1. Site requirements are in appendix C.

b. Training facilities must be signed out from Range Operations by the OIC prior to use. An opening/closing form is issued by Range Operations and must be used during facility operation. Communication between unit and Range Operations is by radio only.

c. Some facilities require support equipment available from Range Supply or from the DPTMS Training Support Center (TSC), or provided by the using unit. See appendix C.

13-3. MAINTENANCE. OICs are encouraged to recon scheduled facilities and to report damage or maintenance problems to Range Operations immediately so that, if possible, repairs can be effected prior to unit use. OICs must check with Range Operations prior to the recon to obtain keys or entry clearance. After-action maintenance requirements are listed on the opening/closing form.

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CHAPTER 14

MANEUVER TRAINING AREAS

14-1. GENERAL.

a. Fort Lewis land for field training outside the cantonment area is divided into Training Areas (TAs) and are identified by numbers on the Fort Lewis 1:50,000 Military Installation Map. See appendix D for descriptions. Training Area 7N is managed as a Close-in Training Area (CTA).

b. Access to TAs for any purpose is forbidden without clearance from Range Operations. TA receipt, communications requirements, and entry and exit reporting procedures are per chapter 1.

c. Fort Lewis perimeter fences and gates will not be cut or breached by units in training.

14-2. CLOSE-IN TRAINING AREAS (CTAs).

a. CTAs are identified on the Fort Lewis 1:50,000 Military Installation Map by letters. Training Area 7N is also managed as a CTA. CTA A East and West, on North Fort, are assigned to the I Corps NCO Academy. The Noble Woods portion of CTA F is assigned to 2d Bn, 75th Ranger Regiment.

b. CTAs B and C are assigned to 3d Bde, 2d ID. CTAs D and E are assigned to 1st Bde, 25th ID(L). Training Area 7N is used for vehicle testing by DOL. Unit access to TA 7N is by coordination through Range Scheduling with DOL Maintenance.

c. Units assigned CTAs will control access and events by subordinate and other units.

14-3. CANTONMENT AREAS. Open spaces inside cantonment areas are controlled for training use by the unit assigned Z-area overwatch in FL Reg 210-10.

14-4. SCHEDULING.

a. TAs are scheduled for multiple units unless sole use is approved by I Corps G3.

b. Multiple use is assigned by priority. The first MSC or tenant unit to schedule into a TA or a training facility in a TA becomes the land coordinator for that TA. All subsequent bids for that TA will be directed to the land coordinator before being accepted. Land coordinator clearance for shared use is required before final scheduling at Range Control. Final approval for a training event rests with Range Control. **It is strongly recommended that unit land coordinators use photocopies**

of the Fort Lewis 1:50,000 MIM or other graphic as a tool in recording land allocations in TAs.

c. Units need not schedule TAs to use range roads enroute to another assigned TA or facility. However, units conducting out-and-back vehicular or foot marches must schedule per chapter 4, listing TAs and routes to be traversed.

d. TA scheduling must include cleanup time for units to ensure that excavations are filled, obstacles are removed, and trash policed.

14-5. TRAINING FACILITIES IN TAs. Some TAs contain training facilities, as listed in appendices B and C. TA scheduling never automatically includes these training facilities, which are off limits without concurrent scheduling. Certain facilities, such as DZs, firing points, and demolitions ranges, are hazardous when hot and must be avoided. Units using TAs must check the Daily Range Schedule to determine training conflicts for a given day.

14-6. CONDUCT OF TRAINING.

a. Excavations must be refilled. All machine-dug excavations such as tank ditches, vehicle emplacements, or foxhole clusters require PW dig permits. See chapter 3. Emplacements or barriers may not be constructed within 300 meters of artillery firing point monuments, nor within 100 meters of training facilities in TAs.

b. Commo wire must be retrieved. The DOIM range cable system may be tapped only at DOIM-installed mag drops, per chapter 1. Barbed wire obstacles and barrier material must be completely removed.

c. Use of foliage for camouflage is prohibited, except for scotch broom. Maximum use should be made of camouflage nets. Trees may not be cut down without clearance from PW Forestry.

d. Units may not unilaterally block access in shared TAs. Temporary traffic delays are authorized, but may not exceed 30 minutes per event.

e. Refuse and garbage must be returned to garrison. Field latrines must be closed and marked. Soapy or chlorinated water may not be drained into streams or lakes. Kitchen sumps, latrines, and refueling operations cannot be located closer than 100 meters from wetlands or streams. Sumps and latrines must be closed prior to departure from the TA.

f. The point of smoke generation for M56 and M58 generators must be at least 200 meters from wetlands, water bodies, or streams.

g. Some roads and rail lines through TAs are State, County, or private easements or rights-of-way, which affects training closures. See below in this chapter.

h. Aerial flares will not be set off within 1000 meters of GAAF, nor when any aircraft are overhead.

i. Temporary signs placed to mark routes or positions must include unit identification and effective dates, and must be removed on completion of the exercise. Spray painting trees or range roads is prohibited.

14-7. FOOT MARCHES.

a. Foot marches are scheduled per Chapter 4 and are confined to road shoulders. Lead and trail personnel must wear reflective belts or vests, visible to front and rear. All vehicles must slow to 10 mph or less when meeting or passing foot marches. Where a range road is paralleled by an adjacent tank trail, foot marches must be on the tank trail. Routes where foot marches must keep off the pavement and road shoulders are:

(1) East Gate Road between the Main Post cantonment area and State Route 507 (ET318127-ET393097).

(2) Story Road around the south and east sides of Training Area 5 (ET285090-ET328104).

(3) 33d Division Road between Cherry Hill and the Roy Gate (ET326110-ET336055).

b. Night foot marches require pilot and trail vehicles with hazard flashers illuminated to warn oncoming or overtaking traffic. Oncoming vehicles will slow to 10 mph or less and switch to blackout, marker, or parking lights, or will pull off the road at the nearest safe exit, extinguish all but marker or parking lights, and await clearance from the trail vehicle. Units without TOE military vehicles must use GSA admin vehicles, or must post pilot and trail personnel with white-light flashlights and reflective vests.

c. Units should be aware that some GSA and civilian vehicles feature daytime driving lights that cannot be extinguished by the operator regardless of light conditions. It may be necessary for such vehicles to turn off engines while NVD convoys pass.

14-8. VEHICULAR MARCHES.

a. Convoys are unit movements of five vehicles or more, and are scheduled as noted above.

b. Night vehicular marches are conducted as follows:

(1) Black-out road marches are prohibited in cantonment areas, on public routes listed below, or on the high-speed portion of East Gate Road west of State Route 507.

(2) During black-out road marches, pilot and trail vehicles will be designated. The pilot will flash its headlights to warn oncoming night vision device (NVD) or service-drive vehicles. Blackout marches have right of way. Oncoming vehicles will slow to 10 mph and switch to blackout, marker, or parking lights, or will pull off the road at the nearest safe exit, extinguish all but marker or parking lights, and await clearance from the trail vehicle. Trail vehicles must be illuminated with hazard flashers or a rotating amber light.

(3) Trainers conducting NVD night marches must ensure that unit NVD training programs adhere to AR 600-55 as a minimum, and that pre-event safety briefings include a review of limitations of the devices, especially restriction of peripheral vision, limits in seeing through obscurants (smoke, fog, dust), need for PM and careful handling of NVDs, risk of overdriving field of view, and temporary loss of night vision.

c. Wheeled vehicle convoys crossing any high-speed public route listed later in this chapter, day or night, must place a ground guide to warn convoy vehicles of oncoming traffic. Convoy vehicles must cross one at a time, and must always yield right-of-way to traffic on the civilian route. Between dawn and dusk, and when visibility is otherwise reduced, convoy vehicles must use service drive lights during crossings.

UNDER NO CIRCUMSTANCES WILL UNITS ATTEMPT TO STOP CIVILIAN TRAFFIC ON HIGH-SPEED ROUTES SO THAT CONVOYS CAN HAVE PRIORITY IN CROSSING. CONVOYS AND MILITARY VEHICLES NEVER HAVE THE RIGHT-OF-WAY ON THESE CROSSINGS.

d. Individual vehicles crossing a public route listed below will come to a full stop short of the pavement, turn on service lights, ensure that a clear view is available in both directions, and proceed only when there is ample clearance between vehicles in the cross-traffic.

e. Tracked vehicles may use all improved dirt roads and forest tracks. Sharp pivot turns must be avoided. Fort Lewis has tracked vehicle crossing easements over State Route 507, State Route 510, Rainier Road SE, and some rail lines, as listed. Because these are public or private rights-of-way, the Army cannot regulate oncoming traffic. Tracked vehicles must cross these routes only at easements, without exception. Crossings must be non-tactical and done one vehicle at a time in the intervals between traffic, as outlined above.

14-9. WATERBORNE OPERATIONS.

a. Vehicle swimming, engineer bridging, and small boat assault/recon training are conducted on the Nisqually River, on Sequelitchew and Lewis Lakes, and at Solo Point as listed in appendix C. Use of equipment with POL leaks is prohibited.

b. The primary infantry beach assault site is Solo Point (TA 1). Other sites are considered on a case-by-case basis.

c. Chambers Lake (TA 12) is available for dismounted waterborne operations only. Bridging or vehicle operations are prohibited because damage to the lake bed lining may drain the lake underground.

14-10. WATER CROSSING.

a. Vehicle crossings of Muck Creek, South Creek, and the Nisqually River are conducted only at the fording locations listed below, which are indicated by the letter "F" on the Fort Lewis 1:50,000 Military Installation Map, Edition 4-DMA. Grid locations are:

(1) Muck Creek (TAs 13, 14, 15):

(a) ET 387087.

(b) ET 395089.

(c) ET 411085.

(d) ET 416088.

(e) ET 421086.

(f) ET 424076.

(g) ET 434069.

(2) South Creek (TA 15):

(a) ET 432065.

(b) ET 438061.

(3) Nisqually River (TA 18): ET 279037.

14-11. VEHICLE SWIM OPERATIONS. Vehicle swim sites are at Sequalitchew and Lewis Lake. No other sites are available. See appendix C. Water entry and exit are only at the prepared beaches. Use of equipment with POL leaks is prohibited.

14-12. ROAD CLOSURES FOR TRAINING. The Fort Lewis Military Reservation is crossed by many paved and gravel roads and rail tracks with various degrees of public access, easement, or right-of-way. Training closure status of these routes follows:

a. State or County rights-of-way that cannot be blocked for training:

- (1) Interstate 5.
- (2) Steilacoom-Dupont Road (ET 286166 to ET 301229), in CTA A East and West.
- (3) Pacific Highway Southeast (ET231122 to ET 249143), in TA 3N.
- (4) Washington State Route 507 (ET 364064 to ET 428145), in TA 9 and bordering TAs 10, 11, 12, and 13.
- (5) Washington State Route 510 (ET 235063 to ET 246056 and ET 260048 to ET 272023), in TA 19 and bordering TAs 18 and 19.
- (6) Yelm Highway (ET 231058 to ET 238061), in TA 19.
- (7) Rainier Road Southeast (ES 167999 to ES 212944), in TA 23 and bordering TAs 22 and 23.
- (8) All railroad tracks, on or off post.

b. Public access routes that can be temporarily blocked for training, provided notification is provided to County and State officials:

NOTE: Closure of these routes requires a minimum of 90 days lead time. Units begin the process by contacting the Range Operations Officer.

- (1) Goodacre (unpaved) and Rice Kandle (paved) Roads (ET 386090 to ET 449076), in TAs 13, 14, and 15.
- (2) 8th Avenue South (ET 423047 to ET 423127), in TA 9 and 11, and bordering TAs 13 and 14. 15.
- (3) 8th Avenue East (ET 439048 to ET 439128), in TAs 9, 11, and 15.
- (4) 208th Avenue (ET 423128 to ET 431128), in TA 9.

(5) Military Road Southeast (ES 212944 to ES 215945), in TA 21.

(6) Spurgeon Creek Road (ES 177988 to ES 178999), bordering TAs 22 and 23.

(7) Stedman Road (ES 151989 to ES 168998), in TA 23.

c. On-post paved and unpaved roads not listed above may be blocked for training. However, blockages longer than 30 minutes must be noted on the HFL 473 that schedules the event and coordinated with Range Operations so notice can be published in the Daily Range Bulletin.

14-13. TRACKED VEHICLE CROSSING EASEMENTS. See above. Grid locations of mandatory-crossing easements are:

- a. ET 353067, Rail crossing.
- b. ET 365068, Rail/State Route 507 crossing.
- c. ET 357096, Rail crossing.
- d. ET 390096, Rail/State Route 507 crossing.
- e. ET 423088, 8th Avenue South crossing.
- f. ET 408114, Rail/State Route 507 crossing.
- g. ET 376154, Rail crossing.
- h. ES 266036, State Route 510 crossing.
- i. ES 198959, Rainier Road SE crossing.

14-14. MILITARY AND NON-MILITARY COMPATIBLE USES.

a. Military unit commanders may request during initial scheduling or subsequent training event coordination that no non-military use permit holders be allowed in areas they have scheduled for training. If this restriction is granted, Range Control will close appropriate areas. The following military activities are considered incompatible with non-training access and automatically close affected areas:

- (1) Live-fire training events with danger zones extending into training areas.
- (2) Parachute and air assault operations.

(3) Field Artillery firing. The numbered training area occupied by the weapons will be closed.

(4) Training involving riot agents or smoke generating equipment.

(5) Brigade-level exercises.

b. The Installation Range Officer may also close training areas based on density of occupation by military units, unit size, or training to be conducted.

CHAPTER 15

NON-TRAINING USE

15-1. GENERAL.

- a. Portions of the range complex may be used for recreational purposes by military personnel and non-military permit holders. Military training has priority.
- b. Outdoor recreation activities in impact areas contaminated with unexploded ordnance are prohibited. At Fort Lewis, these are the Artillery and South Impact Areas. Per AR 385-63, no exception can be made.
- c. The waters and shorelines of Nisqually and Farnsworth Lakes in the Artillery Impact Area are closed to all activities other than scheduled military training, and scheduled installation operations and maintenance activities such as natural resource management and ITAM studies.
- d. Department of Defense (DoD) and contractor personnel on official business are authorized on the range complex per appendix H.
- e. Individuals in transit across Fort Lewis on State or County maintained roads, or roads designated for public access by the Installation Commander, require no special permits. See chapter 14 and appendix G.
- f. Failure to comply. Persons entering the Fort Lewis range complex without permit or scheduling, which constitute the consent of the Commanding Officer or his designated representative, are in violation of this regulation and trespassing on a controlled access Federal Reservation. Offenders may be cited by Military Police and may be subjected to administrative action or punishment under either the Uniform Code of Military Justice (UCMJ) or Title 18 US Code Section 1382, or Title 50 U.S. Code Section 797, as appropriate to each individual's status. Administrative action may include suspension or loss of recreational privileges, or permanent expulsion from the Military Reservation.

15-2. HUNTING AND FISHING.

- a. Hunting and fishing are controlled by DPCA, per Fort Lewis Regulation 215-1. DPCA is the installation point of contact for information on hunting and fishing areas, publishes hunting season and license requirements, and conducts sportsman check-in and check-out.
- b. Range Control allocates training areas, drop zones, and the Central Impact Area (Ranges 1-47) for hunting as needed to ensure proper game management during pheasant release and modern firearm deer seasons. Areas allocated to modern firearm deer hunting are closed to both training and other recreational activities.

15-3. OUTDOOR RECREATION.

a. Off-duty recreation for DoD ID card holders is controlled by DPCA Outdoor Recreation. DoD personnel POV access to DPCA recreational facilities listed in appendix F by the most direct route is authorized, but no deviation into TAs, impact areas, or ranges is permitted.

b. Individuals, DoD or civilian, desiring access to the Fort Lewis range complex for recreation off DPCA-managed sites must obtain a Fort Lewis Area Access permit, composed of HFL Form 652 and HFL Form 653. DoD personnel participating in non-commercial recreational activities listed in appendix H must have an Area Access permit.

c. Recreational swimming in Puget Sound and in any stream, pond or lake on Fort Lewis is prohibited year-round, except DPCA beach areas when lifeguards are on duty.

d. The picnic sites on the west and southwest sides of Chambers Lake are closed by artillery firing from FPs 3507, 3607, and 3608, and PADS firing from TA 12.

15-4. OFF DUTY SHOOTING. The Northwest Adventure Center operates ranges for archery and privately-owned weapons. Information on use is available from the Center.

15-5. FORT LEWIS AREA ACCESS OFFICE.

a. DPTMS Range Division operates the Area Access Section to issue permits and grant non-training access to the range complex.

b. Area Access is located in Range Control, Building 4074, at the intersection of Stryker and Kaufmann Avenues, Main Post Fort Lewis. Telephone number is (253) 967-6277. Fax extension is 967-4520. Business hours vary dependent on personnel fill, and are available by calling the above number.

c. Individuals desiring access for authorized activities must register in person at Area Access during business hours. Minimum age is 18 years, except for active duty military personnel. Persons under 18 years of age must be sponsored and accompanied by a parent or legal guardian. Individual registration requires:

- (1) Picture ID.
- (2) Address and telephone number.
- (3) Vehicle identification and license number, if a vehicle is to be brought on post.

(4) Names and ages of minor family members who will accompany a sponsor or permit holder.

(5) Liability release signature.

(6) Certification that intended activities are on the authorized list and are not for profit or fund-raising. Persons who submit false certificates are subject to prosecution in Federal Court under Title 18, United States Code, Section 1001, and the provisions of paragraph 5, above.

d. A wallet-sized permit (HFL Form 653) and a vehicle pass (HFL Form 652) will be issued to each person authorized access. The permit is not transferable. Entry to the Fort Lewis range complex without the permit is prohibited.

e. Access hours are 30 minutes after daylight to 30 minutes before dark, except for specifically authorized overnight activities, and as permitted per FL Reg 215-1.

f. All permit holders must check in with Area Access, either telephonically or in person, no earlier than 0800 the day prior to the event. It is the responsibility of each permit holder to inform a friend or relative of the area being used, the estimated time of return, and the vehicle being used.

g. Except when a Real Estate Agreement land commitment has been coordinated and approved per para 15-6, Area Access will determine when called for entry whether the area requested is available. If the requested area is not open for permit holders and an alternate area cannot be provided or is not acceptable to the requestor, access will be denied.

15-6. NON-MILITARY USE.

a. Individual use. See para 15-5.

b. Fund raising. Fund raising events for non-profit private organizations not affiliated with the Army or Fort Lewis per AR 210-1 require a non-exclusive use Corps of Engineers Real Estate Agreement prior to event scheduling. "Fund raising" includes any collection of fees for participation in an event, for services provided by the organizer during an event, or for selling materials or merchandise during an event by the organizer or other vendors. Requests for fund-raisers by such non-profit organizations, to be conducted on the Fort Lewis range complex, will be sent to the Director of Public Works (PW) Real Property Branch. Corps of Engineers Real Estate Agreements require up to 4 months to process and include payment of an administrative fee, with actual costs determined on a case by case basis. Requests by private organizations for fundraisers in the cantonment area are processed per AR 210-1 by the Director of Personnel and Community Activities (DPCA).

c. Land commitments for non-military activities. Groups or organizations not affiliated with the Army or Fort Lewis per AR 210-1, whose activity requires advanced commitment of a specific site or area must obtain a non-exclusive use Corps of Engineers Real Estate Agreement per Para 4c above. Groups with approved Real Estate Agreements may request land by letter to Fort Lewis Range Division no earlier than 120 days prior to the event. Requests will be processed and scheduled in order of receipt. Actual commitments of land will not be made until after the Monthly Range Scheduling Conference covering the time period in question, which usually occurs 6-8 weeks prior. Groups who need military equipment or other special support from Fort Lewis must apply in writing directly to the I Corps Public Affairs Office (PAO). Requests for any DPCA recreational facility listed in appendix F must be made directly to DPCA.

d. Commercial use. Individuals or organizations using the range complex for profit-generating activities must possess a Corps of Engineers Real Estate Agreement per above. Entry point for these agreements is the Fort Lewis Public Works Support Division Real Property Officer. Profit-generating activities include collection of fees for services performed on the range complex, or selling materials collected from the range complex. Real Estate Agreement holders must check into the range complex daily by calling or coming to Area Access with proof of authorization from the Corps of Engineers or Public Works.

15-7. FIREWOOD.

a. The Seattle Engineer District Forest Resources Section, Building T-7958, sells permits for firewood collection on Fort Lewis. Permits are not issued for ranges or impact areas.

b. The firewood permit must be in the possession of the cutter or the group leader, and firewood may be collected only in the permit-designated area.

15-8. TRAINING CONFLICTS. Trainers encountering recreational users will ensure that military activities are in the location scheduled by the unit, and then will inform the non-training party of military activities and hazards. Range Operations will be informed by radio of the conflict. Permit holders are usually Fort Lewis neighbors and will avoid training sites. If the situation cannot be resolved, Range Operations will request assistance from the Military Police.

CHAPTER 16

RANGE CONTROL SYSTEM

16-1. GENERAL. Fort Lewis Range Division is the Installation agency responsible for providing safe, functional training facilities, and for allocating and assigning training land to meet priorities and needs. Range Control also hosts the Area Access Office and the Integrated Training Area Management (ITAM) office.

16-2. RANGE HEADQUARTERS. Range Headquarters is in Bldg 4074 and 4076 (ET 28751520) on Main Post at Kaufman and Stryker Avenues, southeast of the Dupont Gate. Scheduling, coordination, and use of the range complex, as well as issue and return of range equipment and targets, are done at Range Headquarters. NOTE: The location of Range Control on the Edition 4-DMA MIM, at ET317154, is out of date.

16-3. RANGE OPERATIONS BRANCH. Range Operations schedules and controls ranges, non-firing facilities, training areas, training airspace, and non-military use. Operations also conducts safety briefings and signs out facilities. Range Operations is the routine and emergency communication base station for training on the Fort Lewis range and training area complex. As the Installation controlling authority for use of the range complex, Range Operations issues orders regarding opening and closing of training facilities, routine and emergency check-fires, resolution of training conflicts, and reallocation of resources. Avoiding interference with training is inherent in the Range Control mission. However, operational and safety directives from Range Operations Duty NCOs, Range Inspectors, the Range Operations Officer, the Range Facilities Engineer, or the Range Officer must be obeyed immediately, with discussion and resolution of issue to follow.

16-4. RANGE INSPECTION SECTION. The Range Inspection Section of Operations Branch patrols the range complex to assist units and to enforce regulations. Range Inspectors interpret SOPs and other guidance for training OICs, and are authorized to temporarily check-fire ranges or stop training on facilities if safety violations are noted. Inspection NCOs also check facilities condition and police after training.

16-5. LIVE FIRE SECTION. The Range Live Fire Section is composed of the Armor Master Gunner, the Live Fire NCO, and when assigned the targetry team chiefs and targetry operators. The Live Fire Section assists range OICs in completion of the range contract package, range walks, SDZ overlays, targetry emplacement and use, and other live-fire exercise coordination.

16-6. AREA ACCESS SECTION. The Area Access Section in Bldg 4074 functions as part of Range Operations per chapter 15.

16-7. RANGE FACILITIES BRANCH. The Range Facilities Branch schedules and performs organizational maintenance and repairs on the range complex. Facilities Branch also provides materials through the Supply Section, and liaison with PW to request, coordinate, and complete work beyond Range Control capabilities.

16-8. RANGE SUPPLY SECTION.

a. Range Supply is in Bldg 4076, next to Range Headquarters on Kaufman Avenue, Main Post Fort Lewis. Range Supply performs supply, property accountability, and inventory control functions in support of the Range Control mission, and provides non-electric targets for ranges per appendix B. Target services and the forecast, issue, and return cycle are described in appendix E.

b. Range Supply also issues barriers for road closures, equipment and materials required for use of facilities such as the LRC, and selected repair materials for unit overwatch maintenance of facilities per FL Reg 210-10.

c. To ensure reliable training support while meeting other mission-essential requirements, Range Supply customer service hours must be limited. Service hours are posted at Range Operations, Range Supply, and on the DPTMS Range Division portion of the Fort Lewis Worldwide Web Page.

16-9. RANGE MAINTENANCE DETAIL.

a. The Range Maintenance Detail is tasked by I Corps G3 CCTO under the Routine Tasking Memorandum to perform minor maintenance, repair, and construction on the Fort Lewis range complex under direction of the Range Facilities Engineer.

b. The detail is composed of one NCO and a squad of soldiers with a dedicated vehicle. The vehicle driver may be one of the detail soldiers. Whenever possible, the same crew will be provided throughout the detail period. These personnel must arrive at Range Control by 0900 on duty days. Detail soldiers must have leather gloves, must be dressed for seasonal outdoor physical labor, and may require helmets for certain projects. All, including separate rations personnel, must bring sack lunches and a canteen of water. The Range Control NCOIC will coordinate exact uniform and other requirements with the tasked unit CSM or 1SG. Because work is often performed at remote sites, detail personnel cannot be returned to garrison for lunch or appointments. Personnel on sick call, possessing work-limiting profiles, or required for appointments may not be assigned to the detail.

c. The Range Maintenance NCO will ensure that the detail unit receives notice of usual projects, such as painting, that may cause damage to soldiers' uniforms.

16-10. INTEGRATED TRAINING AREA MANAGEMENT (ITAM) SYSTEM. The Fort Lewis ITAM office is in Bldg 4074 with Range Headquarters and is the Land Management Branch of Range Division. ITAM integrates training and land management. Its objectives are:

- a. Inventory, monitor, and evaluate trends and capabilities of training land, through Land Condition Trend Analysis (LCTA).
- b. Enhance, improve, and repair training lands, through Land Rehabilitation and Maintenance (LRAM).
- c. Encourage land stewardship through an educational program, called Environmental Awareness (EA).
- d. Integrate training and land management, through Training Requirements Integration (TRI).

16-11. RANGE CONTROL PUBLICATIONS. Range Control manages publications as follows:

- a. This regulation.
- b. Fort Lewis Range Development Plan and Regulation (FL Reg 350-6).
- c. Standing Operation Procedures (SOP) for ranges, non-firing training facilities, and training areas, with user's guidance and requirements.
- d. Artillery and mortar firing safety data, and the PADS firing SOP.
- e. Daily Range Schedule.
- f. Forms, reports, users' handbooks, and instruction guides as listed in this regulation.
- g. Range Scheduling Conference announcements.

- h. The Fort Lewis 1:50,000 Military Installation Map.
- i. Internally-produced GIS and ArcView map products.
- j. ITAM environmental awareness materials.

FOR THE COMMANDER:


ROGER L. BRAUTIGAN
Major General, USA
Deputy Commanding General/
Chief of Staff

APPENDIX A - References
APPENDIX B - Ranges
APPENDIX C - Training Facilities
APPENDIX D - Training Areas
APPENDIX E - Targets
APPENDIX F - DPCA Recreational Areas in Training Areas
APPENDIX G - Non-Permit Access Routes
APPENDIX H - Authorized Activities for Maneuver Training Area Access
APPENDIX I - Unauthorized Activities in Maneuver Training Areas

DISTRIBUTION:
C,D,G

APPENDIX A

REFERENCES

Section I Required Publications

AR 210-21, Army Ranges and Training Land Program

AR 385-62, Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice and Combat

AR 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat, with FORSCOM Supplement 1

AR 385-64, U. S. Army Explosives Safety Program

AR 405-80, Granting Use of Real Estate

AR 600-55, The Army Driver and Operator Standardization Program

FL Reg 95-1, Local Flying Regulations

FL Reg 200-1, Environmental Protection and Enhancement

FL Reg 210-1, Fort Lewis Post Regulations

FL Reg 210-10, Police of the Fort Lewis Military Reservation

FL Reg 215-1, Hunting, Fishing and Trapping

FL Reg 350-1, Training

FL Reg 350-2, Training Support

FL Reg 420-5, Federally-Listed Threatened Endangered and Candidate Species

FL Reg 700-20, Ammunition

FL Pam 385-1-1, I Corps and Fort Lewis Risk Management Guide: Tactical Training and Operations

Section II Related Publications

Federal Aviation Regulation Part 105 (FAR 105, Parachute Jumping)

Department of Defense Flight Information Pamphlet

AR 95-1, Flight Regulations

AR 210-1, Private Organizations on Department of Army Installations, with Fort Lewis Supplement 1

AR 405-80, Utilization of Real Estate

DA Pam 385-64, Ammunition and Explosives Safety Standards

FORSCOM Supplement 1 to AR 115-11, Climatic, Hydrological, and Topographic Services

TM 9-1370-207-10, Operator's Manual for Pyrotechnic Simulators

TC 25-1, Training Land

TC 25-8, Training Ranges

DD Form 1972, Joint Tactical Air Strike Request

DA Form 3938, Local Service Request

HFL Form 473, Training Resource Request

HFL Form 652, Range Control Vehicle Permit

HFL Form 653, Range Control Area Access Card

HFL Form 1371, Fort Lewis Airman Advisory

HFL Form 2035, Training Resource Cancellation

Installation Compatible Use Noise Zoning (ICUZ) Study Number 52-34-0468-83,
Substitution of M198 Howitzer for 105mm Howitzer Firing, Fort Lewis, WA, 24-28 Jan
83

APPENDIX B

RANGES

B-1. RANGE INDEX.

<u>RANGE</u>	<u>PAGE</u>
a. Rifle Ranges	
Range 1 (Record Fire)	B-3
Range 2 (Zero)	B-4
Range 3 (Zero)	B-4
Range 4 (Field Fire)	B-4
Range 5 (Record Fire)	B-4
Range 6 (Zero)	B-5
Range 8 (Known Distance)	B-5
Range 9 (Field Fire)	B-5
Range 12 (RETS Modified Record Fire)	B-6
Range 16 (Zero)	B-6
Range 20 (Sniper Field Fire)	B-6
Range 21 (Known Distance)	B-7
Range 22 (Known Distance)	B-7
Range 29 (Zero)	B-8
Range 30 (Night Fire)	B-8
Range 32 (Zero)	B-8
Range 89 (Zero)	B-9
Range 90 (Zero)	B-9
Range 105 (Zero)	B-9
Range 106 (Zero)	B-9
Range 107 (Zero)	B-9
Range 112 (Zero)	B-10
Range 113 (Zero)	B-10
Range 114 (Zero)	B-10
b. Pistol Ranges.	
Range 4P (Combat Pistol)	B-11
Range 18 (Combat Pistol)	B-11
Range 35 (Police Pistol--FBI)	B-11
Range 108 (Familiarization--USAF)	B-11
Range 109 (Familiarization--USAF)	B-11
Range 110 (Familiarization)	B-12
Range 111 (Familiarization)	B-12

c. Machinegun Ranges.

Range 52 (Field Fire)	B-12
Range 53 (M2 .50 Cal/M249/M60/M240 Qual)	B-13
Range 89 (Zero)	B-13
Range 90 (Zero)	B-13
Range 91 (RETS M249/M60/M240 Transition/Zero)	B-14
Range 93 (RETS M249/M60/M240 Transition/Zero)	B-14
Range 105 (Zero)	B-15
Range 106 (Zero)	B-15
Range 107 (Zero)	B-15
Range 112 (Zero)	B-15
Range 113 (Zero)	B-15
Range 114 (Zero)	B-15

d. Live Fire Maneuver Ranges.

Range 10 (Squad Offense/Ambush)	B-15
Range 23 (Trench)	B-15
Range 36 (Ambush)	B-16
Range 39 (Squad Defense/SFMLF)	B-16
Range 40 (Squad Offense)	B-16
Range 41 (Individual Fire and Movement)	B-17
Range 51 (Squad/Platoon)	B-17
Range 60 (Squad/Platoon)	B-17
Range 74 (Squad/Platoon)	B-18
Range 76 (Squad/Platoon Offense/Trench)	B-18
Range 87 (Squad/Platoon Offense)	B-19
Range 94 (Ambush)	B-19
Range 102/103 (Squad Live Fire)	B-20

e. Tank Range

Range 74 (Tank Sub-Cal/Bradley)	B-20
Range 75 (Tank Screen)	B-20

f. Anti-Tank Ranges.

Range 14 (AT-4 Sub-Cal)	B-21
Range 59 (AT-4, LAW, 90mm HEAT/Sub-Cal)	B-21
Range 115 (90mm Sub-Cal)	B-21
Mortar 7 (Dragon)	B-22
TOW Missile Live Fire	B-22

g. Grenade Ranges.

Range 24 (Hand Grenade)	B-22
Range 79 (MK19)	B-22
Range 81 (M203 40mm TP Qualification)	B-23

h. Demolition and Mines.

Range 62 (Basic Demo)	B-23
Range 58 (Special-Use Advanced Demo)	B-23
Mortar 3 (Claymore)	B-24

i. Flame Weapons.

Range 59 (Flash)	B-24
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j. Other Ranges.

Range 7 (Multi-Purpose Small Arms)	B-24
Range 13 (Multi-Purpose Small Arms)	B-25
Range 15 (Sportsmen's Range--DPCA)	B-25
Range 19 (Multi-Purpose Small Arms)	B-25
Range 25/25 Maze (CQB--SOF)	B-25
Range 26 – 29 (Urban Assault Course)	B-25
Range 31 (Multi-Purpose Small Arms)	B-26
Range 43 (Multi-Purpose Small Arms)	B-26
Range 72 (Multi-Purpose Small Arms)	B-26
Range 92 (EOD--707th Ord Co)	B-26
Range 101 (Infiltration Course)	B-26
Mortar 7 (Helicopter Door Gunnery)	B-26

B-2. MORTAR AND ARTILLERY RANGE INDEX.

a. Mortar Points 1-14.	B-26
b. Mortar Sub-Caliber.	B-27
c. Field Artillery Firing points.	B-27

B-3. RIFLE RANGES.

- a. RANGE: Range 1, 16-Point Rifle Record Fire.
 LOCATION: Central Impact Area, ET 333148.
 AMMUNITION: 5.56mm.
 FIRING HOURS: 0001-2400.
 MEDICAL: Per chapter 1.
 COMMO: FM/VHF radio.
 PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line
 Safety NCOs (recommend 1 per 4 firing points); ammo guard.

TARGETS: Buried-cable M31A1 target lifters at 50, 100, 150, 200, 250, 300 meters.

ALTERNATE USES: By contract.

REMARKS: Public Address system (PA) from unit. Mag drop per chapter 1.

- b. RANGE: Range 2, 110 Point Rifle Zero.

LOCATION: Central Impact Area, ET 333144.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes obtained from Range Supply. Frames for silhouettes pre-set at 25 meters. Target placement by OIC. Target requests per chapter 15 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1.

- c. RANGE: Range 3, 60-Point Rifle Zero.

LOCATION: Central Impact Area, ET 333139.

AMMUNITION: 5.56mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes obtained from Range Supply. Frames for silhouettes pre-set at 25 meters. Target placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: Allocated as the 24-hour EDRE/deployment zero range.

Overhead lights installed for night zero fire. PA from unit. Mag drop per chapter 1.

- d. RANGE: Range 4, 35-Point Rifle Field Fire.

LOCATION: Central Impact Area, ET 333137.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Buried-cable M31A1 target lifters at 75, 175, 300 meters.

ALTERNATE USES: NVG night fire range. Other use by contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

- e. RANGE: Range 5, 16-Point Rifle Record Fire.
LOCATION: Central Impact Area, ET 330133.
AMMUNITION: 5.56mm.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard.
TARGETS: Buried-cable M31A1 target lifters at 50, 100, 150, 200, 250, 300 meters.
ALTERNATE USES: By contract.
REMARKS: PA from unit. Mag drop per chapter 1.
- f. RANGE: Range 6, 60-Point Rifle/Saw Zero.
LOCATION: Central Impact Area, ET 330131.
AMMUNITION: 5.56mm.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.
TARGETS: Rifle zero targets on cardboard E-silhouettes obtained from Range Supply/Support. Frames for rifle zero targets pre-set at 25 meters. Holders for 10-meter M60/SAW zero frames pre-set on the right (south) end of the range. Target requests per chapter 16 and appendix E.
ALTERNATE USES: M60/M240/M249 zero. Other uses by contract.
REMARKS: PA from unit. Mag drop per chapter 1.
- g. RANGE: Range 8, 44-point Known Distance (KD) with 100, 200, 300 yard Firing Lines.
LOCATION: Central Impact Area, ET328124.
AMMUNITION: 5.56mm.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio; unit-emplaced wire or radio from OIC to target pits.
PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard; target pit OIC; target pit assistant OIC (recommend 2); target operators (recommend 3 per 2 targets); firing coaches per doctrine.
TARGETS: KD targets obtained from Range Supply by OIC and mounted by pit crews on downrange target lifters. Target requests per chapter 16 and appendix E. Requests must specify type target required, per TC 25-8.
ALTERNATE USES: By contract.
REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.
- h. RANGE: Range 9, 35-Point Rifle Field Fire.

LOCATION: Central Impact Area, ET 327121.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Buried-cable M31A1 target lifters at 75, 175, 300 meters.

ALTERNATE USES: NVG night fire range. Other use by contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels. Closes Range 10.

i. RANGE: Range 12, 16-Point Remoted Target System (RETS) Modified Record Fire (MRF) for computer-scored rifle qualification/NBC/night fire.

LOCATION: Central Impact Area, ET 333111.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400 daily.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); certified computer operator per chapter 1; evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard.

TARGETS: Buried-cable M64 target lifters at 50, 100, 150, 200, 250, 300 meters.

ALTERNATE USES: By contract.

REMARKS: PA installed in tower. Telephone per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels. See chapter 1 for computer certification. Tower occupation limited to computer operator and PA operator.

j. RANGE: Range 16, 110-Point Rifle Zero.

LOCATION: Central Impact Area, ET 341107.

AMMUNITION: 5.56mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes obtained from Range Supply/Support. Frames for silhouettes pre-set at 25 meters. Target placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1.

k. RANGE: Range 20, Sniper Field Fire.

LOCATION: Central Impact Area, ET 349101.

AMMUNITION: Through 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs per doctrine; ammo guard.

TARGETS: Electrical target lifters plus metal and cardboard E-type silhouettes at various ranges to 1000 yards. Cardboard targets from Range Supply. Target placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Barriers to block the road downrange receipted from Range Supply. Closed by downrange activity on Range 19 and firing on Range 21. Use of tracer and pyrotechnics affected by fire hazard levels. Mag drop per chapter 1.

l. RANGE: Range 21, 24-point Known Distance (KD) with 100, 200, 300, 400, 500, 600 yard Firing Lines.

LOCATION: Central Impact Area, ET351103.

AMMUNITION: 5.56mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio; unit-emplaced wire or radio from OIC to target pits.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard; target pit OIC; target pit assistant OIC (recommend 2); target operators (recommend 3 per 2 targets); firing coaches per doctrine.

TARGETS: KD targets obtained from Range Supply by OIC and mounted by pit crews on downrange target lifters. Target requests per chapter 16 and appendix E. Requests must specify type target required, per TC 25-8.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Closed by firing on Range 20 and 1000-yard firing on Range 22. Mag drop per chapter 1.

m. RANGE: Range 22, 48-Point Known Distance (KD) with 100, 200, 300, 400, 500, 600 and 1000-Yard Firing Lines.

LOCATION: Central Impact Area, ET 354103.

AMMUNITION: 5.56mm, 7.62mm, .50 cal sniper weapons.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio; unit-emplaced wire or radio from OIC to target pits.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firers); ammo guard; target pit OIC; target pit assistant OIC (recommend 2); target operators (recommend 3 per 2 targets); firing coaches as required.

TARGETS: KD targets obtained from Range Supply by OIC and mounted by pit crews on downrange target lifters. Target requests per chapter 16 and appendix E. Requests must specify type target required, per TC 25-8.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Barriers to block 600-yard road during 1000-yard firing receipted from Range Supply. Mag drop per chapter 1. Closes Range 23.

n. RANGE: Range 29, 60-Point Rifle/M249 Zero.

LOCATION: Central Impact Area, ET 364125.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes, or M249 targets on frames obtained from Range Supply/Support. Frames for rifle silhouettes are pre-set at 25 meters. Boots for mounting M249 targets are at 10 meters. Target placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: Part of the Urban Assault Course. PA from unit. Use of tracer and pyrotechnics affected by fire hazard levels. Mag drop per chapter 1.

o. RANGE: Range 30, 30-Point Night Fire Range.

LOCATION: Central Impact Area, ET 365130.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: For basic rifle night fire, buried-cable M31A1 target lifters linked to M40 hit counters in the base of the tower. Firing lines are located at 25 and 50 meters from the targets. For NVG night fire, buried-cable M31A1 target lifters at 75, 175, and 300 meters, with firers using the baseline foxhole firing positions.

ALTERNATE USES: NVG night fire. Other uses by contract.

REMARKS: PA from unit. Safety personnel must be equipped with flashlights. Use of tracer and pyrotechnics affected by fire hazard levels. Mag drop per chapter 1.

p. RANGE: Range 32, 110-Point Rifle/M249 Zero.

LOCATION: Central Impact Area, ET 369137.

AMMUNITION: 5.56mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 10 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes, or M249 targets on frames obtained from Range Supply/Support. Frames for rifle silhouettes are pre-set

at 25 meters. Target placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Use of tracer and pyrotechnics affected by fire hazard levels. Mag drop per chapter 1.

q. RANGE: Range 89 and 90, 15-point MG and Rifle Zero Ranges. See Para B-1c, below.

r. RANGE: Range 105, 20-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 286195.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By arrangement with Range Operations.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

s. RANGE: Range 106, 20-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 286195.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

t. RANGE: Range 107, 20-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 286196.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

- u. RANGE: Range 112, 20-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 289197.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

- v. RANGE: Range 113, 20-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 290198.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

- w. RANGE: Range 114, 15-Point Rifle and MG Zero Range.

LOCATION: North Fort Impact Area, ET 290198.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

B-4. PISTOL RANGES.

a. RANGE: Range 4P, 2-Point Combat Pistol Qualification Course.

LOCATION: Central Impact Area, ET 333136.

AMMUNITION: 9mm, 38 cal, .45 cal, military shotgun.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs; ammo guard.

TARGETS: Buried-cable M31A1 target lifters at 10, 13, 16, 17, 23, 27 and 31 meters.

ALTERNATE USES: Military shotgun familiarization fire per range SOP.

Other uses by contract.

REMARKS: PA from unit. Telephone mag drop per chapter 1.

b. RANGE: Range 18, 7-Point Combat Pistol Qualification.

LOCATION: Central Impact Area, ET345105.

AMMUNITION: 9mm, 38 cal, .45 cal, military shotgun.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard.

TARGETS: Buried-cable M31A1 Target lifters at 10, 13, 16, 17, 23, 27 and 31 meters.

ALTERNATE USES: Military shotgun familiarization fire per range SOP.

Other uses by contract.

REMARKS: PA from unit. Mag drop per chapter 1. Closed by downrange activity on R19.

c. RANGE: Range 35, Police Pistol, assigned to FBI per interagency support agreement. Use per coordination with FBI and by arrangement with Range Operations. Radio commo required. Closes Range 36.

d. RANGE: Range 108 and 109, Pistol/Rifle, assigned to USAF per interservice support agreement. Use of tracer and pyrotechnics affected by fire hazard levels.

e. RANGE: Range 110, 20-Point Pistol Familiarization.

LOCATION: North Fort Impact Area, ET 287196.

AMMUNITION: 9mm, 38 cal, .45 cal.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Cardboard E-silhouettes on stakes. Stake brackets pre-set in mechanical target-turning device on range. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1.

f. RANGE: Range 111, 15-Point Pistol Familiarization.

LOCATION: North Fort Impact Area, ET 287196.

AMMUNITION: 9mm, 38 cal, .45 cal.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Cardboard E-silhouettes on stakes. Stake brackets pre-set in mechanical target-turning device on range. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1.

B-5. MACHINEGUN RANGES.

a. RANGE: Range 52, MG Field Fire.

LOCATION: Artillery Impact Area, ET 256082.

AMMUNITION: 5.56mm, 7.62mm, .50 cal, other per contract.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Fixed vehicle hulks downrange. OIC may place other targets by contract. Target requests per chapter 16 and appendix E.

ALTERNATE USES: Squad and Platoon Defensive Live-Fire, MK19 40mm TP, Helicopter Aerial Gunnery, other by contract.

REMARKS: PA from unit. .50 cal MG must be fired per Range SOP. Use not affected by fire hazard levels. Mag drop per chapter 1. Closes FP 2507, Range 51, Range 58.

b. RANGE: Range 53, 2-Lane M249/M60/M240/M2 MG Transition

LOCATION: Artillery Impact Area, ET 256085.

AMMUNITION: 5.56mm, 7.62mm, .50 cal, other per contract.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Single and multi-silhouette buried-cable M31A1 target lifters, controlled from the tower.

ALTERNATE USES: By contract.

REMARKS: Remote controlled targets and PA from unit. .50 cal MG must be fired per Range SOP. Use not affected by fire hazard levels. Mag drop per chapter 1. Access to Artillery Impact Area beyond the firing line must be obtained for each entry from Range Operations, per range SOP. Closes FP 2508, Mortar 1, Range 51, Range 58.

c. RANGE: Range 89, 15-Point MG and Rifle Zero Range.

LOCATION: South Impact Area, ET 307041.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

d. RANGE: Range 90, 15-Point MG and Rifle Zero Range.

LOCATION: South Impact Area, ET 308041.

AMMUNITION: 5.56 mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Rifle zero targets on cardboard E-silhouettes in frames, or MG zero targets glued to frames, obtained from Range Supply. Holes for frames are pre-set at 10 and 25 meters. Frame placement by OIC. Target requests per chapter 16 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use of tracer and pyrotechnics affected by fire hazard levels.

c. **RANGE:** Range 91, RETS 10-Point M249/M60/M240 Transition with 10-Point MG Zero.

LOCATION: South Impact Area, ET 303041.

AMMUNITION: 5.56mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); computer operator; evac vehicle driver; firing line Safety NCOs (recommend 1 per 3 firing points); ammo guard. If zero and transition fire are conducted simultaneously, OIC must place RSOs and Safety NCOs on both sites.

TARGETS: The transition range has buried-cable single M64 targets at 100-200-300 meters, and mixed multiple targets from 400 to 800 meters. The zero range has MG zero boots for frames pre-set at 10 meters. Zero target requests per chapter 15 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Closes HALO drops on Marion DZ. Use of tracer and pyrotechnics affected by fire hazard levels.

d. **RANGE:** Range 93, 6-Point RETS M249/M60/M240 Transition and Night Fire with 10-Point MG Zero.

LOCATION: South Impact Area, ET 294041.

AMMUNITION: 5.56mm, 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radios with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); certified computer operator; RTO; evac vehicle driver; firing line Safety NCOs (recommend 1 per 3 firing points); ammo guard. If zero and transition fire are conducted simultaneously, OIC must place RSOs and Safety NCOs at both sites.

TARGETS: The transition range has buried-cable single M64 targets at 100-200-300 meters, and mixed multiple targets from 400 to 800 meters. The zero range has boots for MG zero frames at 10 meters. Zero target requests per chapter 15 and appendix E.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Closes HALO drops on Marion DZ. Use of tracer and pyrotechnics affected by fire hazard levels.

e. RANGE: Range 105, 106, 107, 112, 113, 114. 20-Point Rifle and MG Zero Ranges. See Para B-3 above.

B-6. LIVE-FIRE MANEUVER RANGES.

NOTE: All live-fire maneuver ranges require contracts and surface danger zone overlays for each use. There are no fixed-scenario SOPs for these ranges on file at Range Control. Contracts are per chapter 9. Live-fire maneuver is not confined to the ranges listed below. Any suitable existing range, or other site, that can contain the effects of the weapons to be fired will be considered for use as a live-fire maneuver site, per unit Commander's program. The unit must provide radio-equipped guards to secure event-driven danger zones that are not normally part of the live-fire area. Use of live-fire maneuver ranges may be affected by fire hazard levels, per chapter 1, as noted below.

a. RANGE: Range 10, Squad Offense/Ambush.
LOCATION: Central Impact Area, ET 327116.
AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; ammo guard.
TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.
ALTERNATE USES: By contract.
REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closes Range 9.

b. RANGE: Range 23, Trench.
LOCATION: Central Impact Area, ET 355103.
AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; ammo guard.
TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.
ALTERNATE USES: By contract.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Closes Range 22.

- c. RANGE: Range 36, Squad Ambush/Offense/Defense.
LOCATION: Central Impact Area, ET 370149.
AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; ammo guard.
TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.
ALTERNATE USES: By contract.
REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closes Range 35.

- d. RANGE: Range 39, Squad Forced-March Live-Fire/Squad Defense.
LOCATION: Central Impact Area, ET 359155.
AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4 -pound demolitions, pyrotechnics, claymore.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; ammo guard.
TARGETS: Buried-cable M31A1 target lifters in 3 banks between 100 and 350 meters downrange. Controls in tower can be adjusted to allow individual target exposure per scenario. Additional radio-controlled targets may be placed by the OIC.
ALTERNATE USES: By contract.
REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas.

- e. RANGE: Range 40, Squad Offense.
LOCATION: Central Impact Area, ET 354157.
AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4 -pound demolitions, pyrotechnics, claymore.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; ammo guard.

TARGETS: Buried-cable M31A1 target lifters in 6 banks between 50 to 300 meters downrange. Additional manual pop-up or radio-controlled targets may be placed by the OIC.

ALTERNATE USES: By contract.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Existing empty target coffins may not be used for demolitions or for cover by assaulting troops.

f. RANGE: Range 41, 3-Lane Individual Movement Techniques Course.

LOCATION: Central Impact Area, ET 351158.

AMMUNITION: 5.56mm, 9mm, 40mm TP, pyrotechnics.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); one OC per lane; ammo guard.

TARGETS: E-silhouettes on stakes, manual pop-up, or radio-controlled targets placed by the OIC.

ALTERNATE USES: By contract.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Existing empty target coffins may not be used for demolitions or for cover by assaulting troops.

g. RANGE: Range 51, Squad/Platoon Offense and Defense.

LOCATION: Artillery Impact Area, ET 260075.

AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4 - pound demolitions, pyrotechnics, claymore, mortars, artillery.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: By contract.

REMARKS: Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closes FP 2507, Range 52, Range 53.

h. RANGE: Range 60, Squad/Platoon Offense.

LOCATION: Artillery Impact Area, ET 276090.

AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4 - pound demolitions, pyrotechnics, claymore, mortars, artillery.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: By contract.

REMARKS: Hostile-fire simulators and radio controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closes Range 59.

i. RANGE: Range 74, Squad/Platoon Offense.

LOCATION: Artillery Impact Area, ET 325094.

AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4, 1/4-pound demolitions, pyrotechnics, claymore, mortars, artillery.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: Primary use is tank/Bradley gunnery. Other use is secondary.

REMARKS: Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Two moving target tracks are located approximately 1000 meters and 1500 meters downrange from the tower. Moving target carriers are available from Range Supply for unit emplacement and operation. Advanced coordination required. Closes Range 76.

NOTE: Range 74 is primarily a tank/Bradley gunnery range. Uses that damage vehicle and target emplacements will not be approved.

j. RANGE: Range 76, Squad/Platoon Offense/Trench.

LOCATION: Artillery Impact Area, ET 330082.

AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore, mortars, artillery.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: By contract.

REMARKS: Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closes FP 3308A, Range 74, Mortar 9 and Mortar 10. Range 76 includes two primary objectives, a small trench with two bunkers vicinity grid ET 328083, and a large trench complex vicinity grid ET 322079. Use of the large trench closes Range 74 and other facilities; advanced coordination required. Mortars and artillery may not be fired onto the trenches. Priority of use on the large trench is to units conducting heavy-light live fire exercises.

k. RANGE: Range 87, Squad/Platoon Offense.

LOCATION: South Impact Area, ET 320046. Range 87 comprises most of grid squares ET3104, 3204, 3105, and 3205.

AMMUNITION: 5.56mm, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: By contract.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closed to live-fire north of the 05 grid line, 1 Dec-31 Mar annually, due to presence of bald eagles along Muck Creek. Road guards required. Use of Hardin Hill restricts artillery fire in the Artillery Impact Area. This range offers good terrain for fire team through platoon live-fire maneuver. However, most use conflicts with TA 5 and ranges, OPs, and mortar points along the north boundary of the Artillery Impact Area. Coordination with Range Control prior to scheduling is required. Range 87 is outside Restricted Airspace R6703 and does not support indirect fire.

l. RANGE: Range 94, Squad Ambush/Defense/Offense.

LOCATION: South Impact Area, ET 287044.

AMMUNITION: 5.56m, 7.62mm, .45 cal, 9mm, 40mm TP, AT-4 sub-cal, 1/4-pound demolitions, pyrotechnics, claymore.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs per unit commander; RTO; ammo guard.

TARGETS: Radio-controlled or mechanical pop-up targets. Target array per unit scenario.

ALTERNATE USES: By contract.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels. Hostile-fire simulators and radio-controlled targets from TSC. Unit scenario may require closure of other ranges or training areas. Closed to live-fire 1 Dec-31 Mar annually due to bald eagles along Muck Creek. Road guards required. Coordination with Range Control prior to scheduling is required. Closes Mortar 14.

m. RANGE: Range 102 and 103. Squad Maneuver, North Fort Impact Area, by arrangement with Range Control. Use of tracer and pyrotechnics affected by fire hazard levels.

B-7. TANK RANGES.

a. RANGE: Range 74, Tank Sub-Cal/Bradley.

LOCATION: Artillery Impact Area, ET 325094.

AMMUNITION: 5.56mm, 7.62mm, .50 cal, 25mm TP, 120mm M831

HEAT TP.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicle or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs/vehicle safeties per unit commander; RTO; evac vehicle driver; ammo guard.

TARGETS: Radio-controlled infantry and team targets placed by using unit. See appendix E.

ALTERNATE USES: Dismounted live-fire maneuver, TOW live fire, aerial gunnery, other by contract.

REMARKS: Moving target tracks are located approximately 1000 meters and 1500 meters downrange from the tower. Moving target carriers are available from Range Supply for unit emplacement and operation. Advanced coordination required. Closes Range 76. Use of movers may close portions of Story Road and Training Area 5.

b. RANGE: Range 75, Tank Live Fire Accuracy Screening Test (LFAST).

LOCATION: Artillery Impact Area, ET 324079.

AMMUNITION: 120mm M831 HEAT TP, 120mm M865 PIP TPCSDS-T.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicle or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); OCs/vehicle safeties per unit commander; RTO; evac vehicle driver; ammo guard.

TARGETS: Screening panels placed at the base of the TA 5 bluff, ET 311085 and ET 312086, by using unit. Panel requests per chapter 16 and appendix E.

ALTERNATE USES: None.

REMARKS: Advanced coordination required. Large hazard area footpring and roadguard requirements. Closes Range 74, Range 76, Mortar 3 through Mortar

10, OP 8, OP 9, portions of Story Road, 2d Division Range Road, Training Area 4, and all of Training Area 5 including Range 62 and NBC 1.

B-8. ANTI-TANK RANGES.

- a. RANGE: Range 14, AT-4 Sub-Caliber.

LOCATION: Central Impact Area, ET 336109.

AMMUNITION: AT-4 sub-cal.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; firing line Safety NCOs (1 per firer recommended); ammo guard.

TARGETS: Target emplacements for AT-4 sub-cal (9mm insert). Target lifters for AT-4 sub-cal obtained from TSC and emplaced by unit.

ALTERNATE USES: None.

REMARKS: Use of tracer and pyrotechnics affected by fire hazard levels.

- a. RANGE: Range 59, AT-4/90mm/LAW HEAT and Sub-Caliber.

LOCATION: Artillery Impact Area, ET 274090.

AMMUNITION: Extreme left side of range, AT-4 sub-cal only; center of range AT-4 HEAT/sub-cal; 90mm HEAT/sub-cal; 84mm Carl Gustav HEAT; M202 FLASH. Extreme right side of range, LAW sub-caliber ONLY.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; firing line Safety NCOs (1 per firer recommended); ammo guard.

TARGETS: Extreme left of range, target emplacements for AT-4 sub-cal (9mm insert), 90mm sub-cal (7.62 insert); center of range, hard targets for HEAT; no unit movement forward of firing line. Right side of range, cable-driven moving target for LAW sub-caliber ammo. Target lifters for AT-4 sub-cal obtained from TSC and emplaced by unit.

ALTERNATE USES: Flame weapons by coordination with Range Operations.

REMARKS: Closes Range 60. NOTE: The far left and far right sides of the range are not for HEAT ammunition, under any circumstances. See range SOP.

- b. RANGE: Range 115, 82-Point 84mm/90mm AT-4 Sub-caliber.

LOCATION: North Fort Impact Area, ET 291198.

AMMUNITION: 7.62mm.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard.

TARGETS: Cable-driven moving target. Target facings receipted from Range Supply and placed by unit OIC. HMMWV required to operate cable mover.

ALTERNATE USES: None.

REMARKS: Use per FM 23-11. Use of tracer and pyrotechnics affected by fire hazard levels.

c. RANGE: Mortar 7, Dragon Live-Fire.

LOCATION: Artillery Impact Area, ET 304081.

AMMUNITION: Dragon HEAT and inert.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio, vehicular or mast antenna required. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; Safety and Control NCOs per unit commander; ammo guard.

TARGETS: Hulks in the Artillery Impact Area.

ALTERNATE USES: Mortars.

REMARKS: Access to Artillery Impact Area for unit preparation of thermal target requires 30-day advance notice to Range Operations for EOD and other live-fire coordination. Missile wire must be reeled in.

d. RANGE: TOW Live Fire. TOW firing points are arranged on a case-by-case basis with Range Operations. Contract required.

B-9. GRENADE RANGES.

a. RANGE: Range 24, 4-point Hand Grenade Live-fire Range north of East Gate Road, with attached Practice Grenade Qualification Course south of East Gate Road.

LOCATION: Central Impact Area, ET 356097/TA6, ET 355095.

AMMUNITION: Live-Fire Range, HE fragmentation grenades only. Qualification Course, training grenades only.

FIRING HOURS: Daylight to dusk daily.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); Safety NCO for each active HE point; ammo guard; HE range gate guard.

TARGETS: On the live-fire range, tires are placed as aiming points by Range Control ONLY. No unit movement downrange. On the qualification course, targets are provided per TC 25-8 and the range SOP.

ALTERNATE USES: None.

REMARKS: Guard must be placed at gate to HE range when in use.

b. RANGE: Range 79, MK 19 40mm HE/TP Zero and Qualification, M203 HE familiarization.

LOCATION: Artillery Impact Area, ET 327066.

AMMUNITION: 40mm HE/TP.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; firing line Safety NCOs (recommend 1 per point); ammo guard.

TARGETS: Hard targets at various distances per MK19 Qualification Table.

ALTERNATE USES: Dragon inert; ROTC Advanced Camp machinegun committee range. Other uses by contract.

REMARKS: Extremely hazardous dud area; no movement by unit personnel downrange. Target service by coordination with Range Operations. Range 79 is allocated to ROTC Advanced Camp for machinegun training each summer; MK 19 firing days for other units during Advanced Camp is by coordination with ROTC Hqs. Is not affected by M203 qualification firing on Range 81. Closes Mortar 13.

c. RANGE: Range 81, 4-point M203/M79 TP Qualification.

LOCATION: Artillery Impact Area, ET 334063.

AMMUNITION: 40mm TP ONLY.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna.

PERSONNEL: OIC and RSO (Grade per chapter 1); firing line Safety NCOs (recommend 1 per 2 firing points); ammo guard.

TARGETS: M203 qualification course per FM 25-7.

ALTERNATE USES: None.

REMARKS: Does not affect operations on Range 79. Closes Mortar 13.

B-10. DEMOLITION AND MINES.

a. RANGE: Range 62, Basic Demolitions.

LOCATION: TA 5, ET 297104.

AMMUNITION: C-4 and TNT, 1/4-pound and 1-pound blocks; claymores. Larger charges and 15-pound shaped charges by contract.

FIRING HOURS: See chapter 3.

MEDICAL: Per chapter 1.

COMMO: Telephone primary; FM/VHF radio backup and emergency.

TARGETS: Staked cardboard E-silhouettes may be receipted from Range Supply/Support and placed by OIC for claymores.

ALTERNATE USES: None.

REMARKS: Closes parts of TA 5. Road guards required.

b. RANGE: Range 58, Advanced Demolitions.

LOCATION: Artillery Impact Area, ET267083.

AMMUNITION: Demolitions charges and munitions for advanced demolitions training and operations.

FIRING HOURS: See chapter 3.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna, placed at Range 58 tower. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; Safety NCO for each active point; ammo guard. Road guards required.

REMARKS: The fenced area immediately downrange from the tower, and to the left of the demolitions sites, is a 40mm HE dud area. Absolutely no entry is permitted. The steel-cutting bunker is for use per the range SOP and unit LFX contract. Charge limits inside the bunker are not negotiable and must be observed. Units using Range 58 for demolitions must repair blast damage, craters, and other soil disturbances, and must remove all demolitions target remnants, such as barbed wire and timber, concrete, and steel fragments. Units without organic capability to repair damage and remove debris must provide equipment and haul by tasking through I Corps G3 Central Tasking Office. Closes Mortar 1, Mortar 2, Range 52, and Range 53.

c. RANGE: Mortar 3, Claymore Live-Fire.

LOCATION: Artillery Impact Area, ET 286085.

AMMUNITION: Claymore.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio, vehicular or mast antenna required. Constant monitoring of Range Operations required.

PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; Safety and Control NCOs per unit commander; ammo guard.

TARGETS: Personnel silhouettes from Range Supply. Target requests per chapter 16 and appendix E.

ALTERNATE USES: Mortars.

NOTE: Range 99, shown on the Edition 4-DMA Fort Lewis 1:50,000 MIM in TA 22, is no longer scheduled for routine demolitions training.

B-11. FLAME WEAPONS. See Range 59, above.

B-12. OTHER ACTIVE RANGES.

a. RANGE: Range 7, Multi-Purpose Small Arms Range.

LOCATION: Central Impact Area, ET 328126.

AMMUNITION: 5.56mm, 7.62mm, 9mm, 40mm TP, AT sub-cal.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: By contract.

ALTERNATE USES: By contract.

REMARKS: PA from unit. Mag drop per chapter 1. Use per coordination with S3 2d Bn 75th Ranger Regt.

b. RANGE: Range 13 Multi-Purpose Small Arms. 1st MP Bde law enforcement live fire range.

c. RANGE: Range 15, DPCA Sportsmen's Range.

LOCATION: Central Impact Area, ET 339108.

REMARKS: Range operated by DPCA Northwest Adventure Center for privately owned weapons. For firing hours, use information, weapons limits call NWAC. MWR range OIC required to be present during use.

d. RANGE: Range 19, Multi-Purpose Marksmanship Range.

LOCATION: Central Impact Area, ET 345106.

AMMUNITION: 5.56mm, 7.62mm, foreign weapons.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 5 firing points); ammo guard.

TARGETS: Per contract and unit installation.

ALTERNATE USES: By contract with Range Operations.

REMARKS: PA from unit. Downrange activity on this range closes Range 18. Closes Range 20. Mag drop per chapter 1.

e. RANGE: Range 25 CQB Marksmanship/Range 25 CQB Maze Shoothouse. 2d Bn 75th Rgr CQB Course.

f. RANGE: Urban Assault Course, Ranges 26, 27, 28, 29.

LOCATION: Central Impact Area, ET 362115, ET 361117, ET 363122, ET 364125. Note: Range 27 through 31 locations on the Edition 4-DMA map are incorrect.

AMMUNITION: 5.56mm, 7.62mm, breaching charges.

FIRING HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs; ammo guard.

TARGETS: Per Urban Assault Course requirements.

ALTERNATE USES: None.

REMARKS: Range 26 contains the Individual and Team Task/Technique Trainer and the Underground Trainer. Range 27 contains the Shoothouse. Range 28 contains the Squad and Platoon Task/Technique Trainer and the Grenadier Gunnery structure. Range 29 is used as the 10 and 25 meter reactive fire flat range. PA from unit. Safety personnel must be equipped with flashlights. Use of tracer and pyrotechnics affected by fire hazard levels. Mag drop per chapter 1.

- g. RANGE: Range 31, 16-Point Multi-Purpose Small Arms Range.
LOCATION: Central Impact Area, ET 366131.
AMMUNITION: 5.56mm.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); evac vehicle driver; firing line Safety NCOs (recommend 1 per 4 firing points); ammo guard.
TARGETS: Per unit requirement.
ALTERNATE USES: By contract.
REMARKS: PA from unit. Mag drop per chapter 1.
- h. RANGE: Range 43-44-45. 1st Special Forces Group SOF live fire range.
- i. RANGE: Range 72, 15-Lane Multi-Purpose Small Arms.
LOCATION: Artillery Impact Area, ET 318089.
AMMUNITION: 5.56mm, 7.62mm.
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required.
PERSONNEL: OIC and RSO (Grade per chapter 1); RTO; ammo guard.
TARGETS: Buried-cable M31A1 targets per FM 23-9 night and mask fire.
ALTERNATE USES: By contract.
REMARKS: Range limits are narrow; firing must be closely controlled by OIC.
- j. RANGE: Range 92, EOD Site. Controlled by 707th Ordnance Company (EOD).
- k. RANGE: Range 101, Infiltration Course.
LOCATION: North Fort Impact Area, ET 276194.
AMMUNITION: 7.62 and C-4 (1/4 lb only).
FIRING HOURS: 0001-2400.
MEDICAL: Per chapter 1.
COMMO: FM/VHF radio.
PERSONNEL: OIC and RSO (Grade per chapter 1); other personnel as required by Range SOP.
REMARKS: Overhead fire course; requires specially-cleared ammunition.
- l. RANGE: Mortar 7 Helicopter Door Gunnery. By arrangement with Range Operations.

B-13. MORTAR POINTS.

NOTE: Safety data is issued to OIC by Range Operations with Mortar Point SOP. FM/VHF radio with vehicular or mast antenna required. Constant monitoring of

Range Operations required. The overprinted Mortar Points on the Fort Lewis Military Installation Map cannot be considered accurate for fire control purposes.

POINT	AMMO	GRID	REMARKS
1	81/107/120mm	ET 256091	Closes FP 2508, R53, R58.
2	81/107/120mm	ET 260093	Closes FP 2509, R58.
3	60/81/107/120mm	ET 286085	Direct lay, direct alignment, 60mm hand-held firing, Claymore.
4	60/81/107/120mm	ET 283080	Direct lay, direct alignment, 60mm hand-held firing.
5	60/81/107/120mm	ET 296079	Direct lay, direct alignment, 60mm hand-held firing.
6	60/81/107/120mm	ET 301079	Direct lay, direct alignment, 60mm hand-held firing.
7	60/81/107/120mm	ET 304081	Direct lay, direct alignment, 60m hand-held firing, Dragon, helicopter aerial gunnery.
8	81/107/120mm	ET 310083	None.
9	81/107/120mm	ET 334082	Closes R76; FP 3308A, M10.
10	81/107/120mm	ET 329077	Closes R76, FP 3308A, M9.
11	81/107/120mm	ET 329075	Closes R76.
12	81/107/120mm	ET 328072	
13	Mortar Point 13 is not currently scheduled.		
14	81/107/120mm	ET 287041	Closes R94.

NOTE: R6703 maximum ordinate for Mortar Points 1 through 5 and 14 is 14,000 feet. R6703 maximum ordinate for Mortar Points 6 through 13 is 5,000 feet.

B-14. MORTAR SUB-CALIBER RANGES. Mortar sub-caliber may be fired from M1 through M12 by arrangement with Range Operations. Recoverable rounds are usually fired from Range 72. Other sites by coordination with Range Operations. 1/10 scale vehicles and buildings from TSC.

B-15. FIELD ARTILLERY FIRING POINTS.

NOTE: The primary method of scheduling, controlling, and conducting Field Artillery live fire training at Fort Lewis is the PADS system described in chapter 8. PADS SOP issued to firing OICs by Range Operations. The method of control described in chapter 11 of AR 385-63, using fixed firing points with predetermined safety data, is maintained for commanders who prefer that system. Safety data and full grid information maintained at Range Control. Data Sheets and SOPs are issued to firing OICs by Range Operations. Primary and alternate FM radios and constant monitoring of Range Operations by firing OIC required. The overprinted Field Artillery Firing points on the Fort Lewis Military Installation Map cannot be considered as accurate for fire control purposes.

NOTE: R6703 maximum ordinate for FPs 2410 through 3011 is 14,000 feet. R6703 maximum ordinate for FPs 3210 through 3608 is 5,000 feet. For PADS and Paladin planning purposes, the dividing line runs northeast from ET 283021 through ET 308119.

POINT	GRID	REMARKS
2410	ET 248108	
2412	ET 241127	
2412A	ET 242121	
2413	ET 213136	
2507	ET 258078	Closes R52.
2508	ET 256089	Closes R53, M1.
2509	ET 259093	Closes M2. Note 1.
2511	ET 251111	
2511A	ET 253116	
2511B	ET 256119	Closes FP2512.
2512	ET 256122	Closes FP2511.
2610	ET 265109	
2610A	ET 267104	
2611	ET 265115	
2612	ET 267126	
2710	ET 274104	
2712	ET 271129	
2713	ET 277139	
2713A	ET 279135	
2811	ET 281115	
2811A	ET 289116	
2910	ET 293108	
2912	ET 292126	
2912A	ET 297124	
3011	ET 300111	
3210	ET 328100	Closes R74.
3308	ET 331087	Closes R76. Note 1.
3308A	ET 333081	Closes M9, M10, R76. Note 1.
3310	ET 333103	
3408	ET 343087	
3409	ET 341099	
3409A	ET 348097	
3409B	ET 349095	
3507	ET 356075	
3508	ET 353083	
3508A	ET 359080	
3509	ET 351092	
3608	ET 361085	

Note 1: Firing point used for ammunition not cleared for overhead fire.

APPENDIX C

TRAINING FACILITIES

C-1. NON-FIRING FACILITY INDEX.

FACILITY	PAGE
Solo Point Amphibious Site (A-1)	C-2
Sequalitchew Lake Amphibious/Bridge Site (A-2)	C-2
Lewis Lake Amphibious Site (A-3)	C-2
Nisqually River Bridge Site (B-2)	C-3
Confidence Course (CC-2)	C-3
Obstacle Course (CO-2)	C-3
Bayonet Training Site (BT-2)	C-4
Regensburg MOUT	C-4
NBC Proficiency Site 1 (NBC-1)	C-4
Nisqually River Recondo (RCD-2)	C-4
Sequalitchew Lake Recondo (RCD-3)	C-5
Tank/Bradley Crew Proficiency Course (TCPC/BCPC)	C-5
Airlift Load-Out Site (C-5A)	C-5
Target Detection Range (TD-5)	C-5
Abrams Drop Zone	C-6
American Lake Drop Zone	C-6
Anzio Drop Zone	C-6
Dakto Drop Zone	C-6
Darby Drop Zone	C-7
El Guettar Drop Zone	C-7
Marion Drop Zone	C-7
Merrill Drop Zone	C-8
Mytkina Drop Zone	C-8
Pacemaker Assault Airstrip/Extraction Zone/Drop Zone	C-8
Powell Drop Zone (Formerly Fontaine DZ)	C-8
Pt De Hoc Drop Zone	C-9
Pt Salines Drop Zone (Formerly Abrams West DZ)	C-9
Puget Sound Drop Zone	C-9
Rogers Drop Zone	C-10
Bunker Observation Post 2 (OP-02)	C-11
Bunker Observation Post 3 (OP-03)	C-11
Bunker Observation Post 8 (OP-08)	C-12
Bunker Observation Post 9 (OP-09)	C-12
Bunker Observation Post 10 (OP-10)	C-12

C-2. FACILITY DESCRIPTIONS.

a. FACILITY: Solo Point Amphibious Site A-1. Used for over-the-shore and diving operations, engineer bridging, small boat operations, and as a ground base for Puget Sound DZ.

LOCATION: TA 1, ET 279206.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna, or relay site emplaced near Sewage Treatment Plant at top of bluff. Constant monitoring of Range Operations required during Puget Sound DZ operations.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander). For water safety requirements see FL Reg 350-2.

REMARKS: The railroad line is not Army property and may not be blocked under any circumstances. Frequent passage of high-speed trains is a severe hazard to personnel and vehicles. Troops may not be moved up or down the tracks under any circumstances. Trainers may encounter fishermen or recreational boaters. Priority is always to scheduled training. Risk of immersion hypothermia. The sewage treatment plant is off limits. There is an open channel leading down from the vicinity of the sewage treatment plant to the bottom of the bluff south of Solo Point that is dangerous and off limits. Per National Marine Fisheries Service consultation, February 1999, the following measures apply to use of Solo Point:

(1) Off-loading and deployment of floating bridge bays between 1 March and 30 June of each year is limited to the existing boat ramp. Deployment from the native beach, or alterations to the native beach material are not allowed.

(2) Off-loading and deployment of all support vessels between 1 March and 30 June of each year is limited to the existing boat ramp.

(3) No more than three hours of near shore activity can occur on each of the eight days of launch activity training scheduled between 1 March and 30 June of each year.

(4) No vehicles may drive on the native beach substrate between 1 March and 30 June of each year.

b. FACILITY: Sequelitchew Lake Amphibious/Bridge Site A-2 .

LOCATION: TA 2, ET 300175.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander). For water safety requirements see FL Reg 350-2.

REMARKS: Risk of immersion hypothermia.

c. FACILITY: Lewis Lake Amphibious/Bridge Site A-3. Used for vehicle swimming and engineer float bridge and rafting operations.

LOCATION: TA 16, ET 328039.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander). For water safety requirements see FL Reg 350-2.

REMARKS: Risk of immersion hypothermia.

d. FACILITY: Nisqually River Bridge Site B-2, Nisqually River. Used for engineer float bridge and rafting operations, FTX.

LOCATION: TA 18, ET 281039.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander). For water safety requirements see FL Reg 350-2.

REMARKS: Water levels are subject to fluctuation. Risk of immersion hypothermia. Fishermen and recreational boaters may be encountered; training has priority.

e. FACILITY: Confidence Course, CC-2. Multi-station physical training and confidence-building site.

LOCATION: North Fort, ET 305187.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: OIC recon and coordination with Range Control required.

f. FACILITY: Obstacle Course, CO-2. Multi-station circular physical training obstacle course.

LOCATION: North Fort, ET 305186.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: OIC recon and coordination with Range Control required.

g. FACILITY: Bayonet Training Site, BT-2. Circular multi-apparatus Assault Course with adjacent multi-station Training Court.

LOCATION: North Fort, ET 295180.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: OIC recon and coordination with Range Control required.

h. FACILITY: Regenbun MOU Site. Used to develop skills in urban combat. Site divisible by RR track into multi-unit packets. Wood-frame buildings, no grapnel or rappelling, no helicopter assault on roofs.

LOCATION: TA 16, ET 312034.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Relay station at top of bluff may be required.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: Use per Range Control SOP.

i. FACILITY: NBC Proficiency Site 1, NBC 1. Mask confidence exercise building with 2 rooms, 1 for CS capsules or powder only, 1 for camphor. Burning-type grenades are prohibited.

LOCATION: TA 5, ET 304110.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and requirements per chapter 1).

Assistant instructors, chamber operators, and other personnel per doctrine or unit commander.

REMARKS: None.

j. FACILITY: Nisqually River Recondo, RCD 2. Cable and rope bridging, moving water crossing techniques.

LOCATION: TA 16, ET 313024.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander). For water safety requirements see FL Reg 350-2.

REMARKS: Risk of immersion hypothermia. Lifejackets, safety boats, ropes, and all other equipment provided by unit.

k. FACILITY: Sequalitchew Lake Recondo, RCD 3. Rappel Tower.

LOCATION: TA 2, ET 292179.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: This is an air assault rappel tower, with no mid-level rappel deck. See the Range Control Recondo 3 SOP for details.

l. FACILITY: Tank/Bradley Crew Proficiency Course (TCPC/BCPC).

LOCATION: TA 8, center ET 397145.

HOURS: 0001-2400.

MEDICAL: Determined by training event.

COMMO: FM/VHF radio.

PERSONNEL: Determined by training event.

REMARKS: Used by heavy brigade units for TCPC/BCPC. Two lanes. Course comprises the area from ET 397160 to ET 397135 and is approximately 200 meter wide. Closes the portion of TA 8 indicated as white on the Fort Lewis 1:50,000 MIM, and LS-8. Priority is to Active and Reserve Component heavy forces.

m. FACILITY: Airlift Load-Out Site, C5A.

LOCATION: Central Impact Area, ET 327115.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: Mockups for C130, C141, C17. Large metal "C5A" mockup parallel to East Gate Road does not replicate any actual aircraft ramps. Unit must provide tiedowns and loadmasters.

n. FACILITY: Target Detection Range, TD-5.

LOCATION: Central Impact Area, ET 326116.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio.

PERSONNEL: OIC and RSO (Grade and qualification per training event doctrine or unit commander).

REMARKS: Use guided by FM 23-9. OIC recon and coordination with Range Control required. Support materials must be receipted from Range Supply.

o. FACILITY: Abrams Drop Zone. For capabilities, see chapter 11. Located at and closes Pt Salines DZ.

LOCATION: TA 6, center ET334097.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Requires checkfire of indirect firing points. Closes Dakto DZ for simultaneous fixed wing-helicopter drops. Helicopter-helicopter drops on Abrams and Dakto are permitted provided both DZSOs have coordinated P-hours and air routes.

p. FACILITY: American Lake Drop Zone. Water drops. For capabilities, see chapter 11. Not identified on Fort Lewis 1:50,000 MIM.

LOCATION: American Lake. Drop zone survey held at S3 2d Bn 75th Ranger Regt.

HOURS: 0001-2400.

MEDICAL: Per chapter 1. For water safety requirements see FL Reg 350-2.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Aircraft contact GAAF Operations.

q. FACILITY: Anzio Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 13, ET 395054.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closed by fixed-wing operations on Rogers DZ. Simultaneous helicopter-helicopter drops on Anzio and Rogers permitted provided both DZSOs have coordinated P-hours and air routes.

r. FACILITY: Dakto Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 12, ET 356079.

HOURS: 0001-2400. Night drops require activation of R6703D.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closes Abrams and Point Salines DZs for simultaneous helicopter-helicopter drops on Dakto and Abrams or Point Salines are permitted provided both DZSOs have coordinated P-hours and air routes.

s. FACILITY: Darby Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 21, ES 212952.

HOURS: 0001-2400. Night drops require activation of R6703C.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required. Radio relay at site of Deschutes Fire Tower (ES 175954) may be required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closed by prior scheduling of same. Closes Merrill and El Guettar DZs for simultaneous fixed-wing or fixed-wing helicopters drops. Helicopter-

helicopter drops are permitted provided both DZSOs have coordinated P-hours and air routes.

t. FACILITY: El Guettar Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 22, ES 202969.

HOURS: 0001-2400. Night drops require activation of R6703C.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required. Radio relay at site of Deschutes Fire Tower (ES 175954) may be required..

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closed by prior scheduling of same. Closes Darby DZ for simultaneous fixed-wing or fixed-wing helicopters drops. Simultaneous helicopter-helicopter drops are permitted provided both DZSOs have coordinated P-hours and air routes.

u. FACILITY: Marion Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 18, ET 298038.

HOURS: 0001-2400. Night drops require activation of R6703B.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closed by fixed-wing operations on Point de Hoc DZ. Simultaneous helicopter-helicopter drops are permitted on Marion and Point de Hoc provided DZSOs have coordinated P-hours and air routes.

v. FACILITY: Merrill Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 21, ES 228960.

HOURS: 0001-2400. Night drops require activation of R6703C.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio with vehicular or mast antenna. Constant monitoring of Range Operations required. Radio relay at site of Deschutes Fire Tower (ES 175954) may be required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closes Darby DZ for simultaneous fixed-wing or fixed-wing helicopters drops. Simultaneous helicopter-helicopter drops are permitted provided both DZSOs have coordinated P-hours and air routes.

w. FACILITY: Mytkina Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 19, ET 247033.

HOURS: 0001-2400. Night drops require activation of R6703C.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: None.

x. FACILITY: Pacemaker Assault Airstrip/Extraction/Drop Zone. C-130 capable unpaved assault airstrip, with associated LAPES and drop zones. For capabilities, see chapter 11.

LOCATION: TA 18, ET 421078.

HOURS: 0001-2400. Night drops require illumination of jumpers per FAR Part 105.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: None.

y. FACILITY: Powell Drop Zone. For capabilities, see chapter 11. Not identified on Ft Lewis 1:50,000 MIM.

LOCATION: Gray Army Airfield.

HOURS: 0001-2400.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Scheduling is with GAAF Operations. Associated power grid shutdowns close Ranges 1 through 20.

z. FACILITY: Point de Hoc Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 18, center ET 2910332.

HOURS: 0001-2400. Night drops require activation of R6703B.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Simultaneous helicopter-helicopter drops on Point de Hoc and Marion DZs permitted provided DZSOs have coordinated P-hours and air routes.

aa. FACILITY: Point Salines Drop Zone (formerly Abrams West DZ). For capabilities, see chapter 11. Collocated with Abrams DZ.

LOCATION: TA 6, center ET 335095.

HOURS: 0001-2400. Night drops require activation of R6703D.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Requires checkfire of indirect firing points. Closes Dakto DZ for simultaneous fixed wing-helicopter drops. Helicopter-helicopter drops on Pt Salines and Dakto are permitted provided both DZSOs have coordinated P-hours and air routes.

bb. FACILITY: Puget Sound Drop Zone (Water drops only). For capabilities, see chapter 11. Not identified on Ft Lewis 1:50,000 MIM.

LOCATION: Puget Sound, off Solo Point.

HOURS: 0001-2400. Night drops require illumination of jumpers per FAR Part 105.

MEDICAL: Per chapter 1. For water safety requirements see FL Reg 350-2.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required. A relay station may be required at the top of the bluff in TA 1, ET 278205.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Concurrent scheduling of Amphibious Site A-1 (Solo Point) required. Range Control will arrange for Local Notice to Mariners through USCG Vessel Traffic Service and Marine Safety Office, Seattle. DZ is located in waters not owned or controlled by the Army. **Use is on a non-interference basis; civilian vessels and boats cannot be forced to move regardless of effect on P-hours.** The DZSO must cancel if the area cannot be cleared 15 minutes prior to scheduled P-hour, or if non-involved craft move into the drop/recovery area during operations.

cc. FACILITY: Rogers Drop Zone. For capabilities, see chapter 11.

LOCATION: TA 14, ET 413072.

HOURS: 0001-2400. Night drops require illumination of jumpers per FAR Part 105.

MEDICAL: Per chapter 1.

COMMO: FM/VHF radio. Constant monitoring of Range Operations required.

PERSONNEL: DZSO and ADZSO required for personnel drops. OIC required for other drops. Grade and qualification per training event doctrine or unit commander.

REMARKS: Closes Anzio DZ for simultaneous fixed-wing and fixed-wing helicopter drops on Rogers and Anzio are permitted provided both DZSOs have coordinated P-hours and air routes.

dd. FACILITY: Bunker Observation Post 2, OP-2.

LOCATION: TA 6, ET 299072.

HOURS: 0001-2400.
MEDICAL: Determined by training event.
COMMO: FM/VHF radio.
PERSONNEL: Determined by training event.
REMARKS: None.

ee. FACILITY: Bunker Observation Post 3, OP-3.
LOCATION: TA 6, ET 330076.
HOURS: 0001-2400.
MEDICAL: Determined by training event.
COMMO: FM/VHF radio.
PERSONNEL: Determined by training event.
REMARKS: None.

ff. FACILITY: Bunker Observation Point 8, OP-8.
LOCATION: TA 5, ET 303081.
HOURS: 0001-2400.
MEDICAL: Determined by training event.
COMMO: FM/VHF radio.
PERSONNEL: Determined by training event.
REMARKS: None.

gg. FACILITY: Bunker Observation Post 9, OP-9.
LOCATION: TA 5, ET 292082.
HOURS: 0001-2400.
MEDICAL: Determined by training event.
COMMO: FM/VHF radio.
PERSONNEL: Determined by training event.
REMARKS: None.

hh. FACILITY: Bunker Observation Post 10, OP-10.
LOCATION: TA 4, ET 275092.
HOURS: 0001-2400.
MEDICAL: Determined by training event.
COMMO: FM/VHF radio.
PERSONNEL: Determined by training event.
REMARKS: Limited view due to trees.

APPENDIX D
 TRAINING AREAS

D-1. TRAINING AREAS INDEX.

AREA	PAGE
TA 1	D-1
TA 2	D-2
TA 3N	D-2
TA 3S	D-2
TA 4	D-3
TA 5	D-3
TA 6	D-4
TA 7N	D-4
TA 7S	D-4
TA 8	D-5
TA 9	D-5
TA 10	D-5
TA 11	D-6
TA 12	D-6
TA 13	D-7
TA 14	D-7
TA 15	D-8
TA 16	D-8
TA 17	D-8
TA 18	D-9
TA 19	D-9
TA 20	D-10
TA 21	D-10
TA 22	D-11
TA 23	D-11

D-2. TRAINING AREA DESCRIPTIONS.

- a. AREA: TA 1, Center ET 270197, 233 acres.
 TRAINING FACILITIES INCLUDED: Solo Point Amphibious Training Site (A-1).
 PRIMARY USES: Tactical maneuver training; amphibious training.
 TRAINING HOURS: 0001-2400.
 VEGETATION: Douglas fir, alder, dense undergrowth with some small clearings.
 TERRAIN: Level ground with steep bluffs and ravines leading down to Puget Sound on the northwest boundary.
 LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June –

31 October annually. **The sewage treatment plant is off limits. There is an open channel leading from the vicinity of the sewage treatment plant to the bottom of the bluff that is dangerous and off limits.** Portions of TA 1 are owned by a gravel company and are being mined. Gravel company excavations are fenced and off limits.

b. AREA: TA 2, Center ET 297175, 843 acres.

TRAINING FACILITIES INCLUDED: Recondo Site 3 (RCD3) rappel tower; Leader's Reaction Course (LRC); Sequalitchew Lake Amphibious/Bridge Training Site; Bayonet Assault Course 2 (BT2), Obstacle Course 2 (CO2) and Confidence Course 2 (CC2).

PRIMARY USES: Tactical maneuver training; rappelling; LRC; bayonet training; physical conditioning; amphibious training.

TRAINING HOURS: 0001-2400.

VEGETATION: Alder, some douglas fir, some undergrowth. Scattered small clearings.

TERRAIN: Level ground with extensive swamps and bogs.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually.

c. AREA: TA 3N, Center ET 239125, 1168 acres.

TRAINING FACILITIES INCLUDED: Artillery firing points 2412, 2412A, 2413; EIB/EFMB sites.

PRIMARY USES: Tactical maneuver training; EIB; EFMB; artillery live-fire.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, dense undergrowth with some clearings.

TERRAIN: Generally level terrain with small hills and hollows. Steep bluffs on the west side. Transected by active railroad.

LIMITATIONS: All included training facilities and the fish hatchery are off limits. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. The portion of TA 3N west of the rail line and Old Pacific Highway, containing Trotter Woods, is accessible only by driving around from I-5 via the Mounts Road exit, or from Nisqually Bridge via State Route 510 and the Old Pacific Highway. Access directly across the rail line is extremely hazardous. The rail line may not be blocked, and neither the rail line nor its bridges may be used for military training of any kind. No emplacements or barriers within 300 meters of firing point monuments except for artillery exercises. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. The bluffs along the Nisqually River are unstable and may not be used for climbing or rappelling.

d. AREA: TA 3S, Center ET 255070, 1038 acres.

TRAINING FACILITIES INCLUDED: None. The Nisqually Indian Tribe Fish Hatchery is located at the northern end of this TA.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Alder, some Douglas fir, dense undergrowth.

TERRAIN: Transected by steep bluffs, with most of the TA on the floodplain of the Nisqually River. Below the bluffs, level ground with extensive swamps and bogs. Above the bluffs, the Artillery Impact Area hazard zone, which is off limits to TA 3S users.

LIMITATIONS: The fish hatchery is off limits. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. No training within 25 meters of Clear Creek, Clear Creek Pond and Cabin Creek from 15 August - 01 February annually, to avoid impact on spawning salmon. No approach to or interference with eagles or eagle nesting trees. No entry into Artillery Impact Area without clearance from Range Operations. The bluffs along the Nisqually River are unstable and may not be used for climbing or rappelling.

e. AREA: TA 4, Center ET 270115, 5855 acres.

TRAINING FACILITIES INCLUDED: Bunker OPs 10 and 11; Artillery firing points 2410, 2510, 2511, 2511A, 2511B, 2610, 2610A, 2611, 2612, 2710, 2712, 2713, 2811, 2813, 2911.

PRIMARY USES: Tactical maneuver training; artillery live-fire; tactical excavations; FIST training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks. Bluffs along south side.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. No emplacements or barriers within 300 meters of firing point monuments except for artillery exercises. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Goodman Fire Tower at ET 271135 is off-limits.

f. AREA: TA 5, Center ET 307098, 2426 acres.

TRAINING FACILITIES INCLUDED: NBC Chamber 1; Demolitions Range 62; Bunker OPs 7, 8, 9; Artillery firing points 2910, 3010.

PRIMARY USES: Tactical maneuver training; NBC mask confidence and proficiency training; demolitions training; FIST training; laser training (OP-8 and 9); artillery live-fire.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks. Bluffs along south side.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range

Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. No emplacements or barriers within 300 meters of firing point monuments except for artillery exercises. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. A road and fence are under construction from approximately ET 322095 to ET 289103 that will divide TA 5 into a maneuver portion, to the north, and a live fire buffer zone, to the south. When the road and fence are complete and gates and warning signs are emplaced, access to the southern portion is prohibited on live fire days. See the Daily Range Schedule, distributed by Email and also available on the Fort Lewis Internet Home Page, for announcement of live fire days in south TA 5.

g. AREA: TA 6, Center ET 342080, 2363 acres.

TRAINING FACILITIES INCLUDED: Abrams DZ; Point Salines DZ (formerly Abrams West DZ); Artillery Firing Points 3209, 3310, 3408, 3409, 3409A, 3508, 3508A, 2509; dry-fire portion of Range 24.

PRIMARY USES: Tactical maneuver training; artillery live-fire; airborne operations; TOW firing; anti-armor tracking; tank and Bradley gunnery.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level prairie and open woodland with ground rising gently to Kicker Hill in south center and some bogs and swamps.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. No maneuver west of 33rd Div Rd (asphalt, ET 328104 - ET 335070). Buildings and facilities along East Gate Road (ET 338106) are off limits. Trainers should expect restrictions on maneuver and countermobility operations due to use of Abrams and Point Salines DZs for airborne operations.

h. AREA: TA 7N, Center ET 363180, 471 acres. Assigned to DOL Maintenance Division as vehicle test area, 0730 - 1630 weekdays. Available for training other hours and weekdays.

i. AREA: TA 7S, Center ET 370164, 894 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training; staging for live fire exercises on Ranges 36, 39, 40, 41.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small hollows and hills. Some swamps and bogs. Active rail line limits access from the east and north.

LIMITATIONS: All included training facilities and the Lincoln Street gravel pit are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. The rail line may not be used for training.

Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map.

j. AREA: TA 8, Center ET 383142, 2102 acres.

TRAINING FACILITIES INCLUDED: Tank/Bradley Crew Proficiency Course (TCPC/BCPC), see App C; Landing Strip 8.

PRIMARY USES: Tactical maneuver training; armor/mech infantry crew qualification; aviation training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small hollows and hills. Some swamps and bogs. Active rail line limits access from the west.

LIMITATIONS: An underground communications cable runs from ET407138 to ET399145 to ET3991611. All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. The rail line may not be used for training. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map.

k. AREA: TA 9, Center ET 417146, 2431 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small hollows and hills. Extensive swamp runs north-south on the west side. Transected by State Route 507 and an active rail line. Contains portions of 8th Avenue S, 8th Avenue E and 208th Avenue (see chapter 14 above).

LIMITATIONS: Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Highway 507 and the rail line may not be blocked. Requests for short-term blocks on 8th Avenue S, 8th Avenue E and 208th Avenue must contain detailed justification and must be submitted to Range Operations not less than 90 working days prior to the event. The gas pipeline right of way along the north and west edge of the Training Area is not to be used as a road. An underground petroleum products pipeline runs parallel to the power transmission lines in the east portion of the Training Area. An underground communications cable runs from ET435125 to ET407138.

l. AREA: TA 10, Center ET 385111, 3295 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small hollows, hills and bogs. Johnson Marsh and connected large swamp run along southeast side. Active rail lines limit access from west and southeast.

LIMITATIONS: Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Highway 507 and the rail line may not be blocked. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map.

m. AREA: TA 11, Center ET 428110, 3534 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level ground. Transected by 8th Avenue S and 8th Avenue E (see chapter 14 above). Active rail line and State Route 507 limit access from the west and north.

LIMITATIONS: Barriers and excavations must be coordinated with Range Operations. Highway 507 and the rail line may not be blocked. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Requests for short-term blocks on 8th Avenue S and 8th Avenue E must contain detailed justification and must be submitted to Range Operations not less than 90 days prior to the event. The gas pipeline right of way parallel to Highway 507 along the west edge of the Training Area, and the gas pipeline across the southeast corner of the Training Area, are not to be used as roads.

n. AREA: TA 12, Center ET 364091, 1808 acres.

TRAINING FACILITIES INCLUDED: Dakto DZ; Artillery Firing Points 3507, 3607 and 3608.

PRIMARY USES: Tactical maneuver training; artillery live-fire; airborne operations.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, under -growth with some clear-cuts and natural clearings.

TERRAIN: Level ground with Chambers Lake and some small ponds and interconnected swamps along the Muck Creek drainage. Active rail lines on the west and east sides. DPCA Recreation Area along the south and west shores of Chambers Lake.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Highway 507 and the rail line may not be blocked. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be

restricted during the fire hazard season, 1 June - 31 October annually. No emplacements or barriers within 300 meters of firing point monuments except for artillery exercises. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Use of FA FPs for live-fire requires closure of gates on the Roy Cut-off Road, along the west boundary, and at Chambers Lake Dam. Chambers Lake not available for mechanized tactical crossings.

- o. AREA: TA 13, Center ET 390076, 3817 acres.

TRAINING FACILITIES INCLUDED: Anzio DZ.

PRIMARY USES: Tactical maneuver training; airborne operations.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small hills and hollows. Bounded by State Route 507 on the west; transected by Muck Creek and Goodacre Road (see chapter 14 above) on the north. The buildings shown on the Ft Lewis 1:50,000 MIM Edition 4-DMA in grid square ET 3907 are gone.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Highway 507 and the rail line may not be blocked. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Requests for short-term blocks on Goodacre Road must contain detailed justification and must be submitted to Range Operations not less than 90 days prior to the event. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Vehicular crossings of Muck Creek only at permanent bridges or at fords listed in chapter 14 above. The gas pipeline right of way parallel to Highway 507 along the west edge of the Training Area is not to be used as a road.

- p. AREA: TA 14, Center ET 414070, 1930 acres.

TRAINING FACILITIES INCLUDED: Rogers DZ, Pacemaker Assault Airstrip, LAPES Zone, Landing Strip 14.

PRIMARY USES: Airborne and airlanding operations; tactical maneuver training; TOW tracking.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small rises and hollows. Transected by Muck Creek and Goodacre Road (see chapter 14 above) on the north. Bounded by 8th Avenue S on the east.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Requests for short-term blocks on Goodacre Road and 8th Avenue S must contain detailed justification and must be submitted to Range Operations not less than 90 days prior to the event. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Vehicular crossings of Muck Creek only at permanent bridges or at fords listed in chapter 14

above. Trainers should expect daily restrictions on maneuver and countermobility operations due to use of Rogers and Pacemaker for airborne/airlanding operations. The gas pipeline right of way that crosses the southeast corner of TA 14 is not to be used as a road.

q. AREA: TA 15, Center ET 440088, 3378 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, with some clear-cuts and natural clearings.

TERRAIN: Level ground with some small rises and hollows. Transected by east to west by Muck Creek and Rice-Kandle Road (see chapter 14) and north to south by 8th Avenue E. Bounded by 8th Avenue S on the west.

LIMITATIONS: Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Requests for short-term blocks of 8th Avenue E, 8th Avenue S and Rice-Kandle Road must contain full justification and must be submitted to Range Operations not less than 90 days prior to the event. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Vehicular crossings of Muck Creek only at permanent bridges or at fords listed in chapter 15. The gas pipeline right of way that crosses TA 15 diagonally from northeast to southwest is not to be used as a road. The fenced area along Muck and South Creeks is a designated Research Natural Area, and is open to foot movement only.

r. AREA: TA 16, Center ET 322035, 1523 acres.

TRAINING FACILITIES INCLUDED: MOUT Site (Regenburg); Nisqually River Recondo (RCD 2); Lewis Lake Amphibious/Bridge Training Site (A-3).

PRIMARY USES: Tactical maneuver training; MOUT operations; aviation training; water confidence training; amphibious training; cable, rope and float bridging.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level in the south with hills and hollows in the north. Bounded on the south by the Nisqually River, with steep bluffs around Regenburg and along some of the river shore.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. The gas pipeline right of way parallel to the east edge of TA 16 from the 04 gridline south is not to be used as a road. The railroad bridge over the Nisqually River at ET 331015 is off limits. The bluffs along the Nisqually River are unstable and may not be used for climbing or rappelling.

s. AREA: TA 17, Center ET 307023, 524 acres.

TRAINING FACILITIES INCLUDED: RCD 2 farshore-anchors.

PRIMARY USES: Tactical maneuver training; rope and cable bridging.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level in the south; transected by steep bluffs leading to Nisqually River floodplain on the north. Some swamps and bogs. Entry road very rough from ET 312009 to ET 312016.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Vehicular access route through McKenna or Yelm. Entry road gate may be locked; check with Range Operations prior to leaving main post. Trainers planning vehicular road march into this TA should recon the route. The bluffs along the Nisqually River are unstable and may not be used for climbing or rappelling.

t. AREA: TA 18, Center ET 280040, 2100 acres.

TRAINING FACILITIES INCLUDED: Marion DZ; Point de Hoc DZ; Landing Strip 18; Nisqually River Bridge Site (B-2), Nisqually River Ford.

PRIMARY USES: Tactical maneuver training; airborne operations; aviation training; engineer bridging; artillery live fire.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level. Bounded on the south and west by steep bluffs leading to the Nisqually River floodplain. Transected by the Nisqually River in the west. Bounded by State Route 510 on the west.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Entry into the South and Artillery Impact Areas from the Muck Creek crossing vicinity ET 282049 is prohibited. Trainers should expect restrictions on maneuver and countermobility operations due to use of Marion DZ and Pt de Hoc DZ. There is no ground connection along the east side of the river between TA 18 and TA 3S. The bluffs along the Nisqually River are unstable and may not be used for climbing or rappelling. The western portion of TA 18 falls inside Restricted Airspace R6703 and may be used for field artillery live fire training, per chapter 8 above.

u. AREA: TA 19, Center ET 250030, 4833 acres.

TRAINING FACILITIES INCLUDED: Mytkina DZ; Landing Strip 19.

PRIMARY USES: Tactical maneuver training; airborne operations; aviation training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks. Bounded by State Route 510 on the northeast. Transected by State Route 510 and Yelm Highway in the north. See chapter 14 for access limits from the east.

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Highway 510 and the Yelm Highway may not be blocked. Rainier Fire Tower (ET 234043) and Rathbun Repeater Site (ET 262009) are off limits. **Interference with Weyerhaeuser Corporation logging operations on company-owned land is prohibited. Active Weyerhaeuser logging sites supercede military training and are off-limits. For details coordinate with Range Operations.**

- v. AREA: TA 20, Center ES 236999, 3583 acres.

TRAINING FACILITIES INCLUDED: None.

PRIMARY USES: Tactical maneuver training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks.

LIMITATIONS: Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. **Interference with Weyerhaeuser Corporation logging operations on company-owned land is prohibited. Active Weyerhaeuser logging sites supercede military training and are off-limits. For details coordinate with Range Operations.**

- w. AREA: TA 21, Center ES 222962, 1122 acres.

TRAINING FACILITIES INCLUDED: Merrill DZ; Darby DZ; Landing Strip 21.

PRIMARY USES: Airborne operations; tactical maneuver training; aviation training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Level with small hills and hollows. A bluff running northeast-southwest separates Merrill from Darby and LS 21. Bounded on the southwest by Rainier Road Southeast. Military Road Southeast crosses the extreme southeast corner (see chapter 14 above).

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. **SPECIAL NOTE: The prairies in TA 21 are closed to off-road tracked vehicle maneuver and POV driving, to protect sensitive plants.** Rainier Road Southeast and Military Road Southeast may not be blocked. Trainers should expect some restrictions on maneuver due to use of DZs for airborne training. **Interference with Weyerhaeuser Corporation logging operations on company-owned land is prohibited. Active Weyerhaeuser logging sites supercede military training and are off-limits. For details coordinate with Range Operations.**

x. AREA: TA 22, Center ES 201986, 3901 acres.

TRAINING FACILITIES INCLUDED: El Guettar DZ; Landing Strip 22.

PRIMARY USES: Tactical maneuver training; airborne operations; aviation training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks. Bounded on the southwest by Rainier Road Southeast and on the west by Spurgeon Creek Road (see chapter 14 above).

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Trainers should expect some restriction on maneuver and countermobility operations due to use of El Guettar DZ for airborne operations. **SPECIAL NOTE: The prairie in TA 22 (El Guettar DZ) is closed to off-road tracked vehicle maneuver and POV driving, to protect sensitive plants.** Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Rainier Road Southeast may not be blocked. Requests for short-term blocks of Spurgeon Creek Road must contain full justification and must be submitted to Range Operations not less than 90 days prior to the event. Range 99, indicated at ES 209982 on the Edition 4-DMA 1:50,000 Fort Lewis MIM, is not on the active scheduling list.

y. AREA: TA 23, Center ES 175979, 4044 acres.

TRAINING FACILITIES INCLUDED: Landing Strip 23.

PRIMARY USES: Tactical maneuver training; aviation training.

TRAINING HOURS: 0001-2400.

VEGETATION: Douglas fir, alder, white oak, dense undergrowth with some clear-cuts and natural clearings.

TERRAIN: Many small hills, hollows and swamps. Some ponds. Limited cross-country mobility and few landmarks. Bounded from southeast to northeast by

Rainier Road Southeast, and on the east by Spurgeon Creek Road; transected in the north by Rainier Road Southeast and Stedman Road (see chapter 14 above).

LIMITATIONS: All included training facilities are off limits unless scheduled by the maneuver unit. Barriers and excavations must be coordinated with Range Operations. Pyrotechnics may be restricted during the fire hazard season, 1 June - 31 October annually. Rainier Road Southeast may not be blocked. Requests for short-term blocking of Spurgeon Creek Road and Steadman Road must contain full justification and must be submitted to Range Operations not less than 90 days prior to the event. Some environmentally-sensitive sites; see the Fort Lewis 1:50,000 Environmental Coordination Map. Prairie restrictions noted for TA 22 above also apply to the prairie areas of TA 23. Deschutes Fire Tower, indicated on the Edition 4-DMA Fort Lewis 1:50,000 MIM, has been demolished. The gas pipeline right of way that crosses TA 23 from southeast to northwest parallel to Rainier Road SE is not to be used as a road. **Interference with Weyerhaeuser Corporation logging operations on company-owned land is prohibited. Active Weyerhaeuser logging sites supercede military training and are off-limits. For details coordinate with Range Operations.**

APPENDIX E

TARGETS

E-1. ELECTRICAL TARGETS.

a. Target devices installed on hard-wired electrical ranges are maintained by the Range Electrical Target Section. **USING UNITS MAY NOT ATTEMPT DOWN-RANGE REPAIR, ADJUSTMENT, OR PLACEMENT OF ANY ITEMS ON THESE DEVICES.**

b. Armor and infantry radio-controlled and manually-operated target devices for live fire exercises are requested from TSC. Units must pick up, issue, emplace, and return these devices. Classes on use of these target devices are conducted periodically by the Range Division Master Gunner and the Live Fire Section. Assistance in use, emplacement, and servicing is also available from the Range Master Gunner and Live Fire. See current Fort Lewis telephone listings.

E-2. STANDARD PAPER TARGETS.

a. In appendix B, certain range descriptions include the annotation that standard paper targets are available from Range Supply. These targets must be requested as part of the range package in the RFMSS electronic request or on HFL Form 473, per chapter 4. Standard paper targets not listed in the RFMSS request or on HFL Form 473 must be ordered at Range Supply at least three working days prior to use. These requests may be telephonic or written.

b. Targets and range equipment must be receipted by the facility OIC for Active Component units, not more than two duty days prior to use. Reserve Component units may authorize weekday receipt by unit technicians, full-time manning personnel, or other unit personnel. Operating hours for Range Supply target issue and turn-in are available by calling Range Operations, 967-6371.

c. Units must return all receipted targets and frames, whether intact or destroyed, to Range Supply. Active Component units must make turn-in during the weekday hours above. Reserve Component units may make special arrangement for weekend turn-in by calling Range Supply two weeks prior to pickup. Intact targets are refaced by the using unit at the Building 4076 Target Shop, next to Range Headquarters.

E-3. ARMOR AND SPECIAL TARGETS. Range Control fabricates silhouette and three-dimensional wood targets, full-sized or scaled, for armor or other firing. Descriptions and codes for armor targets, per TC 25-8 (Training Ranges), are at Figure E-1. Orders for armor targets or large numbers of special targets must be submitted using the format at Figure E-2, not less than 30 days prior to firing. Unit assistance in construction may be required.

E-4. TARGETS AVAILABLE FOR ISSUE. Standard Army target illustrations are found in TC 25-8. Gunnery Target Codes:

1. The following are standard armor target types and codes per TC 25-8 (Training Ranges):

STANDARDIZED TARGET CODES

TYPE TARGET	CODE
T-64/T-72 FRONTAL	H-1
T-64/T-72 FLANK	H-2
T-64/T-72 PARTIAL DEFILADE	H-3
HIND FRONTAL	H-7
BMP FRONTAL	M-1
BMP FLANK	M-2
BRDM FRONTAL	M-5
BRDM FLANK	M-6
ZSU FRONTAL	M-9
ZSU FLANK	M-10
BTR FRONTAL	M-11
BTR FLANK	M-12
TRUCK FRONTAL (U-375)	L-1
TRUCK FLANK	L-2
BMD FRONTAL	L-3
BMD FLANK	L-4
T-12 ANTI-TANK FRONTAL	L-5
PERSONNEL (IVAN)	L-6
PERSONNEL (Plastic E-Silhouette)	L-7
PERSONNEL (Cardboard E-Silhouette)	L-8
PARTIAL PERSONNEL (Plastic/Cardboard)	L-9
ATGM TEAM	L-6/L-7/L-9
RPG TEAM	L-6/L-7/L-9

2. To request targets submit format at Figure E-2 to Range Supply **NLT 30 days prior to event.**

3. For more information contact the Range Division Master Gunner.

Figure E-1

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APPENDIX F

DPCA RECREATIONAL AREAS IN TRAINING AREAS

1. For DoD member use only, no permit other than ID card required:

NOTE: Use of specific sites is authorized only to military, retired military, DoD civilian personnel, their family members and accompanied guests.

Boat launch adjacent to Russell Landing Beach on American Lake - Beachwood area

Cat Lake Picnic and Fishing Area - Training Area 19

Chambers Lake Picnic and Fishing Area - Training Area 12 (See Para 3 below)

Fiander Lake Picnic and Fishing Area - Training Area 20

Johnson Marsh - Training Area 10

Lewis Lake Picnic and Fishing Area - Training Area 16

No Name Lake - Training Area 22

Sequalitchew Lake Picnic Area - Training Area 2

Shannon Marsh - CTA D

Skeet Trap Range - 2d Division Range Road, CTA E

Solo Point Boat Launch - North Fort, CTA A West

Sportman's Range - East Gate Road, Range 15

Wright Marsh/Lake - CTA C

Vietnam Village Marsh - Training Area 9 and 10

Spanaway Marsh - Training Area 9

Sears Pond - Beachwood Housing

Nisqually River - Training Area 18

3. For non-DoD member use, permit required: Chambers Lake and Nisqually River for fishing only.

4. The Solo Point road and the South Sanitary Fill roads are also open in an east-west direction only to personnel of the Weyerhaeuser Corporation and Lone Star Corporation, and their assigns, for business or recreation access to adjacent Army-owned real estate.

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APPENDIX G

NON-PERMIT ACCESS ROUTES

1. The following public easement routes may be used without permit or check-in:

Interstate Highway 5

Steilacoom-DuPont Road (ET 286163 to ET 301229).

Pacific Highway Southeast (ET 231121 to ET 249143).

Washington State Route 507 (ET 363065 to ET 428146).

Goodacre and Rice Kandle Roads (ET 386090 to ET 449076).

8th Avenue South (ET 424047 to ET 423127).

8th Avenue East (ET 439077 to ET 439128).

208th Avenue (ET 423128 to ET 431128).

Washington State Route 510 (ET 234065 to ET 246056 and ET 260048 to ET 272022).

Yelm Highway (ET 231058 to ET 238061).

Rainier Road Southeast (ES 167999 to ES 212943).

Military Road Southeast (ES 212943 to ES 214945).

Spurgeon Creek Road (ES 177988 to ES 178999).

Stedman Road (ES 152989 to ES 167998).

2. The following military routes may be used without permit or check-in:

Huggins Meyer Road (North Fort Road, ET 304204-ET 327215)

East Gate Road (C-5 Mock-up to 8th Ave South, ET 423097)

Roy Cut-off (Chambers Lake) Road (East Gate Road to Roy City Limits), when open.

Lincoln Avenue (Old Madigan to ET 390179)

3. The Solo Point Road is open to Weyerhaeuser Corporation personnel for business and recreation.

4. DoD personnel and Fort Lewis contractor personnel on official business may use all PW-maintained range roads and trails in the training areas.

5. Range roads closed for training by barricades or road guards will not be used. Barricades and guards will not be by-passed.

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APPENDIX H

AUTHORIZED ACTIVITIES FOR MANEUVER TRAINING AREA ACCESS

Military Training (FL Reg 350-30)

PW or Corps of Engineers Real Estate Agreement for commercial use (AR 405-80)

Installation service and maintenance (AR 420-74, FL Reg 350-30)

Non-DoD personnel in transit on public-access routes (appendix B) Non-Commercial recreational use:

Hunting, fishing and trapping (FL Reg 215-1)

Dog training (not allowed 1 April through 31 July in selected areas per FL Reg 215-1)

Horseback riding on roads and vehicle tracks

Walking, distance running

Model airplane and rocket flying (Range Control scheduling and Notice to Airmen (NOTAM) required)

Model boating

Orienteering

Sport parachuting

Organized rifle and pistol competition (Range Control scheduling required)

Scout activities and weekend camporees

Observation of wildlife and vegetation

Non-commercial picking of ferns, mushrooms, blackberries, apples and other vegetation

Photography

Hiking

Note: Permit holders for the above activities must certify that they are non-commercial and not for profit.

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APPENDIX I

UNAUTHORIZED ACTIVITIES IN MANEUVER TRAINING AREAS

Civilian paramilitary activities and combat games.

Off-pavement motorcycle riding.

Off-road vehicle operation.

Hang gliding.

Ultralight aircraft flying.

Hot air ballooning.

Souvenir hunting and metal-detecting, including recovery of ammunition residue or fragments, archaeological or cultural artifacts, or geological specimens.

Vehicle speed contests.

Wood cutting or brush picking, without PW or Corps of Engineer permit.

Commercial activities conducted for profit, including horseback riding rentals or guide service, dog training for reimbursement, or fund-raising events for other than non-profit organizations working in the public good. Fund raisers require PW Real Estate Agreement. For-profit activities require Corps of Engineer leases or permits, obtained through the PW Real Estate Office.

Overnight camping outside of DPCA sites (camping on DPCA sites is open to DoD members only, per above).

Consumption of alcoholic beverages.

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APPENDIX H LAND USE CONTROL MONITORING CHECKLISTS AND
FIGURES



FINAL

March 2024

Land Use Controls Checklist – 2022

Joint Base Lewis-McChord

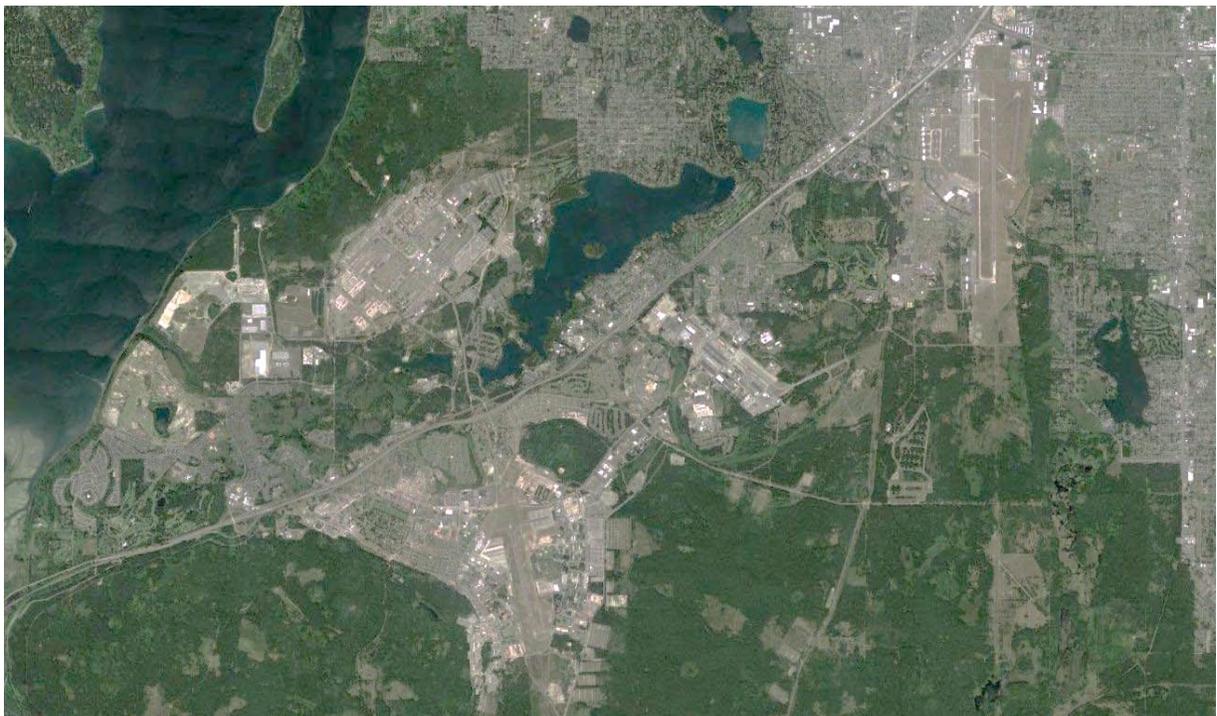
Pierce County, Washington

Joint Base Lewis-McChord Public Works – Environmental Division

IMLM-PWE

MS 17 Box 339500

Joint Base Lewis-McChord, Washington 98433



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FINAL

LAND USE CONTROLS CHECKLIST – 2022

CONTRACT NO. W912DW19D1022, TASK ORDER W912DW22F0025

MARCH 2024

JOINT BASE LEWIS-MCCHORD
PIERCE COUNTY, WASHINGTON

INNOVEX-ERRG JOINT VENTURE
1800 SUTTER STREET, SUITE 850
CONCORD, CALIFORNIA

Prepared by: Anna J. Jordan
Anna J. Jordan, LG
Supervising Geologist
(206) 949-3010

Reviewed by: R. Randall
Randy Randall
Program Manager
(925) 250-3966

March 2024
IEJV Project No. 20506.0014

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**JBLM CERCLA
LUC MONITORING CHECKLIST**

SECTION A: FIELD INSPECTION

Site	Inspection Date	Question	Answer
Fort Lewis CERCLA Sites			
Logistics Center/ Landfill 2 (FTLE-33)	11/18/22	Any residential land use within Landfill 2 or within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within Landfill 2?	Yes / <input checked="" type="radio"/> No
		Any obvious recent training activities within Landfill 2?	Yes / <input checked="" type="radio"/> No
		Does the Landfill 2 boundary fence and/or signs need maintenance?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of the Landfill 2 boundary?	Yes / <input checked="" type="radio"/> No
Lewis Landfill 4 (FTLE-57)	10/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent digging, bivouacking, or off-road maneuvering in landfill?	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
SRCPP (FLTE-32)	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the site boundary?	Yes / <input checked="" type="radio"/> No
Battery Acid Pit (FTLE-16)	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Does asphalt cap need maintenance?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the site boundary?	Yes / <input checked="" type="radio"/> No
DRMO Yard (FTLE-31)	9/6/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the site boundary?	Yes / <input checked="" type="radio"/> No
Illicit PCB Dump Site (FTLE-46)	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent training activities within site boundary?	Yes / <input checked="" type="radio"/> No
		Does boundary fence and/or signs need maintenance?	Yes / <input checked="" type="radio"/> No
		Does clay cap need maintenance?	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No
IWWTP Site (FTLE-51)	9/6/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the site boundary?	Yes / <input checked="" type="radio"/> No
Lewis Landfill 1 (FTLE-54)	12/12/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
Pesticide Rinse Area (FTLE-28)	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the site boundary?	Yes / <input checked="" type="radio"/> No
McChord Field CERCLA Sites			
McChord Landfill 4	11/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No

**JBLM CERCLA
LUC MONITORING CHECKLIST**

Site	Inspection Date	Question	Answer
McChord Landfill 5	9/21/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 6	12/12/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 7	10/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill OT-26	11/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill OT-39	11/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
Area D/AGLT	9/21/22	Any residential land use within plume boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within plume boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of the plume boundary?	Yes / <input checked="" type="radio"/> No
Site Summary		Any comments? (Comments are required for all Yes answers and any No answers requiring additional explanation.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No

SECTION B: INTERVIEWS

Position	Name	Date of Interview	Questions	Answer
Public Works GIS Lab	Teresa Hansen	9/27/22	Are you still storing the LUC data layer in GIS?	<input checked="" type="radio"/> Yes / No
			Is the LUC data layer still available to GIS users?	<input checked="" type="radio"/> Yes / No
Master Planner	Jean Hecimovich	11/18/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data for a Master Plan overlay?	<input checked="" type="radio"/> Yes / No
NEPA Program Manager	Chris Runner	10/17/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data as an environmental review overlay?	<input checked="" type="radio"/> Yes / No
			Are training LUCs still included on the Environmental Coordination Map?	<input checked="" type="radio"/> Yes / No
Cultural Resources Program Manager	Chris Runner	10/17/22	Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / No
Range Operations	Harold Nelson	9/13/22	Are you still using the Environmental Coordination Map as primary tool for implementing environmental LUCs under FLR 350-30?	<input checked="" type="radio"/> Yes / No
Water Systems Manager	Stephen Anderson	12/15/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are WSP LUCs going to (be added/remain) in future WSP updates?	<input checked="" type="radio"/> Yes / No
			Any plans for new drinking water wells in JBLM Cantonment Area Water System?	<input checked="" type="radio"/> Yes / No

**JBLM CERCLA
LUC MONITORING CHECKLIST**

Lakewood Water Quality Department	Don Stanley	12/13/22	Any plans for new drinking water wells in JBLM Cantonment Area Water System?	Yes <input type="radio"/> No <input checked="" type="radio"/>
			Any existing drinking water wells within Tillicum besides Well A-1?	Yes <input type="radio"/> No <input checked="" type="radio"/>
			Any plans for new drinking water wells within Tillicum?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Additional Reporting			Any comments or additional reporting? (See instructions for required comments.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes <input type="radio"/> No
Changes to LUC Mechanisms			Any changes noted with how LUC mechanisms are executed? If yes, detail in Section D, Comments.	Yes <input type="radio"/> No <input checked="" type="radio"/>

JBLM CERCLA
LUC MONITORING CHECKLIST

SECTION C: CERTIFICATION

Based on this monitoring, LUC mechanisms appear to be working and achieving LUC objectives.

Annafordan

Signature

12/15/22

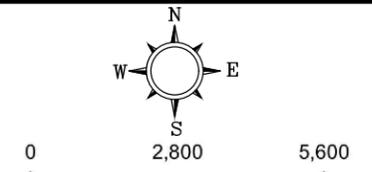
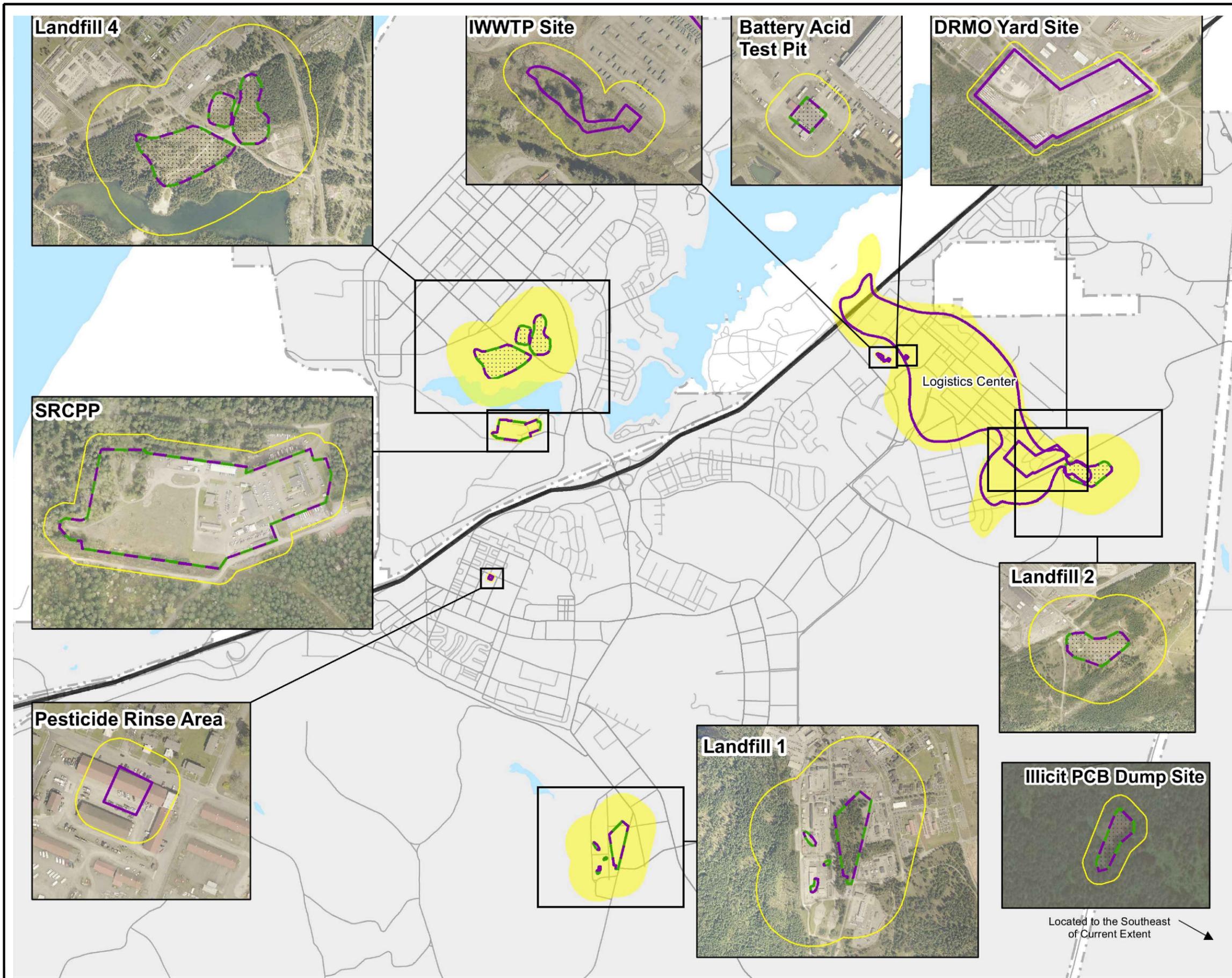
Date

SECTION D: COMMENTS

FTLE-57: clear roadways present that have been driven on recently.

FTLE-46: PCB dump, significant plant growth in clay cap area, including trees.

A new drinking water well is planned to replace Well 13. (AJ)



Coordinate System: UTM Zone 10
Horizontal Datum: WGS 84

LEGEND

- Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil.
- Prevent unauthorized training access.
- Prevent installation of new drinking water well unless regulator approved variance is obtained.
- JBLM Boundary

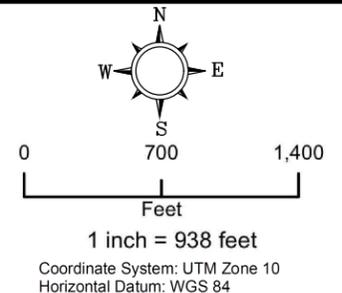
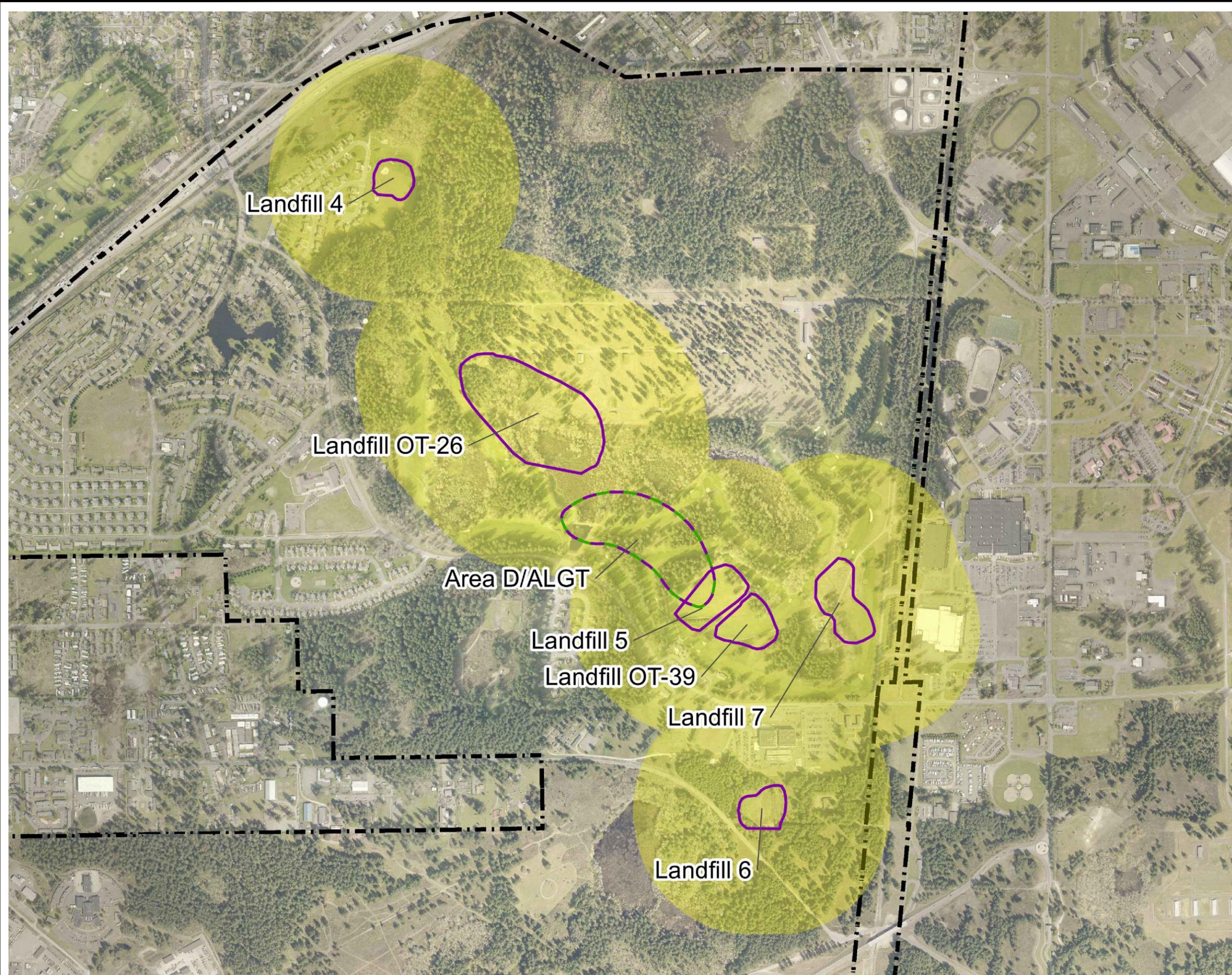
FIGURE H1

Fort Lewis CERCLA Sites

**Joint Base Lewis-McChord
Pierce County
WASHINGTON**

**INNOVEX-ERRG Joint
Venture**

1800 Sutter Street, Suite 860
Concord, CA 94520



- LEGEND**
-  Prevent residential land use.
 -  Prevent unplanned excavation of contaminated soil.
 -  Prevent residential land use.
 -  Prevent installation of new drinking water well unless regulator approved variance is obtained.
 -  JBLM Boundary

FIGURE H2
McChord Field CERCLA Sites
Joint Base Lewis-McChord
Pierce County
WASHINGTON

INNOVEX-ERRG Joint Venture
 1800 Sutter Street, Suite 860
 Concord, CA 94520

**JBLM AGREED ORDER
LUC MONITORING CHECKLIST**

SECTION A: FIELD INSPECTION

Site	Date of Inspection	Question	Answer
Former Miller Hill Ranges (AOC 4-2.2)	12/8/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	<input checked="" type="radio"/> Yes / No
		Any obvious recent training activities within site boundary?	Yes / <input checked="" type="radio"/> No
		Do boundary fences and/or signs need maintenance?	Yes / <input checked="" type="radio"/> No
		Any obvious recent digging, bivouacking, or off-road maneuvering within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Bldg. 4131 UST (AOC 8-2)	8/30/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Bldg. 5101 UST (AOC 9-4) Military Motorpool	12/8/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Has Building 5101 been removed?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Bldg. 5115 UST (AOC 8-3) Rainier Inn	12/8/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Bldg. A0111 UST (AOC 8-4) Chemical Battalion	8/30/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Former Bldg. A1033 UST (AOC 9-2) Domino's/America's Credit Union Bank	8/30/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Gray Army Airfield Fuel Facility (AOC 10-8)	8/30/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Landfill 9 (SWMU-40)	11/18/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the landfill boundary?	Yes / <input checked="" type="radio"/> No
		Do boundary fences and/or signs need maintenance?	Yes / <input checked="" type="radio"/> No
		Any obvious recent digging, bivouacking, or off-road maneuvering within the landfill boundary?	Yes / <input checked="" type="radio"/> No
Site Summary		Any comments? (Comments are required for all Yes answers and any No answers requiring additional explanation.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes / No

**JBLM AGREED ORDER
LUC MONITORING CHECKLIST**

SECTION B: INTERVIEWS

Position	Name	Date of Interview	Questions	Answer
Public Works GIS Lab	Teresa Hansen	9/27/22	Are you still storing the LUC data layer in GIS?	<input checked="" type="radio"/> Yes / No
			Is the LUC data layer still available to GIS users?	<input checked="" type="radio"/> Yes / No
Master Planner	John Hecimovich	11/10/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data for a Master Plan overlay?	<input checked="" type="radio"/> Yes / No
NEPA Program Manager	Chris Runner	10/17/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data as environmental review overlay?	<input checked="" type="radio"/> Yes / No
			Are training LUCs still included on the Environmental Coordination Map?	<input checked="" type="radio"/> Yes / No
Cultural Resources Program Manager	Chris Runner	10/17/22	Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / No
			Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
Range Operations	Harold Nelson	9/13/22	Are you still using the Environmental Coordination Map as primary tool for implementing environmental LUCs under FLR 350-30?	<input checked="" type="radio"/> Yes / No
Water Systems Manager	Stephen Anderson	12/15/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are WSP LUCs going to (be added/remain) in future WSP updates?	<input checked="" type="radio"/> Yes / No
			Are there any plans for new drinking water wells in JBLM Cantonment Area Water System?	<input checked="" type="radio"/> Yes / No
Additional Reporting			Any comments or additional reporting? (See instructions for required comments.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes / No
Changes to LUC Mechanisms			Any changes noted with how LUC mechanisms are executed? If yes, detail in Section D, Comments.	Yes / <input checked="" type="radio"/> No

JBLM AGREED ORDER
LUC MONITORING CHECKLIST

SECTION C: CERTIFICATION

Based on this monitoring, LUC mechanisms appear to be working and achieving LUC objectives.

Anna Jordan
Signature

12/15/22
Date

SECTION D: COMMENTS

New construction in Flatlands Area SW side of Miller Hill. New Info Systems building (not residential).

A new drinking water well is planned to replace Well 13 (A)

Bldg. A0111

Former Bldg. A1033

Miller Hill

Bldg. 4131

Residential Buffer Zone

Steep Hillside

Flatlands

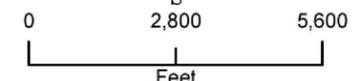
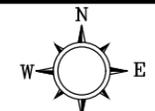
Steep Hillside

Landfill 9

Bldg. 5101

Bldg. 5115

Gray Army Airfield Fuel Facility



1 inch = 3,510 feet
Coordinate System: UTM Zone 10
Horizontal Datum: WGS 84

LEGEND

- Maintain fence and warning Signs.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil.
- Prevent residential land use. Prevent unplanned excavation of contaminated soil.
- Prevent unauthorized training access.
- Prevent installation of new drinking water well unless regulator approved variance is obtained.
- JBLM Boundary

NOTES

Inset maps are not to scale.

FIGURE H3

JBLM Agreed Order Sites

**Joint Base Lewis-McChord
Pierce County
WASHINGTON**

**INNOVEX-ERRG Joint
Venture**

1800 Sutter Street, Suite 860
Concord, CA 94520

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

SECTION A: FIELD INSPECTION

Site	Date of Inspection	Questions	Answer
Lewis-North B-Range (Munitions Response Site 1)	12/12/22	Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within site boundaries?	Yes/No
		Has the Housing Contractor notified residents of UXO and chemical agent hazards?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Lewis-North B-Range (Munitions Response Site 2)	12/12/22	Any obvious recent construction/excavation within site boundaries?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Building (Bldg.) 2162	11/18/22	Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Bldg. 2202	11/18/22	Has Bldg. 2202 been removed?	Yes/No
		Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Bldg. 2609	11/18/22	Has Bldg. 2609 been removed?	Yes/No
		Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Bldg. 2610	11/18/22	Has Bldg. 2610 been removed?	Yes/No
		Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Bldg. 3152	12/12/22	Has Bldg. 3152 been removed?	Yes/No
		Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No
Bldg. 3292	12/18/22	Has Bldg. 3292 been removed?	Yes/No
		Any residential land use within site boundary?	Yes/No
		Any obvious recent construction/excavation within the site boundary?	Yes/No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes/No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Bldg. 4043	11/18/22	Has Bldg. 4043 been removed?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Bldg. 4170	11/18/22	Has Bldg. 4170 been removed?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Bldg. 6071	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Bldg. 9654	11/18/22	Has Bldg. 9654 been removed?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Bldg. 9785	11/18/22	Has Bldg. 9654 been removed?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0403	12/12/22	Has Bldg. D0403 been removed?	<input checked="" type="radio"/> Yes / No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Building D0410	12/12/22	Has Bldg. D0410 been removed?	<input checked="" type="radio"/> Yes / No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building D0412	12/12/22	Has Bldg. D0412 been removed?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0432	12/12/22	Has Bldg. D0432 been removed?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0434	12/12/22	Has Bldg. D0434 been removed?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0534	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0630	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0703	12/12/22	Has Bldg. D0703 been removed?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0727	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building D0803	12/12/22	Has Bldg. D0803 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0810	12/12/22	Has Bldg. D0810 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0822	12/12/22	Has Bldg. D0822 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0827	12/12/22	Has Bldg. D0827 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0833	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0834	12/12/22	Has Bldg. D0834 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0920	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building D0932	12/12/22	Has Bldg. D0932 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D0933	12/12/22	Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D0951	12/12/22	Has Bldg. D0951 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D1006	12/12/22	Has Bldg. D1006 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D1102	12/12/22	Has Bldg. D1102 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D1107	12/12/22	Has Bldg. D1107 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No
Building D1108	12/12/22	Has Bldg. D1108 been removed?	Yes / No
		Any residential land use within site boundary?	Yes / No
		Any obvious recent construction/excavation within the site boundary?	Yes / No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building D1132	12/12/22	Has Bldg. D1132 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D1135	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building T6195	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building T6228	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building 03075	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building 03945	12/8/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building B0910	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building B0912	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building C0204	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building C0214	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building C1008	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0219	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0303	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0312	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0334	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0406	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D0622	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Building D0634	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D1002	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D1152	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building D1156	12/12/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Landfill 3, 5, 7, 8, 11b, and Park Marsh Landfill	12/12/22	Any residential land use within site boundary?	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within the site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent digging, bivouacking, or off-road maneuvering within the site boundary?	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No
		Any new drinking water wells planned within 1,000 feet of the site?	Yes / <input checked="" type="radio"/> No
Site Summary		Any comments? (Comments are required for all Yes answers and any No answers requiring additional explanation.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes / <input checked="" type="radio"/> No

**JBLM INDEPENDENT
LUC MONITORING CHECKLIST**

SECTION B: INTERVIEWS

Position	Name	Date of Interview	Questions	Answer
Public Works GIS Lab	Teresa Hansen	9/27/22	Are you still storing the LUC data layer in GIS?	Yes / No
			Is the LUC data layer still available to GIS users?	Yes / No
Master Planner	Jenna Hecimovich	11/18/22	Do you still have access to the LUC data when you need it?	Yes / No
			Are you still using the LUC data for a Master Plan overlay?	Yes / No
			For any approved excavations in B-Range, have all workers had UXO training?	Yes / No
			For any approved excavations in B-Range, Have any approved excavation included an emergency response plan for encountering UXO?	Yes / No
NEPA Program Manager	Chris Runner	10/17/22	Do you still have access to the LUC data when you need it?	Yes / No
			Are you still using the LUC data as an environmental review overlay?	Yes / No
			Are training LUCs still included on the Environmental Coordination Map?	Yes / No
			Are you still using the LUC data for a digging permit overlay?	Yes / No
Cultural Resources Program Manager	Chris Runner	10/17/22	Do you still have access to the LUC data when you need it?	Yes / No
			Are you still using the LUC data for a digging permit overlay?	Yes / No
Range Operations	Harold Nelson	9/13/22	Are you still using Environmental Coordination Map as primary tool for implementing environmental LUCs under FLR 350-30?	Yes / No
Water Systems Manager	Stephen Anderson	12/15/22	Do you still have access to LUC data when you need it?	Yes / No
			Are WSP LUCs going to (be added/remain) in future WSP updates?	Yes / No
			Any plans for new drinking water wells in JBLM Cantonment Area Water System?	Yes / No
Additional Reporting			Any comments or additional reporting? (See instructions for required comments.) If yes, detail in Section D, Comments.	Yes (No)
Changes to LUC Mechanisms			Any changes noted with how LUC mechanisms are executed? If yes, detail in Section D, Comments.	Yes (No)

JBLM INDEPENDENT
LUC MONITORING CHECKLIST

SECTION C: CERTIFICATION

Based on this monitoring, LUC mechanisms appear to be working and achieving LUC objectives.

Ann Jordan
Signature

12/15/22
Date

SECTION D: COMMENTS

D-Block buildings listed have been removed.

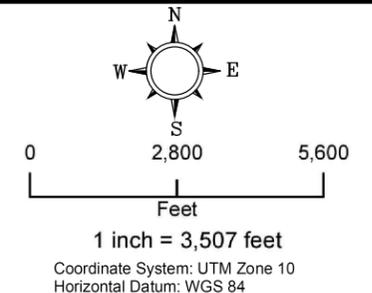
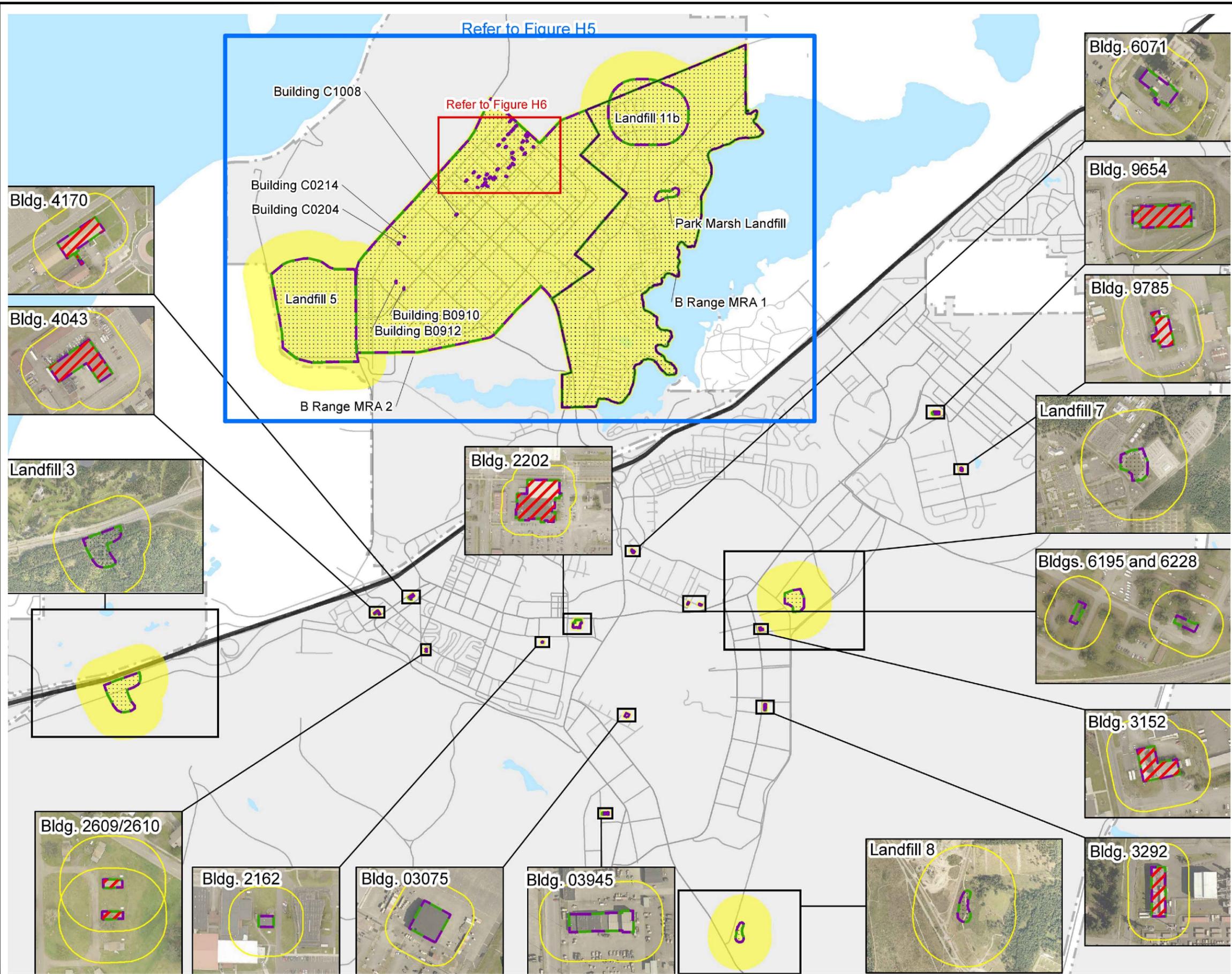
Residences located in western portion of Landfill 11b. & MRS 2. Housing Contractor ^(KJ) has not published
annual notice of UXO/chemical hazards. Liberty Military Housing plans to provide a letter
to residents in 2023 ^(KJ) publishes

Landfill 11b has gravel/dirt roads across it, east of the residential properties

A new drinking water well is planned to replace well 13. (AJ)

Refer to Figure H5

Refer to Figure H6



LEGEND

- Prevent residential land use.
- Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.
- Prevent residential land use.
- Prevent unplanned excavation of contaminated soil.
- Prevent residential land use.
- Prevent unplanned excavation of contaminated soil.
- Prevent unauthorized training access.
- Residual Contamination
- Prevent installation of new drinking water well unless regulator approved variance is obtained.

NOTES

Inset maps are not to scale.

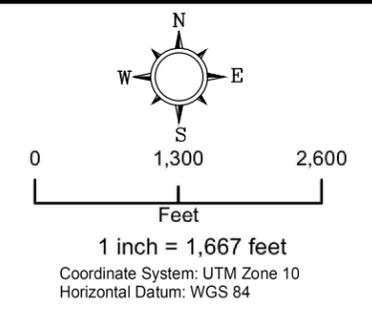
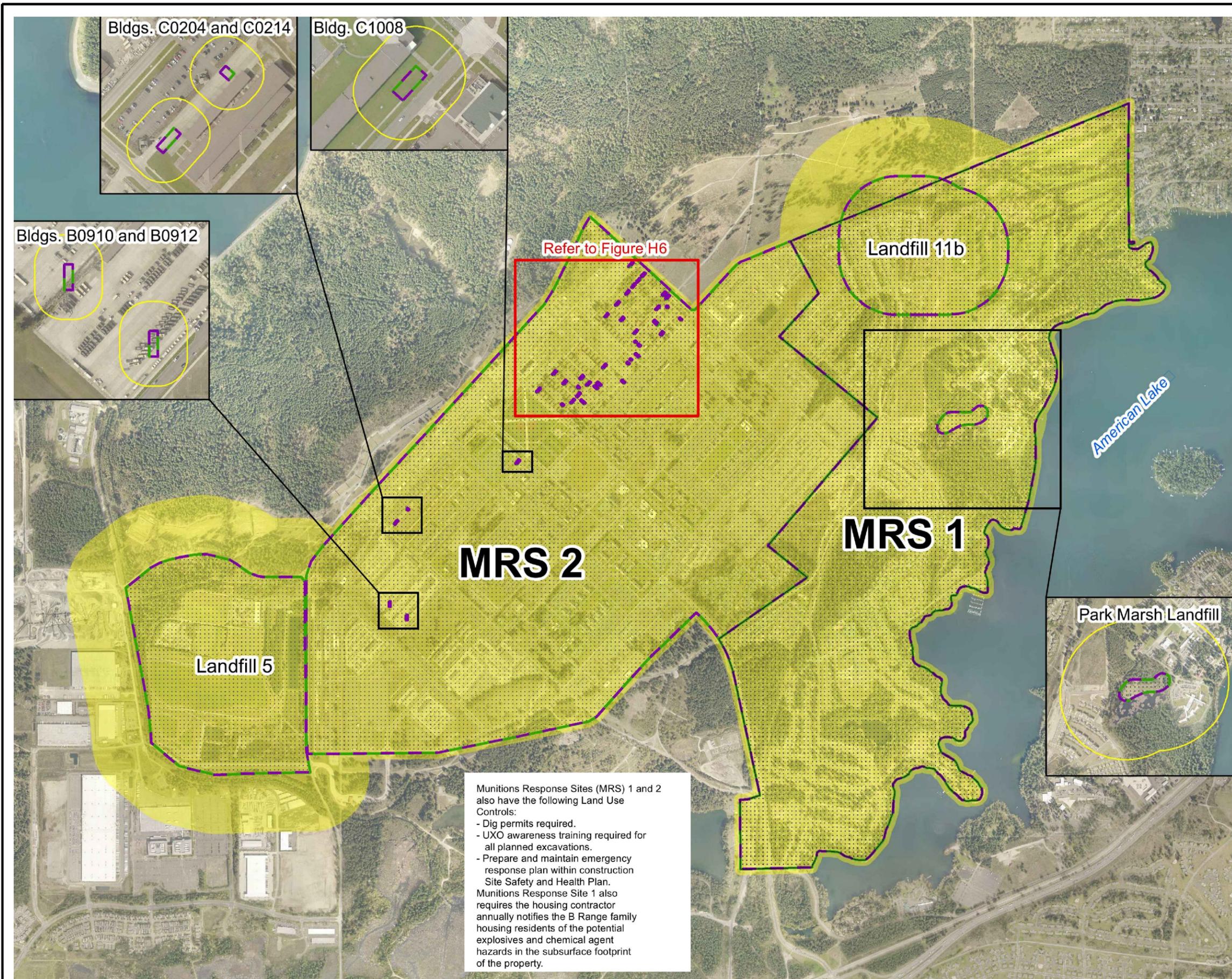
FIGURE H4

JBLM Independent Land Use Controls

**Joint Base Lewis-McChord
Pierce County
WASHINGTON**

INNOVEX-ERRG Joint Venture

1800 Sutter Street, Suite 860
Concord, CA 94520



- LEGEND**
- Prevent residential land use.
 - Prevent unplanned excavation of contaminated soil.
 - Prevent residential land use.
 - Prevent unplanned excavation of contaminated soil.
 - Prevent unauthorized training access.
 - Prevent installation of new drinking water well unless regulator approved variance is obtained.

NOTES
Inset maps are not to scale.

Munitions Response Sites (MRS) 1 and 2 also have the following Land Use Controls:

- Dig permits required.
- UXO awareness training required for all planned excavations.
- Prepare and maintain emergency response plan within construction Site Safety and Health Plan.

Munitions Response Site 1 also requires the housing contractor annually notifies the B Range family housing residents of the potential explosives and chemical agent hazards in the subsurface footprint of the property.

FIGURE H5

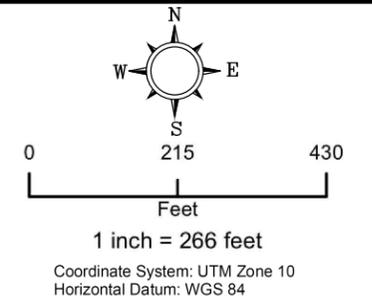
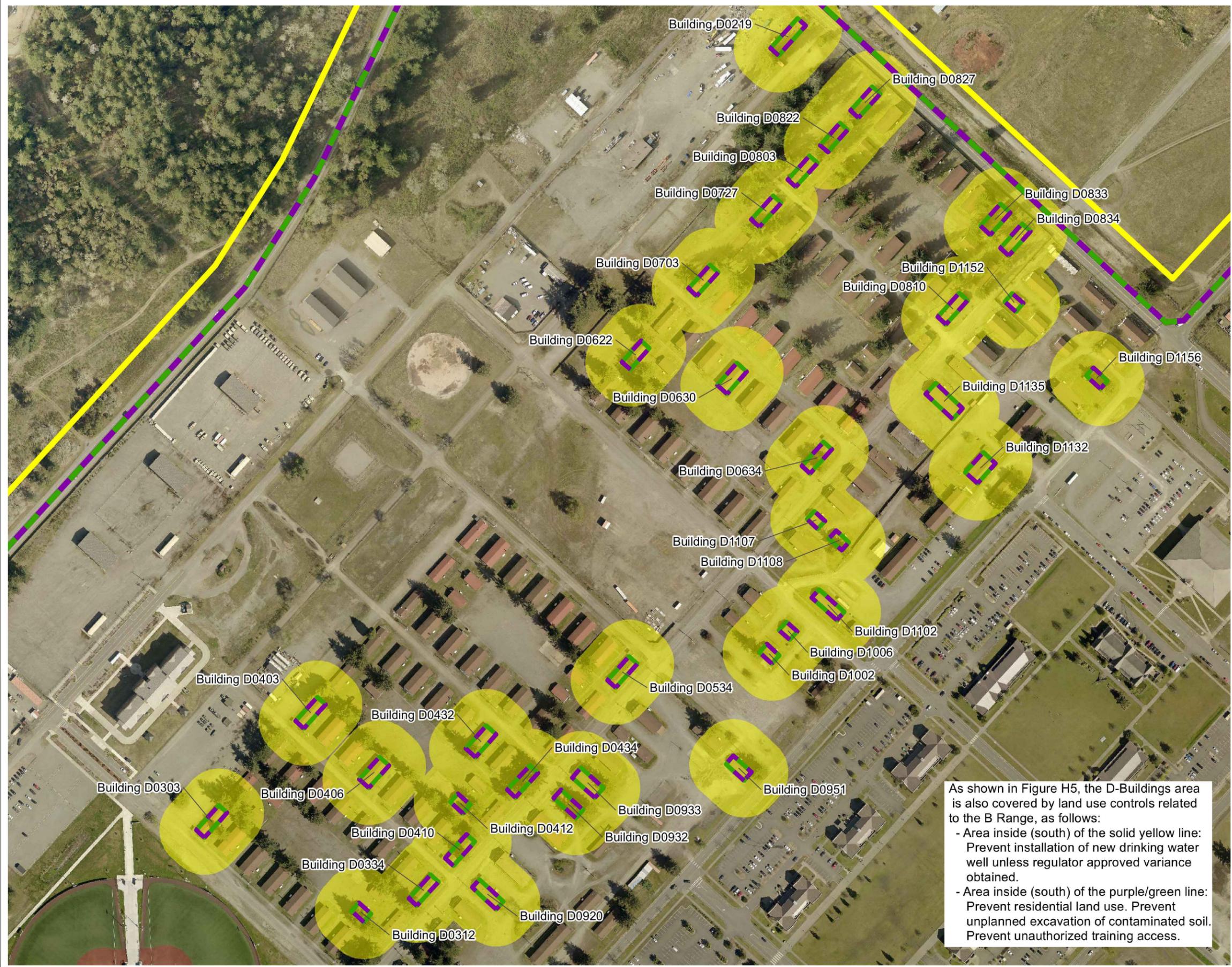
JBLM Independent Land Use Controls

Lewis North

Joint Base Lewis-McChord
Pierce County
WASHINGTON

INNOVEX-ERRG Joint Venture

1800 Sutter Street, Suite 860
Concord, CA 94520



- LEGEND**
-  Prevent residential land use. Prevent unplanned excavation of contaminated soil.
 -  Prevent installation of new drinking water well unless regulator approved variance is obtained.

FIGURE H6

JBLM Independent Land Use Controls

D Building Underground Storage Tanks

**Joint Base Lewis-McChord
Pierce County
WASHINGTON**

INNOVEX-ERRG Joint Venture

1800 Sutter Street, Suite 860
Concord, CA 94520

As shown in Figure H5, the D-Buildings area is also covered by land use controls related to the B Range, as follows:

- Area inside (south) of the solid yellow line: Prevent installation of new drinking water well unless regulator approved variance obtained.
- Area inside (south) of the purple/green line: Prevent residential land use. Prevent unplanned excavation of contaminated soil. Prevent unauthorized training access.

**MCCHORD OTHER NON-CERCLA
LUC MONITORING CHECKLIST**

SECTION A: FIELD INSPECTION

Site	Date of Inspection	Questions	Answer
McChord Landfill 1	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 2	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 10	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 13	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 14	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 19	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 20	11/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
McChord Landfill 22	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
Spill Site 34 (SS-34)	10/18/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No

**MCCHORD OTHER NON-CERCLA
LUC MONITORING CHECKLIST**

Site	Date of Inspection	Questions	Answer
Spill Site 34N (SS-34N)	16/18/22	Any residential land use within site boundary?	Yes <input checked="" type="radio"/> No <input type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Motor Pool Spill Site (SS-38)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
POL Spill/Disposal Site (SS-40)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Waste Pit 44 (WP-44)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Surface Spill Area (SS-55)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Leach Pits at WTA (SD-54)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
WTA Spill Area (DP-60)	11/18/22	Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Building 841	11/18/22	Has Building 841 been removed?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any residential land use within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any obvious recent construction/excavation within site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Site Summary		Any comments? (Comments are required for all Yes answers and any No answers requiring additional explanation.) If yes, detail in Section D, Comments.	Yes <input checked="" type="radio"/> No <input type="radio"/>

**MCCHORD OTHER NON-CERCLA
LUC MONITORING CHECKLIST**

SECTION B: INTERVIEWS

Position	Name	Date of Interview	Questions	Answer
Public Works GIS Lab	Teresa Hansen	9/27/22	Are you still storing the LUC data layer in GIS?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Is the LUC data layer still available to GIS users?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
Master Planner	Jean Hecimovich	11/18/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are you still using the LUC data for a Master Plan overlay?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			For any approved excavations in B-Range, have all workers had UXO training?	Yes / No
			For any approved excavations in B-Range, have any approved excavation included an emergency response plan for encountering UXO?	Yes / No
NEPA Program Manager	Chris Runner	10/17/22	Do you still have access to LUC data when you need it?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are you still using the LUC data as an environmental review overlay?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are training LUCs still included on the Environmental Coordination Map?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
Cultural Resources Program Manager	Chris Runner	10/17/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
Range Operations	Harold Nelson	9/13/22	Are you still using the Environmental Coordination Map as primary tool for implementing environmental LUCs under FLR 350-30?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
Water Systems Manager	Stephen Anderson	12/15/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are WSP LUCs going to (be added/remain) in future WSP updates?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
			Are there any plans for new drinking water wells in JBLM Cantonment Area Water System?	<input checked="" type="radio"/> Yes / <input type="radio"/> No
Additional Reporting			Any comments or additional reporting? (See instructions for required comments.) If yes, detail in Section D, Comments.	Yes / <input checked="" type="radio"/> No
Changes to LUC Mechanisms			Any changes noted with how LUC mechanisms are executed? If yes, detail in Section D, Comments.	Yes / <input checked="" type="radio"/> No

MCCHORD OTHER NON-CERCLA
LUC MONITORING CHECKLIST

SECTION C: CERTIFICATION

Based on this monitoring, LUC mechanisms appear to be working and achieving LUC objectives.

Ann Jordan
Signature

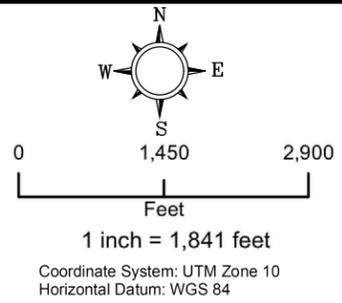
12/15/22
Date

SECTION D: COMMENTS

SS-34N - Residential land use off base (several apartment complexes)

2 questions for the JBUM Master Planner, regarding excavations in the B-Range have been removed. B-Range is located on North Fort Lewis, and therefore, are not associated with the McChord Field sites.

A new drinking water well is planned to replace Well 13. (AJ)



- LEGEND**
- Prevent residential land use.
 - Prevent unplanned excavation of contaminated soil.
 - Prevent residential land use.
 - Prevent unplanned excavation of contaminated soil.
 - Prevent installation of new drinking water well unless regulator approved variance is obtained.
 - JBLM Boundary

NOTES
Inset maps are not to scale.

FIGURE H7
McChord
Non-CERCLA Sites
Joint Base Lewis-McChord
Pierce County
WASHINGTON

INNOVEX-ERRG Joint
Venture
1800 Sutter Street, Suite 860
Concord, CA 94520

YTC LUC MONITORING CHECKLIST

SECTION A: FIELD INSPECTION

Site	Date of Inspection	Question	Answer
1954 – 1968 Landfill/Burn Pits (SWMU 57)	9/27/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
1969 – 1994 Landfill (SWMU 51)	9/27/22	Any residential land use within landfill boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within landfill?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
Building 218 (AOC 7)	9/27/22	Has Building 218 been removed?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Building 301 (AOC 14)	9/27/22	Has Building 301 been removed?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Centralized Fueling Point (AOC 40)	9/27/22	Has hard stand been removed?	Yes / <input checked="" type="radio"/> No
		Any obvious excavation within boundaries of the hard stand?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Former ASP Burn Pits (SWMU 27)	9/27/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any obvious recent construction/excavation within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Former Fire Training Pit (SWMU 59)	9/27/22	Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Former Pesticide Handling Area (SWMU 5)	9/27/22	Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 100 feet of site boundary?	Yes / <input checked="" type="radio"/> No
Pre-1954 Landfill (SWMU 54)	9/27/22	Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No
TVR/Old MATES	9/27/22	Has Building 843 been removed?	Yes / <input checked="" type="radio"/> No
		Any residential land use within site boundary?	Yes / <input checked="" type="radio"/> No
		Any apparent new drinking water wells within 1,000 feet of landfill boundary?	Yes / <input checked="" type="radio"/> No

SECTION B: INTERVIEWS

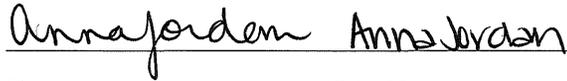
Position	Name	Date of Interview	Question	Answer
JBLM Public Works GIS	Teresa Hansen	9/27/22	Are you still storing the LUC data layer in GIS?	<input checked="" type="radio"/> Yes / No
			Is the LUC data layer still available to GIS users?	<input checked="" type="radio"/> Yes / No
YTC Public Works GIS	Dave Theirl	8/31/22	Do you still have the LUC data layer in GIS?	<input checked="" type="radio"/> Yes / No
JBLM Master Planner	Jean Hecimovich	11/10/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data for a Master Plan overlay?	<input checked="" type="radio"/> Yes / No
			Any plans for future residential use at YTC?	Yes / <input checked="" type="radio"/> No
			Any plans for property conveyance in YTC Cantonment Area?	<input checked="" type="radio"/> Yes / No

YTC LUC MONITORING CHECKLIST

Position	Name	Date of Interview	Question	Answer
YTC Natural Resources Program Manager	Pete Nissen	8/31/22	Do you still have access to LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data as an environmental review overlay?	<input checked="" type="radio"/> Yes / No
			Any plans to take down Buildings 218, 301, or 843?	Yes <input checked="" type="radio"/> No
YTC Staff Engineer	Skap Rao	8/31/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still aware that relevant LUC data needs to (be added/remain) in future SWSMP updates?	<input checked="" type="radio"/> Yes / No
			Any plans for new drinking water wells in Cantonment Water System?	Yes / <input checked="" type="radio"/> No
			Any plans for property conveyance in YTC Cantonment Area?	Yes / <input checked="" type="radio"/> No
YTC Cultural Resources Program Manager	Brian Lawrence	12/13/22	Do you still have access to the LUC data when you need it?	<input checked="" type="radio"/> Yes / No
			Are you still using the LUC data for a digging permit overlay?	<input checked="" type="radio"/> Yes / No
Additional Reporting			Any comments or additional reporting? (See instructions for required comments.) If yes, detail in Section D, Comments.	<input checked="" type="radio"/> Yes / No
Changes to LUC Mechanisms			Any changes noted with how LUC mechanisms are executed? If yes, detail in Section D, Comments.	Yes <input checked="" type="radio"/> No

SECTION C: CERTIFICATION

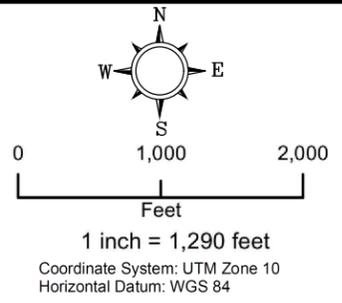
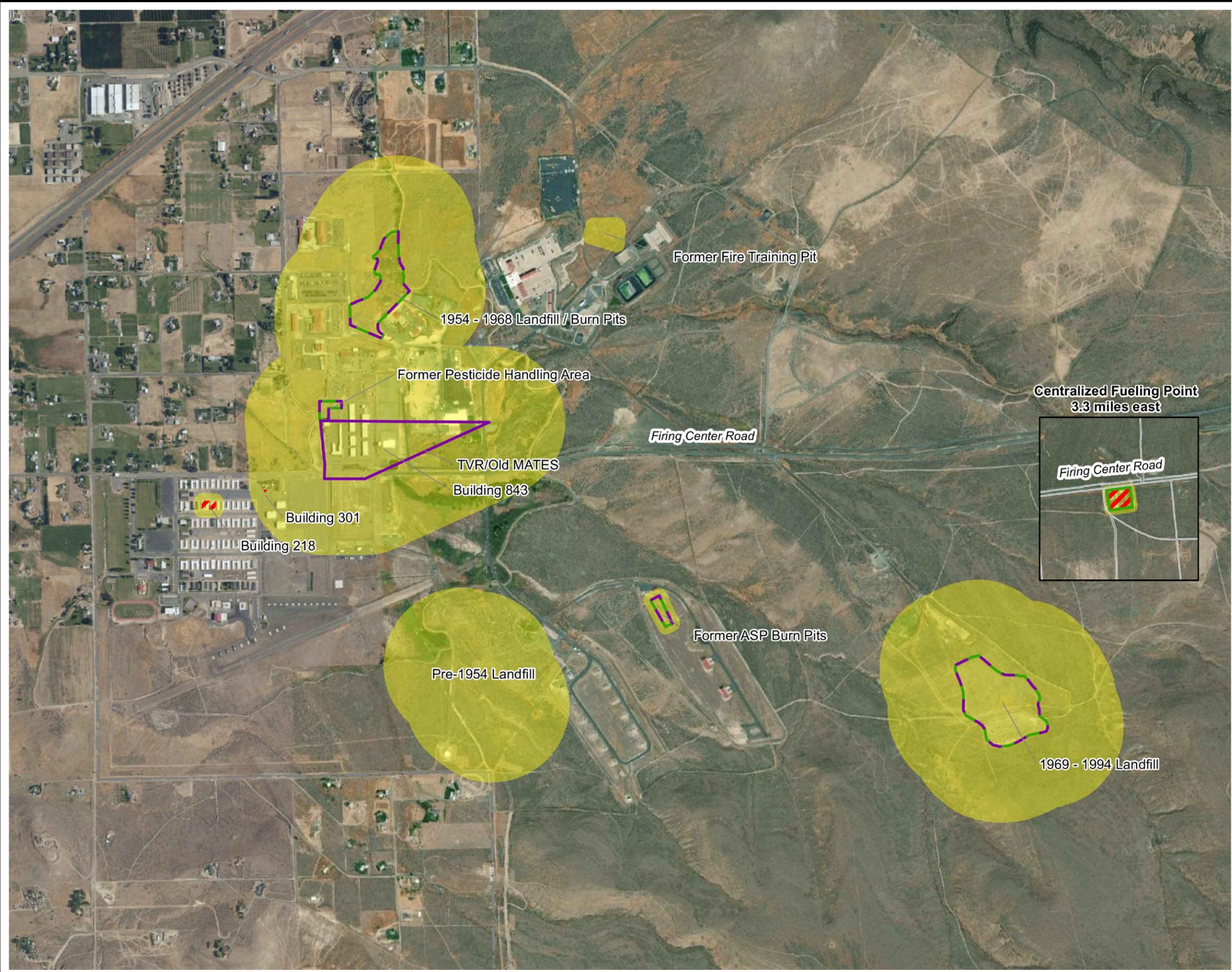
Based on this monitoring, LUC mechanisms appear to be working and achieving LUC objectives.


Anna Jordan
12/13/22

Signature Print Name Date

SECTION D: COMMENTS

Asphalt paving within the Centralized Fueling Point Area has been replaced.



- LEGEND**
-  Prevent residential land use.
 -  Prevent unplanned excavation of contaminated soil.
 -  Residual Contamination
 -  Prevent installation of new drinking water well unless regulator approved variance is obtained.

FIGURE H8
Yakima Training Center Sites

Yakima Training Center
Yakima County
WASHINGTON

INNOVEX-ERRG Joint Venture
 1800 Sutter Street, Suite 860
 Concord, CA 94520

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