



**DEPARTMENT OF THE ARMY
HEADQUARTERS
U.S. ARMY MANEUVER SUPPORT CENTER OF EXCELLENCE
FORT LEONARD WOOD, MISSOURI 65473-5000**

FLW Regulation
No. 210-14

19 October 2009

Installation
RANGES, TRAINING AREAS, AND TRAINING FACILITIES

History. This publication is being updated to reflect appropriate changes to the conduct of training at Fort Leonard Wood ranges, training areas, and training facilities.

Summary. This regulation prescribes United States Army Maneuver Support Center of Excellence (MANSCEN) policy for the scheduling and safe conduct of training at Fort Leonard Wood (FLW) ranges, training areas, and training facilities.

Applicability. This regulation applies to all units and personnel conducting training on the FLW Military Reservation. Shooting ranges located at the FLW Sportsmen's Center are not subject to all requirements listed in this regulation since their purpose is recreational, not training. The Sportsmen's Center will have, in effect, standing operating procedures (SOPs) for range safety and use and coordinate these through Range Control and the Maneuver Support Center (MANSCEN) Safety Office (MSO) for approval. Procedures for recreational ranges will be covered in these SOPs and may vary from procedures outlined in this regulation.

Proponent and Exception Authority. The proponent of this regulation is the Directorate of Plans, Training, Mobilization, and Security (DPTMS).

Supplementation. Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval by Headquarters, MANSCEN.

Delegation. Commandants and the Garrison Commander (referred to as the senior commanders in this regulation) may further delegate authority to coordinate and execute the provisions of this regulation. When doing so, provide the scope of the delegation and to what level (for example, brigade, battalion, or company) by memorandum to the DPTMS.

Suggested Improvements: Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, MANSCEN (IMNE-LNW-PLT), Fort Leonard Wood, Missouri 65473-5000.

Distribution: Electronic medium only and posted on the FLW Web site.

FOR THE COMMANDER:



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*This supersedes FLW Reg 210-14, 16 June 2003

Summary of Change

To

FLW Reg 210-14, Ranges, Training Areas, and Training Facilities

This regulation was last revised on 16 June 2003. The Global War on Terrorism (GWOT) mandated extensive changes in training methods. This revision addresses the following:

- Use of Engagement Skills Trainer (EST) - Chapter 2-7
- Range Facility Management Support System (RFMSS) Priority of Use Scheduling Chart - Chapter 2-8
- RFMSS access requirements - Chapter 2-9
- Laser Operations - Chapter 3-11
- Military Munitions - Chapter 4-7r
- Security of arms and explosives - Chapter 4-8
- Explosive, charges, mines, firing devices, pyrotechnics, hand grenades, and blank ammunition- Chapter 4-9, entire chapter rewritten.
- Disposal of duds/unexploded ordnance (UXO)- Chapter 4-13, added briefing requirements for contractors.
- Target requests - Chapter 6-3
- Removal of Flame Field Expedient (FFE) Training
- Range Facilities- Appendix B, deleted ranges 6, 16B , 26B, 26G, 30, and 33L. Split ranges 2, 5, and 10. Added range 7.
- Training Areas- Appendix C, deleted training area 2, 100A, 100B, 101N/S, 132, and 170. Added training areas 160, 251, 235, 235A, 251, 310, and 615.
- Military Operations on Urban Terrain (MOUT) and Tactical Training Base (TTB) Sites - Appendix D
- Decontamination Training Sites - Appendix L, added deliberate decontamination requirement.
- Blast Requests - Appendix M
- Appendices F through N were re-lettered to align them sequentially with the text in the regulation

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Chapter 1 INTRODUCTION

1-1. Purpose

a. To enable realistic combat readiness training through proper utilization of available facilities on the FLW Military Reservation consistent with appropriate environmental regulations, procedures, and safety measures to prevent injury to personnel or damage to property.

b. To establish standard terminology pertaining to range operations.

c. To establish procedures for requesting the use of ranges, training areas, and training facilities.

d. To establish responsibilities and procedures for the safe and effective conduct of training on ranges, training areas, and training facilities under the terms of current environmental regulations and permits.

e. To provide a list of range facilities (see Appendix B), training areas (see Appendix C), MOUTs/TTBs (see Appendix D) and bivouac sites (see Appendix E) available at FLW.

1-2. References

Referenced publications and forms are in Appendix A.

1-3. Explanation of acronyms, abbreviations and terms

Acronyms, abbreviations, and special terms used in this regulation are explained in the glossary.

1-4. Responsibilities

a. Training Support Battalion (TSB).

(1) Provides general supervision, control, and coordination of all ranges and training areas on FLW.

(2) Coordinates with DPTMS and the Environmental Division, DPW, to ensure the protection of training resources, compliance with FLW Environmental Permit(s), execution of the Vegetation Fire Management Program and all other natural resources field operations, and actively support the Integrated Training Area Management (ITAM) program.

b. Range Division.

(1) Reports any serious incidents to the Garrison Commander, DPTMS, MSO, and Directorate of Emergency Services, as appropriate.

(2) Provides the command and control and overall responsibility for the safe operation and conduct of all ranges and training areas.

(3) Coordinates with the DPTMS and Environmental Division, DPW, to ensure protection of training resources, compliance with FLW environmental permit(s), execution of the Vegetation Fire Management Program and all other natural resources field operations, and actively support the ITAM program.

(4) Conducts general inspections of ranges and training areas to—

(a) Ensure that committees, units, and agencies conducting training comply with applicable safety regulations.

(b) Ensure that responsible units and the units that train on ranges and training areas properly maintain those ranges and training areas.

(c) Inspect the daily risk assessment and ensure that the range SOP is on hand.

(d) Ensure that adequate communications are available at each range and training area. Coordination will be made with DPW, Directorate of Logistics (DOL) and the Network Enterprise Center (NEC) for installation of new communication equipment or repair of existing equipment as required.

(e) Check real property facilities, latrines, grounds, and signs for maintenance requirements and coordinate maintenance and repair through Range Maintenance.

(f) Validate that OICs have received proper clearances when opening a range for live-fire.

(g) Validate that OICs and Range Safety NCOICs are range safety certified.

(5) Coordinates with and advises recreational shooting range managers on safety, range procedures, and other issues pertinent to range operations.

(6) Forwards requests received from units concerning maintenance of facilities within the range complex through Range Control to DPW.

(7) Coordinates with the General Leonard Wood Army Community Hospital (GLWACH) to ensure ambulance coverage for the entire range complex at all times.

(8) Ensures that a member of Range Control remains on duty 24 hours a day.

(9) Coordinates with the Fire Department on all fire protection matters, including the investigation of all fires on ranges and training areas.

(10) Investigates all serious incidents on the ranges and training areas and notifies the TSB, DPTMS, MSO, and Directorate of Emergency Services, as appropriate.

(11) Maintains a range clearance log when firing is being conducted on any range.

(12) Ensures that Range Control acquires and releases restricted airspace R4501 A through H with Waynesville Regional Airport at Forney Field or Kansas City Center, Federal Aviation Administration (FAA), as required.

(13) Maintains, in conjunction with ITAM and the Natural Resources Branch, DPW, an overlay depicting current training area boundaries, off-limits areas, environmentally sensitive areas and environmentally sensitive areas involving permit compliance provisions, impact area range fans, indirect firing points, observation posts, and impact areas.

(14) Coordinates maneuver area usage with the day and night firing schedule.

(15) Disseminates wet bulb globe temperature (WBGT) reading and heat categories.

(16) Disseminates post wind-chill temperature equivalent reading and cold categories.

(17) Disseminates fire danger classification received from the Natural Resources Branch, DPW, and Fire Department, as required, and implements the Fire Danger Class Restriction Chart at Appendix F.

(18) Grants training area and range occupation and clearance to units.

(19) Monitors all vehicles and foot marches as defined in paragraph 3-18 of this regulation.

(20) Monitors all FLW environmental permit provisions affecting ranges and training areas.

(21) Maintains coordination with the MSO on all safety matters relating to range and live-fire operations, as appropriate.

(22) Develops and implements an on- and off-post range safety educational program in coordination with the MSO; Public Affairs Officer; Quality Assurance Specialist; Ammunition Surveillance (QASAS); Provost Marshal (PM); and local Explosive Ordnance Detachment (EOD) unit commander.

(23) Ensures that selected Range Control personnel receive range safety training. At least one member of the Range Control organization should be a graduate of the Army Range Safety Course. When the UXO recognition training program is implemented, at least one member of the Range Control organization, and other appropriate personnel, should be UXO qualified through training provided by the EOD.

(24) Monitors training, in coordination with the using unit, to ensure that all unit activities are in compliance with applicable environmental regulations. Where applicable, Range Control will maintain meteorological and blasting records in support of these environmental regulations.

(25) Monitors the Range Complex Amnesty Point.

(26) Acts as the Point of Contact (POC)/proponent for siting or development of new training areas and ranges.

c. RC personnel only will coordinate with EOD personnel for the destruction/removal of dud/unexploded ordnance (UXO) on ranges and in artillery/mortar impact areas. A dud/UXO log will be maintained at Range Control.

d. Range OIC. The Range OIC must—

(1) Be in the rank of E-7 or above (civilian GS-7 or above) (see Chapter 4-1). EOD team leaders will assume duties of OIC for all EOD operations.

(2) Be familiar with OIC duties outlined in DA Pam 385-63, Chapter 1-6.

(3) Be responsible for the overall safe conduct of training and the proper use of facilities.

(4) Be present on the firing range/training area.

(5) Appoint a Range Safety Officer (RSO)/Smoke Control Officer (SCO) to help perform safety responsibilities. Additional Assistant Range Safety Officers (ARSO) may be appointed as required (see AR 385-63).

(6) Determine when it is safe to fire.

(7) Supervise the procedures for misfires, hang-fires, and cook-offs.

(8) Open and maintain communication with Range Control by radio (primary) or phone (secondary) and ensure that qualified personnel monitor communications at all times.

(9) Supervise, control, and conduct all activities on the range. This includes authorization to retain the company for police of the range after training is finished.

(10) Ensure that each range has an SOP, including a copy of the most current Fort Leonard Wood Composite Risk Management Worksheet, FLW Form 661. Ensure that you have completed an updated daily risk assessment based upon the deliberate risk assessment.

(11) Ensure that the RSO/SCO possesses a current FLW Form 377-1 (Range Safety Officer Card) and is informed of his/her duties.

(12) Ensure that only authorized firing is conducted.

(13) Maintain accountability of, ensure proper storage of, and safeguard all ammunition and explosives.

(14) Practice supply discipline. Do not remove ammunition from sealed containers earlier than is necessary to prepare it for firing. Ensure ammunition is not wasted to avoid "live ammunition turn-in."

(15) Ensure that a range facility is safe and in good working order before training begins.

(16) Report major maintenance requirements to the responsible unit. If range is inoperable, notify Range Maintenance.

(17) Report major environmental sustainability requirements such as excessive erosion and areas

showing signs of stress from heavy use to ITAM office.

(18) Ensure that personnel do not violate "no smoking" areas.

(19) Ensure that the range flag is raised prior to opening a range and red lights on the flagpole and range limiting panels are visible on night ranges. Notify Range Control immediately if a red light is inoperative.

(20) Ensure that weapon malfunctions, accidents involving ammunition or explosives, and other serious incidents are reported immediately to Range Control. Ensure the preservation of the site and that equipment is only released upon the approval of Range Control, Safety Director, and QASAS.

e. RSO. The RSO's sole responsibility is safety, and his place of duty is the firing line (no coaching or individual training except at Range 13). RSOs will not be assigned any additional duties. The RSO will—

(1) Refer to Chapter 4-1 of this regulation.

(2) Be familiar with duties outlined in DA Pam 385-63, Chapter 1-6.

(3) Have a current FLW Form 377-1 in his possession.

(4) Be responsible for the final determination before firing that:

(a) Weapons are properly positioned.

(b) Only authorized ammunition, to include proper charge, fuze, and fuze settings are used.

(c) Firing settings and weapons are within prescribed safety limits and verified.

(d) Appropriate safety measures are taken and the surface danger zone is clear of personnel.

(e) Personnel engaged in firing and within noise hazardous areas wear authorized, properly fitted hearing protection.

(5) Order an immediate cease-fire or check fire when any unsafe condition is observed.

(6) Verify to the OIC and Range Control that weapons are clear upon completion of firing, and record duds/UXO and their exact six-digit coordinate location.

(7) Brief all personnel on dud/UXO areas and the danger of duds/UXO.

(8) Confine all firing to the established limits of fire and impact areas.

(9) When conducting training under the provisions of the FLW Air Permit, ensure the unit follows procedures in Appendix G.

(10) Ensure that personnel are alert for aircraft, wildlife, and other personnel in impact areas.

(11) Ensure that ammunition is drawn only on the command of the OIC, and confirm accountability of all expended and UXO ammunition or demolitions.

(12) Ensure weapons are loaded only on the command of the RSO or tower personnel.

(13) Ensure that weapons not in use on the firing line have the magazines removed, bolts locked to the rear (or forward with a chamber plug), and placed on "safe."

(14) Ensure that there is no running on the firing line. Running is not permitted on the firing line except on ranges that are specifically designed to incorporate other training.

(15) Ensure that no personnel move in front of the firing line until all weapons that are on status "green" have been cleared, checked, and personnel on the firing line are instructed to move forward by the RSO or tower personnel.

(16) Ensure that all weapons are on status "green," cleared and rodded and that personnel have no live/blank ammunition, expended brass, or residue in their possession prior to departure from the range. See Range SOP for range clearance procedures.

f. Training Unit Commander. The training unit commander will determine the use of chamber plugs on the ranges. Soldiers training on the convoy live-fire range (CLFR) will not use chamber plugs at any time during training.

g. SCO. There will be a range safety-certified individual (E-6 or above or civilian GS-7 or above) present on site whenever smoke training operations are conducted. This is not only for ranges but also for units that conduct smoke operations as part of a field training exercise (FTX). The SCO will be reported to Range Control prior to opening an area for training. The SCO is responsible for enforcing

paragraph 3-9 of this regulation and, with the RSO, for ensuring that minimum safe distances are strictly adhered to and discrepancies are promptly reported to Range Control.

1-5. General

a. This regulation applies to all personnel entering or using ranges, training areas, or facilities on FLW. Senior commanders are responsible for ensuring that all firing and usage of training areas is conducted in compliance with this regulation.

b. The RCO, assigned to Range Control, supervises and enforces installation range safety and coordinates range use, maintenance, modification, and installation of ranges and training facilities in accordance with (IAW) this regulation and the policies of the Commanding General (CG), MANSCEN. The RCO has final approval for all training conducted on the range complex.

c. Range Control will brief personnel of units visiting FLW on the proper use of installation ranges prior to range usage. This will include an ITAM program sustainable range briefing.

d. The range and training area map is at Appendix H and is available from the Firing Desk (graphic mode) at Range Control. Military users may also request hard and/or digital copies from ITAM, located at Building 5286.

e. Recreation area maps are published separately and are available at the Sportsmen's Center, Building 2282.

1-6. Restricted areas

a. All ranges, training areas, and impact areas are restricted. Entrance to these areas is prohibited without proper clearance from Range Control.

b. Range control procedures for authorizing downrange access are provided below:

(1) The following procedures provide a safe method of going downrange for personnel with a valid need to do so. These procedures will be followed by all personnel entering potential impact areas. This includes all ranges that are active and areas that could become active if an unscheduled range is opened.

(a) Authorization to go downrange.

1 Call or visit Range Control to request permission to go downrange.

2 The firing desk technician will notify the OIC/NCOIC to cease-fire.

3 The OIC/NCOIC will ensure that the firing lines are cleared and weapons are on status "green" (weapon cleared and on safe; magazine out of weapon; and finger off the trigger). Every weapon must be in the weapon rests or on the ground, and all personnel must leave the firing line. Firers will stay in the area designated by the safeties or (when on the convoy live-fire range) truck/track commanders. No one is allowed to enter the impact area. On the Convoy Live-fire Range, safeties will ensure that all weapons are in green status prior to exiting the dismount engagement area to mount back on the vehicles.

4 The firing desk technician will log the name(s) of personnel going downrange and the clearance window in the firing desk technician log.

5 The firing desk technician will annotate the affected range/training area and the time of cease-fire in the Range Facility Management Support System (RFMSS) and issue clearance to go downrange.

(b) Clearing personnel from downrange.

1 The supervisor or person receiving access will call or visit Range Control to report their mission is complete and all personnel are present from downrange.

2 The firing desk technician will annotate in RFMSS and notify the OIC/NCOIC on the affected range that the range is clear to fire.

(2) Under no circumstances will personnel proceed beyond the firing line and into an impact area before coordinating with Range Control.

c. Permanent dud/UXO impact areas are located within Ranges 10, 19, 25, 36, 50 and the old hand grenade range (North of Range 31 - Grid Square 7373) and are unsafe for entry. For Range 36, you must have approval by and be escorted by EOD personnel. Entry into these areas is strictly prohibited except in an emergency and then only with the approval of Range Control and escorted by EOD. The perimeters of these areas are marked with red, black, and white signs reading "Danger-Impact Area-Keep Out" or "Dud/UXO Impact Area."

d. For non-training events see paragraph 3-8, Recreational Activities, and paragraph 3-17, Environmental and Natural Resources, as well as Range Control.

e. Personnel desiring access to cemeteries located outside of the cantonment area will coordinate with Range Control and the Natural Resources Branch, DPW.

f. Firebreaks are off-limits to vehicular training activities. All other uses must be coordinated through Range Control and the Natural Resources Branch, DPW.

1-7. Deviations

a. Requests for deviations to this regulation or other applicable regulations will be submitted a minimum of 90 days in advance through Range Control and TSB to Commander, MANSCEN (IMNE-LNW-PLT), Fort Leonard Wood, Missouri 65473-5000. There is no assurance that such requests will be approved. Waivers may be requested on a case-by-case basis for each event or as a blanket waiver for the entire fiscal year. Blanket waivers must be renewed annually. Approved waivers will be present on the range/training area during training.

b. Deviations to training support packages (TSP), programs of instruction (POI) or standard operating procedures (SOP) that have an impact on range operations must be submitted in writing through Range Control, Combat Training Company (CTC), and TSB a minimum of 21 days prior to the training event. Deviations to TSP/POI will void the range composite risk management assessment; therefore, the training unit will provide a composite risk management assessment approved by the training unit chain of command. The residual risk cannot be lower than the original range composite risk management assessment.

Chapter 2 SCHEDULING OF RANGES, TRAINING AREAS, AND TRAINING FACILITIES

2-1. Scheduling procedures

a. EOD is not required to schedule Range 36 for emergency ordnance disposal.

b. For units training at FLW, training events at all ranges, training areas, bivouac sites, maneuver/hunting areas, rappel points, firing points, drop zones, observation points, engagement skills trainer (EST), and general instruction facilities outside of the Maneuver Support Center (MANSCEN) Plaza complex (Hoge, Lincoln and Thurman Halls, and Clarke Library) must be scheduled through DPTMS Scheduling Branch, utilizing RFMSS. Contact DPTMS Scheduling

Branch for RFMSS access. Operators will receive access to RFMSS only after attending training.

c. For units stationed at FLW, training events within the MANSCEN Plaza complex (Hoge, Lincoln and Thurman Halls, and Clarke Library) must be scheduled through the Registrar, Department of Career Studies, MANSCEN Directorate of Training (MDoT) using MDoT approved procedures. Contact Registrar for a copy of the procedures and software access.

d. Resources for annual events (for example, conferences, changes of command, or retirement ceremonies), must be submitted in RFMSS no earlier than (NET) 1 year and no later than (NLT) 6 months prior to the event. Early submission is necessary to ensure that facilities are made available and modifications to the cycle laydowns can be made prior to locking in the schedules.

e. Military units not stationed at FLW schedule through Reserve Component Operations, DPTMS.

f. The CG, MANSCEN, may approve the use of training facilities by schools, local and state government agencies, organized clubs, and civic associations. Requests will be submitted through the installation Public Affairs Office (PAO). PAO will submit request in RFMSS or to Registrar based on facility required. Request will comply with Department of Defense (DOD) and Department of the Army (DA) regulations and directives governing the use of Federal property by civilian activities. Also, see Chapter 4-3, Nonmilitary personnel on ranges/training areas.

g. DPTMS Scheduling Branch will maintain utilization reports for the installation. Unit utilization will be briefed by Range Control monthly at the installation DPTMS/S-3 Training Meeting.

h. Units who desire to use ranges and training areas will submit their requests in RFMSS. Requests must include specific training, training objective, number of personnel to be trained and any coordinating instructions included in the memorandum portion of the request. Failure to include the projected number of personnel will result in the request being cancelled by DPTMS. Request only those areas actually required on a particular date/time. Blanket requests will not be accepted.

i. Requests will be complete and submitted with no conflicts. Requests submitted with conflicts will be canceled. Events will be identified as specifically as possible. For events not listed in the pull-down menu, contact DPTMS Scheduling Branch. Other

than bivouac and FTX, requests for facilities longer than a 24-hour period will be justified. At a minimum, units will weigh requests against:

(1) A calendar to ensure that unit is not requesting training on a Sunday or holiday.

(2) Unit calendars. Internal events may have an impact on unit's ability to conduct training.

(3) The installation calendar to ensure that no training is requested during major events on FLW that could impact training.

(4) Time of event to determine if training will be affected by daylight savings time.

j. It is the responsibility of the requesting unit to monitor the status of requests. Upon submission, requests are assigned a Range Control Number Identifier (RCNI). Appendix I identifies the codes used to provide the status of the request.

(1) Units must never assume that their requests are approved. Requests submitted but not approved are not justification for the unit to use the requested facility. Units must monitor and follow up on the status of their requests to verify approval and, if not approved, initiate coordination to resolve any discrepancies.

(2) Due to limited installation-shared resources, DPTMS Scheduling Branch will topload the POI events of the initial entry training (IET) phase of training for the training brigades. Resources for the IET phase of training will be placed in RFMSS IAW the following guidelines:

(a) NET 13 weeks and NLT 10 weeks of class start date, DPTMS Scheduling Branch will topload IET phase POI events requiring shared resources.

(b) The initial laydown input in RFMSS by DPTMS Scheduling Branch will be placed in a conditional reservation (COND-RES) status. The installation-approved matrix will be used for each brigade. Modifications to the matrix may be necessary due to installation support requirements that are above normal, higher level priority events, or federal holidays.

(c) DPTMS Scheduling Branch will notify the brigade scheduler when the cycle has been dropped in and ready for the unit to review.

(d) DPTMS Scheduling Branch will notify the brigade scheduler via e-mail that the cycle has been placed in RFMSS ready for the unit to review. Units

will contact DPTMS Scheduling to arrange for a one (1) hour appointment time for the company commander or his designated representative to sit down with DPTMS to lock in their schedule.

(e) Prior to the unit arriving for the final lock-in of their schedule, they should review their schedule for any discrepancies and ensure that any changes they plan to make are possible due to "true" white space. A unit cannot bump a unit that has already submitted a request, even if it has not yet been approved.

(f) Units must arrive at their scheduled appointment time. Units arriving late will only have until their scheduled end time to complete the laydown. Missed appointments will be rescheduled when time permits, but not before units with appointments have locked in their cycle.

(g) At the final review with the unit, DPTMS Scheduling Branch will open the request and acknowledge each entry with the company commander or his designated representative. Together they will check for conflicts, add indoor graduation activities, and make the unit's desired date/location changes where possible.

(h) Upon completion of the scheduled hour appointment, the company commander or his/her designated representative will approve the laydown by signing and dating a copy to be left with DPTMS Scheduling Branch. The schedule becomes final on this date and future changes are not authorized.

(3) For units other than the IET phase of training for the three training brigades, requests for both POI and non-POI driven courses will be submitted NET 13 weeks and NLT 10 weeks prior to class start date.

(4) Scheduling priority is held by units scheduling POI-driven courses. Units cannot submit requests prior to the 13-week laydown. This criterion prevents "blocking" of training areas by units outside the 13-week laydown. The DPTMS scheduler considers POI, course master schedules, and input from units and teaching departments as criteria to deconflict requests.

(5) Scheduling priorities are based on the Command Training Guidance (CTG). However, certain events may assume equal consideration or take priority over previously approved range requests. Examples of these events are real world contingencies, mobilization, range maintenance, EOD clearance operations and those activities directed by the CG, MANSCEN.

(6) Excessive land or facility requests, those requests that clearly exceed POI requirements, must be justified by the unit. Land and training resources are limited and must be managed in a responsible manner.

k. Requests entered by a unit on the same day of training are not recognized by RFMSS. DPTMS Scheduling Branch cannot act on these requests. Only Range Control fire desk operators can input for same day training. Units will not be allowed access to the training site until the following requirements have been met and the event has been placed in RFMSS:

(1) Units must obtain written confirmation from TSB that personnel and resources are available.

(2) Brigade commander provides TSB confirmation with a request to Chief of Staff for written approval.

(3) Brigade scheduler provides Chief of Staff's written approval and TSB confirmation via e-mail to DPTMS Scheduling Branch.

(4) Upon receipt of the Chief of Staff approval and TSB confirmation, DPTMS Scheduling Branch will authorize the fire desk operators to input the request in RFMSS.

l. Approved RFMSS requests only provide access to facilities on the date/time facility is reserved. It does not secure logistical support or personnel.

m. Surrounding area access is not granted upon approved requests for ranges, training areas, maneuver/hunting areas, bivouac sites, rappel points, firing points, drop zones, or observation points. Area access is granted only by an additional approved RFMSS request.

n. POI-driven courses will maintain a current template in RFMSS. Templates will cover entire course flow. Commanders, officer basic and advanced courses, Noncommissioned Officer Academy (NCOA) course chiefs and Interservice Training Review Organization (ITRO) units will submit requests NET 13 weeks and NLT 10 weeks prior to class start date.

o. Units must conduct direct coordination with Training Support Center (TSC), TSB/CTC, or Range Control at least 72 hours prior to scheduled occupation of a supported range or facility. For non-shared resources, units will coordinate with the scheduling activity.

p. The Range Control firing desk technician monitors resources reserved for the day of training. Units will phone or visit the Range Control to occupy a training facility. Units that fail to occupy reserved facilities within the hour requested will be reported as a no-show. A monthly No-Show Report will be submitted to the Garrison Commander and Chief of Staff. Coordination can be made with Range Control in the event of unusual circumstances.

q. Units must request artillery or mortar firing areas by their designated firing points (see Appendix B). Range Control will verify all firing data and safety fans generated by the firing unit prior to beginning live-fire activities.

r. Gammon Field is used only for changes of command, changes of responsibility, graduation ceremonies, and installation events.

s. No unit will request for another unit. Such requests will be cancelled with no action taken.

2-2. Changes to reserved training

a. Changes to the IET phase of training are not authorized after final lock-in of the schedule without approval from the appropriate commander.

b. For all other units, POI-driven changes will be made only if they do not conflict with other unit training and are IAW the POI and compliant with this regulation.

c. Changes to reserved training or late requests inside the 6-week window will have approval from the appropriate commander.

(1) Requests less than 6 weeks from the training event require approval by the battalion commander.

(2) Requests less than 4 weeks from the training event require approval by the brigade commander.

(3) Requests within 72 hours and less from event start date will require approval from the DPTMS, Garrison Commander, and Chief of Staff. The unit is responsible for notifying DPTMS Scheduling Branch; TSB; CTC; TSC; and Range Control for support required to process late requests.

d. For shared resources, changes to reserved training that occur within the 4-week window must be coordinated with the Commander, TSB, to ensure that support is available and the range bulletin is

updated. For non-shared resources, the unit will coordinate with the scheduling activity. Coordination requests will be made by e-mail. This allows for date/time confirmation and POC information.

e. After coordination is complete and the appropriate approval level granted, the unit will submit the change to the training request. A new request will not be submitted. All coordination and approvals will be in the original e-mail. The brigade-level scheduler will submit the change request to DPTMS Scheduling Branch following the format given in paragraph 2-3b. DPTMS Scheduling Branch will modify the original request and post this information in the memo portion of the request.

f. DPTMS Scheduling Branch will process requests received after 1400 hours on the following workday. These requests must also comply with conditions outlined in 2-2b.

g. Requests for areas that are open for recreation will not be approved within 24 hours of the day of training.

2-3. Late requests

a. A new request will be submitted if the training has not been reserved. Unit will comply with paragraph 2-2.

b. After all coordination has been made; the unit will submit a new RFMSS request. Format memo portion of the e-mail coordination request as follows:

Range Control Number Identifier
(RCNI):
Date /time group (DTG):
Facility:
Event:
Request Change to:
DTG:
Facility:
Event:
Justification:

c. It is the responsibility of the brigade-level scheduler to inform DPTMS Scheduling Branch of a late request in a pending RC status.

d. Request to reschedule an event/facility due to unsatisfactory performance must be submitted via e-mail. The e-mail must include approval from the supporting unit/organization (to ensure that resources and personnel are available for the new date) and the Chief of Staff's approval.

2-4. Co-use of training facilities

a. Units jointly occupying a training facility will be considered co-use. For training facilities scheduled by DPTMS Scheduling Branch, the approving authority for the co-use is DPTMS. For other training facilities, the approving authority will be the commander of the scheduling activity.

b. Requests for co-use will be made by e-mail. This allows for date/time confirmation and POC information. The e-mail must be cut and pasted into the RFMSS request. For shared resources, requests will be from the commander of the requesting unit, through the commander of the unit scheduled for the training facility, through the TSB Commander, ATTN: S-3. After coordination is complete, the unit will submit a RFMSS request. All coordination and approvals will be posted in the memo section of the RFMSS request. Co-use agreement format is as follows:

- Location (six-digit grid coordinates or facility number)
- Description of training to be conducted
- Duration of training (beginning and ending dates/times)
- Number of Soldiers to be trained
- Number and type of vehicles to be used during training
- Ammunition and pyrotechnics to be used during training

c. For non-shared resources, requests will be from the commander of the requesting unit, through the commander of the unit scheduled for the training facility, through the scheduling activity. After coordination is complete, unit will submit the RFMSS request. All coordination and approvals will be posted in the memo section of the RFMSS request.

d. For training facilities and areas outside the cantonment area, Range Control will authorize occupation and clearance separately for each unit.

e. Units jointly occupying a training facility are responsible for the police and maintenance of the area which they occupy. All units jointly occupying a training facility will occupy through Range Control. Units will comply with all FLW regulations and ensure the safety of personnel and protection of the environment.

2-5. Installation requirements

a. If the installation requires a resource previously reserved by a unit, DPTMS Scheduling Branch will notify (in writing) the brigade-level scheduler. Units may submit requests to move

training to an alternate facility, if open. Requests will be received within 3 working days and follow the guidelines below:

(1) During this period, the affected unit will determine an alternate site/date for training.

(2) Request will only address facilities removed by the installation.

b. DPTMS Scheduling Branch will assist the affected unit in securing training on new/date time. Another training unit will not be removed to accommodate displaced unit unless the reserved unit agrees to move. If a unit agrees to be displaced, DPTMS Scheduling Branch will receive written approval from affected unit through the brigade scheduler. The unit agreeing to move will follow the same guidelines of this paragraph.

c. Exceptions will be made if the displaced unit will not have time left in the cycle to recoup training.

d. Units affected by these events will be exempt from 2-2b and 2-2e.

2-6. Weather-related cancellations

a. Training will not be cancelled and rescheduled based on forecasted inclement weather conditions. Because of the unpredictability of Missouri weather and the fact that there are procedures in place to ensure that units are not considered no-shows because of inclement weather, cancelling and rescheduling training based on forecasts is not an efficient or effective use of scheduling resources.

b. Requests to reschedule training that was ceased due to inclement weather must be submitted to DPTMS Scheduling Branch within 3 working days of date originally scheduled. During this period, the affected unit will determine an alternate site/date for training. Unit will submit their request to reschedule the incomplete event due to weather via e-mail through their brigade scheduler. The e-mail must identify the original event/date/time/facility. If DPTMS receives the written request within 72 hours, the unit will be exempt from the requirements outlined in paragraphs 2-2b and 2-2e.

2-7. Engagement skills trainer (EST)

a. Eight EST shelters are provided to support IET, advanced individual training (AIT), one station unit training (OSUT), and Forces Command (FORSCOM) units. These shelters are configured with the weapons systems used in the majority of the units training. Six of these shelters contain 15 lanes each and are in proximity to each training

brigade's footprint. Priority scheduling of the EST 2000s will be for POI events during the IET phase of training, which will be toploaded and scheduled by the DPTMS at lock-in of the schedule. Units will be scheduled in the EST within their footprint whenever possible.

b. Bldg 768 contains two 10-lane suites and one 20-lane suite to accommodate FORSCOM, Army Reserve, National Guard, and Reserve Officer Training Corps (ROTC) units on the installation and the installation's regional requirements to its area of responsibility units and its obligations as a power support platform (PSP).

c. Units have the option of utilizing EST shelters within their footprint to conduct remedial/reinforcement training. Coordination with a TSC representative will be made at a minimum of 24 hours prior to use. Bldg 768 will have an operator assigned to operate EST systems for units conducting remedial/reinforcement training. Units will provide leadership in a ratio of 1:15 in relation to Soldiers training. The EST (Bldg 768) will open from 1500-1930, Monday thru Friday, except holidays, in support of unit remedial/reinforcement training.

d. IET, AIT, OSUT, and FORSCOM units are required to schedule resources IAW their respective POIs and mission essential task list (METL). ESTs will not be used for advanced training until POI requirements are met.

e. All other units/organizations requesting use of an EST during normal duty hours must submit their request at least 3 weeks in advance after receiving prior written approval from the EST facility manager. The EST operators are required by contract to have work requirements obligated 2 weeks prior to the event. The request must be specific to the type of weapons requested and the commander's training goal(s). Ambiguous requests (such as weapons training, familiarization, and marksmanship) will not be honored. Requests must be placed in RFMSS with the approval in the communications section. Making coordination and obtaining approval from the facility manager is necessary to ensure that operators are available. E-mail communication showing TSC personnel approval will be posted in the request. Remedial/reinforcement training will not be placed in RFMSS; however, it is necessary to coordinate with the facility manager 24 hours prior to use to ensure access to the facility after hours.

f. Late arrivals and no-shows will be reported at the Initial Military Training Work Group meeting. EST facilities will be held for a maximum of 20 minutes after scheduled time. Units will make

contact with TSC personnel if they are experiencing delays. Units will use unit operators to conduct training in EST shelters and only TSC personnel will operate ESTs in Bldg 768.

g. Units requiring EST shelters for remedial/reinforcement training must provide a certified military operator to receive and operate the EST. Certification is a 3-day course and is conducted quarterly or as requirements dictate. Course slots are allocated proportionately throughout the training brigades.

h. An EST replicates a range and requires the same oversight afforded to live-fire. The operator's responsibility is to operate and maintain the systems while the unit trainers instruct and coach marksmanship. Units will contact the fire desk when occupying the EST. The EST operator will provide their initials for entry in the daily log.

i. Units will clean facilities after each use. Units conducting remedial/reinforcement training without operator support will provide a completed training summary report to the TSC representative along with keys for shelter receipt release. A list of items found to be inoperable, equipment failures, or shelter issues will be made known to the TSC representative the next working day.

2-8. Priority of Use

If a unit has training-specific ranges, training areas, or facilities, subordinate units of that brigade have "first shot" on use of those facilities. Units can input known training requirements into RFMSS for a period of up to 1 year out. All other requesting units will then be scheduled on those facilities IAW the scheduling priorities in the CG's Command Training Guidance (CTG) listed below:

Priority	Training Resource	Priority	Training Resource
1	Units Alerted for Deployment	8	CCC/ WOES
2	IRR MOB Training	9	Functional Courses (Supporting GWOT)
3	MTTs deploying ISO TO&E Units	10	FORSCOM /MTOE Units
4	CHEM/ OSUT (PH I-III)	11	PCC
5	BOLC B	12	Functional Courses
6	AIT/OSUT (PH IV/V)/ITRO	13	Reserve/ NG, AT and Inactive Duty
7	NCOES/ NCOA		

2-9. RFMSS access requirements

Requestors for ranges and training areas must apply for a password using FH Form 380-23-R-E (to be picked up at DPTMS Scheduling Branch) and return completed form to DPTMS Scheduling Branch for processing.

a. Requestor must sign for Citrix password in person.

b. Assistance with setting up RFMSS can be obtained by coordinating with DPTMS Scheduling Branch.

Chapter 3 SAFETY, SPECIAL REQUIREMENTS, AND LIMITATIONS

3-1. General

a. Persons in charge of or using ranges, training areas, maneuver areas, and training facilities are responsible for compliance with the safety requirements of this regulation and with applicable technical manuals (TMs) and field manuals (FMs). A copy of this regulation, delegation of authority, composite risk management worksheet, and approved deviations, range SOP, and Range Safety Data Card (artillery and mortar firing points), as well as other applicable manuals and publications, will be

present at all ranges during live-fire and demolition operations.

b. Training at areas not designated in RFMSS as training facilities requires the approval of the RCO. Requests to establish temporary ranges and training areas or to modify existing facilities will be submitted by memorandum to the RCO. Include the type of range or exercise; type of TSP/POI task to train; training footprint; proposed location; list of facilities required; and any pertinent explanations, overlays, risk assessments, SOPs, TSPs/POIs that support the change. Restore temporary ranges and training areas to their original condition prior to clearing the training site unless granted prior approval by the RCO.

c. Reserve Component units scheduled to fire artillery or mortars at FLW will coordinate with RC Operations, DPTMS, and Range Control. Range Control coordinates with Aviation Division, DPTMS, not less than 72 hours prior to the scheduled firing. Coordination with the Kansas City Center, FAA, by Range Control is required 24 hours in advance when the maximum altitude of the projectiles will exceed 2,200 feet above mean sea level (MSL).

d. Do not fire recoilless rifles and rocket launchers from the interior of buildings.

e. Armor-piercing ammunition will not be fired on any range that has electrical targets.

f. Do not use live ammunition in place of rifle grenade cartridges or propelling devices.

g. Follow safety conditions in AR 385-63 and appropriate FMs and TMs when firing rocket launchers.

h. The RSO will provide a safety briefing to all participating personnel prior to any training that involves blank or live-fire or the use of any pyrotechnic devices.

i. All IET Soldiers conducting weapons firing, demolitions, and rappelling will remain in proper uniform at all times (physical training (PT) uniform is not allowed on ranges) and wear kevlar helmets. Warrior tower will be governed by Training and Doctrine Command (TRADOC) and FLW guidance. Kevlar helmets will be worn during all tactical training in IET subjects except as directed by the senior commander and TRADOC Reg 350-6 for the prevention of heat injuries. The senior commander determines the uniform for permanent party Soldiers. Individual body armor (IBA) will be worn on Ranges 4, 12, 24, 31, 36 and 39. The EOD team leader will

determine the uniform for EOD personnel performing EOD operations.

j. Danger areas will be designated by range warning signs on all major roads and trails. Range warning signs will indicate the exact limits of the impact or dud/UXO areas. The boundaries indicated by these signs will not be crossed without approval from Range Control.

k. Ranges on FLW are considered dangerous 24 hours a day. Personnel or units will not enter any range facility (unless properly scheduled) without clearance from Range Control. Range cadre performing maintenance or occupying a range or training area for any reason will notify Range Control immediately upon occupation of the range.

l. The firing desk technician on late shift will review daily the 24-hour maneuver area announcement, shared training resource schedule, and training area schedule for conflicts that could cause an unsafe condition and require a scheduled range or training area to close. Once the document has been reviewed, the reviewing firing desk technician will publish maneuver areas open for recreational use for that day. The maneuver area recording will list all maneuver areas open for recreational use.

(1) A 24-hour prior public notice is required to open or close an area. Changes must occur 48 hours in advance when possible. The firing desk technician has final say in whether an area is open or closed.

(2) In the event there is a scheduling conflict that impacts training next to an open area and corrections cannot be made, the Range Control OIC and supervisor will be notified immediately.

(3) Units may sign for a bivouac/training area the day prior to scheduled training in RFMSS, but the unit cannot set up or occupy that site until the next day. This is important, as the area will generally be open. This is to avoid the conflict of Soldiers setting up bivouac/training in an open area and coming into conflict with recreation users.

m. Caution all Soldiers that snakes, spiders, ticks, and injurious plants (for example, poison ivy) are common on ranges and training areas, especially during warm weather months.

n. Caution Soldiers on key environmental issues affecting the operation of the range or training area.

o. When conducting mechanical training, clear all weapons prior to training and inspect dummy ammunition to ensure absence of live ammunition. Check all toolboxes, spare parts boxes, and other containers to ensure that no live ammunition is present.

p. Do not fire blank ammunition at individuals within a distance of 25 meters (m). Blank adapters will be installed on weapons at all times.

q. The RSO will ensure that an ammunition shakedown is conducted of all personnel at the completion of all training that utilizes any type of ammunition prior to leaving the range or training area. At a minimum, load bearing vest (LBV) and uniform will be checked by unit cadre.

r. DA Pam 710-2-1, paragraph 11-14, outlines the guidance for minimum rank required for personnel performing as the RSO and signing the explosive consumption report. A warrant officer or above will perform duty as the unit's RSO when Category I items are used in live-fire exercises. IAW AR 190-11, Appendix B-2, Category I weapons are non-nuclear, man-portable missiles and rockets in a ready-to-fire configuration; for example, the AT-4 anti-tank weapon.

s. The Bloodland Range Troop Trail is closed to wheeled vehicles except for trail vehicles following foot marches. Vehicle use must be approved by RCO. Speed limit for authorized vehicles is 10 MPH.

3-2. Limitations

All firing will be confined to the established limits of fire and impact areas. These areas are identified by left and right firing limit markers. Under no circumstances will the OIC or other personnel approve the firing of any type of ammunition outside established limits of fire without the approval of the Chief, Range Division. Under no circumstances will the OIC or other personnel approve the firing of any type of weapon from firing positions or at targets that are not within the established and approved surface danger zone (SDZ) without the approval of the Chief, Range Division. No portion of the surface danger area for a weapon or explosive can intersect or cross the following areas without a deviation from safety criteria as defined in AR 385-63.

a. Federal or State highways.

b. Railroad right-of-ways.

c. FLW reservation boundaries.

- d. Built-up areas of the reservation.
- e. Areas where troops are maneuvering, except as prescribed in AR 385-63.

3-3. Range/training area SOPs and risk management

a. An SOP will be present on all ranges/training areas. The responsible unit for each range/training area will write SOPs and update them, as necessary, and forward copies of the SOPs to Range Control and DPTMS. SOPs will outline the operation, safety and environmental restrictions, and procedures for each range/training area. SOPs must be approved by the RCO, DPTMS, and the Garrison Commander prior to implementation.

b. Risk Management is required for each range and training area. The CG, MANSCEN, has delegated approval authority for high-risk training events to the school commandants. Responsible units will conduct risk management IAW FLW Regulation 385-5. Requests for safety waivers will be submitted IAW paragraph 1-6 of this regulation.

3-4. Range/training area utilization reports

Range Division Operations will track maneuver and firing range utilization and furnish reports as required.

3-5. Privately owned vehicle (POV) parking

POV parking on ranges/training areas is allowed only in designated parking areas (normally at fixed facilities). Artillery firing positions are off-limits to all POVs.

3-6. Communication system

a. Outside the cantonment area. Units conducting training outside the cantonment area will maintain communication with Range Control at all times. When communication is lost with Range Control, all training will cease until it is restored.

b. Two means of communication. Units are required to establish two means of communication. The primary means of communication will be land mobile radio (LMR) P-25 (trunk) radio. Secondary means of communication may be telephone.

c. Radio Nets. The permanently assigned Range Control operational nets are frequencies Very High Frequency (VHF) 148.025 and FM 36.45. The net control sign is "RANGE CONTROL." Do not use Range Control operational nets as administrative nets or as a tactical frequency for units participating

in training exercises. Units will utilize Range/Training area number for call sign or unit's designation as call sign. The use of internal call signs with Range Control is not authorized.

d. Telephones. The telephone number for the Range Control Fire Desk is 596-2525. The assigned telephone numbers for range facilities are listed in Appendix B. Telephone extension numbers for training areas are listed in Appendixes B and D.

e. Telephone maintenance and repair. The maintenance and repair of all installed telephone equipment on ranges and training areas is the responsibility of DPW and NEC. Under no circumstances will using units attempt to repair or alter telephone equipment. Splicing into lines is prohibited. Report damaged or malfunctioning telephone equipment to Range Control.

f. Live-fire ranges.

(1) Prior to any live-fire exercise, the OIC or range cadre will contact Range Control and request a wet code and "begin firing" time. A wet code serves as approval to commence firing. The OIC or a qualified representative will monitor communications equipment throughout the period of firing. Upon completion of firing, the unit/activity will obtain a dry code and "closing" time from Range Control indicating that the range is no longer in a live-fire status.

(2) Units will identify themselves by using the unit designation and the artillery/mortar firing point or exercise number. Units using multiple firing points or training areas are required to maintain communication with Range Control through the Fire Direction Center (FDC) controlling the firing points or exercise. OICs will ensure that communication is maintained between headquarters elements and sub-units occupying training areas, firing points, or conducting training exercises.

(3) In the event of communication failure (internal and external), units will call an immediate "cease fire" until communications are restored.

3-7. Bivouac sites, military operations on urban terrain (MOUT) sites, and tactical training bases (TTBs)

a. The Range Control firing desk technician monitors resources reserved for the day of training. Units will phone or visit the Range Control to occupy a training facility. Units that fail to occupy requested facilities within the day scheduled will be reported as a no-show. Coordination can be made with Range Control in the event of unusual circumstances.

b. When signing for a bivouac site, TTB, or MOUT, the unit will coordinate with Range Control to inspect the site. Only personnel that are in the grade of E-6 or above with a valid FLW Form 377-1 (Range Safety Officer Card) will be authorized to sign for the site. The unit representative signing for the site and a Range Control inspector will conduct a joint inspection of the site during daylight hours using the appropriate In/Out Processing Checklist (see samples at Appendix J).

c. Upon occupation of a bivouac, TTB, or MOUT site, the unit will establish and maintain communication with Range Control. When communication has been established, the unit will request an opening code (a two-letter code assigned to a training area for a particular day). Only one opening code is required for multiple-day training exercises. The following will be reported when opening training areas:

- (1) Unit designation.
- (2) Training site to be occupied.
- (3) Training to be conducted.
- (4) Unit phone and POC.
- (5) RSO.
- (6) OIC when using pyrotechnics.

d. Vegetation removal and soil disturbances will be IAW paragraph 3-18 of this regulation.

e. Open fires are prohibited unless approved by request through the RCO to the Senior Fire Officer (SFO), and then only with the approval of Range Control just before starting the fire. EOD specific disposal procedures are exempt from this requirement.

f. Do not place obstacles (such as concertina wire and logs) outside the bivouac boundaries or on any lettered or numbered road without the written approval of the RCO. Obstacles must be removed before Range Control will clear unit from the facility.

g. Properly dispose of all waste to prevent the creation of unsanitary or unsightly conditions. Do not bury waste of any kind in training areas.

(1) Liquid waste. Dispose of liquid waste from kitchens, showers, and baths as indicated in FM 21-10. Waste generated from food preparation will be drained, bagged, tied, and placed in an installation trash dumpster.

(2) Garbage. Collect garbage (paper, cans, and bottles) in bags and store in garbage cans until it can be transferred to installation trash dumpsters/FLW recycling center. Do not leave garbage behind when vacating a site.

(3) Human waste. Field latrines are prohibited. Permanent latrines are located on some bivouac sites. Portable latrines are available for use through DPW.

(4) Portable Latrines.

(a) Portable latrines will not be furnished at locations where adequate permanent latrines exist.

(b) Portable latrines will be requested by submitting a memorandum (see Appendix K), to the DPW, Operations Branch. Requests must be received at least 2 weeks in advance. Requests will include, at a minimum, date(s) for latrine support, number of personnel (broken down by male and female), unit point of contact with phone number, and a detailed strip map with 6-digit grid coordinates.

(c) For a normal bivouac period (5 days, 4 nights), portable latrines will be furnished at a rate of one per 25 males and one per 25 females.

(d) Portable latrines will be serviced IAW the services contract. Additional service will be performed only when contents of tank are within 6 inches of the seat. When these conditions exist, units will call DPW at 596-7021.

(e) Latrines are not to be used as trash receptacles. Units will be required to remove any bottles, wrappers, and other inorganic matter that is found by latrine service personnel.

(f) Units will not move portable latrines.

(5) Permanent Latrines.

(a) Permanent latrines are serviced by DPW every 30 days. Service includes pumping, cleaning, and disinfecting latrines. Additional service will be performed only if contents of pit are within 6 inches from the seat in four-hole latrines and 1 inch from the top of the pit in six-hole latrines. When these conditions exist, units should call DPW at 596-7021 for pumping.

(b) Between 30-day servicing, latrines will be cleaned and maintained by units. This will include sweeping and mopping the floors, washing the seats

and urinals, picking up trash, and stocking toilet paper.

(c) Lime will not be put in latrine for odor control. Lime causes build-up in latrine pits by reducing the effectiveness of bacteria digester added during 30-day servicing.

(d) Latrines are not to be used as trash receptacles. Units will be required to remove any bottles, wrappers, and other inorganic matter that is found by latrine service personnel.

(e) Latrine repairs, to include unclogging of urinals, will be requested on DA Form 4283, Facilities Engineering Work Request. Service orders will be forwarded through the unit S-4 to DPW Work Management Branch.

h. Upon completion of bivouac, units will coordinate with Range Control for an inspection of the site. A Range Control inspector and a unit/activity representative (E-6 or above) with a valid FLW Form 377-1 (Range Safety Officer Card) will conduct a joint inspection of the bivouac site/MOUT/TTB. Inspections are conducted during daylight hours. In the event that the unit departs before daylight, leave a rear detachment for the inspection and to obtain clearance. The unit will clear all deficiencies noted during the inspection, within 24 hours or prior to the next scheduled use.

3-8. Recreational activities

a. The use of the Bloodland Range Training Complex for outdoor recreational activities will be coordinated with and approved by the RCO to protect military personnel and the general public from exposure to hazards. Training requirements will have priority over all recreational activities. When authorized for use, the site must be left in as good, or better, ecological condition than it was prior to occupation.

b. Conduct of uncontrolled or unscheduled outdoor recreational activities within the Bloodland Range Training Complex is prohibited.

c. Outdoor recreational activities in temporary or permanent dud/UXO impact areas are strictly prohibited, without exception. Areas not authorized for recreation (except hunting and fishing as described in subparagraph d below) include impact areas, landing strips/zones, and small arms ranges as being a surface danger area, a restricted area, or an off-limits area. Personnel authorized to use areas for the purpose of recreation are responsible for familiarizing themselves with the limits of the authorized areas. Recreational users, other than

hunters and fishermen, will comply with FLW Reg 215-3. This regulation and other recreation information are available at the Sportsmen's Center, Building 2282.

d. Hunters and fishermen will comply with FLW Reg 210-21. Information on hunting and fishing areas is available at the Sportsmen's Center, Building 2282. If the safety fan of an active range overlays any portion of an area or a training area is in use inside an area, the entire area is closed for recreation. Exceptions to this include those impoundments identified as continuously open in FLW Reg 210-21, paragraph 5c.

e. Notify Range Control immediately of any recreational activities in unauthorized areas. If personnel are in a surface danger area, call a cease-fire until they are escorted from the area. Range Control will request aid from the Post Game Warden, if required.

f. Open fires during recreational activities are prohibited unless specifically authorized by the RCO and the SFO.

g. Swimming is not authorized in bodies of water within the boundaries of the FLW military reservation except at post pools.

h. All vehicles operated in recreational activity will be confined to established and maintained roads. Operation on firebreaks and cross-country driving is prohibited. Use of all-terrain vehicles (ATVs) within the installation boundaries is strictly prohibited unless the ATV is utilizing the Morale, Welfare and Recreation (MWR) Off-road Driving Course.

i. Metal detecting as a recreational activity on FLW is prohibited.

3-9. Toxic chemical, chloroacetophenone sulfur (CS) agents, and smoke devices

a. Use of toxic chemical agents in training on FLW is prohibited except at the Chemical Defense Training Facility (CDTF).

b. CS training is authorized in pre-approved ranges and training areas. Hexachloroethane (HC) smoke is not authorized in training at any time. The only authorized smoke grenades are those containing terephthalic acid (TPA). All smoke training for MP and CM training units must meet the provisions of the FLW Air Permit and comply with procedures outlined in Appendix G. Chemical units will submit a monthly roll-up of fog oil, smoke pots, smoke grenades, and Bacillus Globigii (BG) spray to Range Division operations NLT the 1st day of

each month. The roll-up must contain the following information:

- (1) Date and time.
- (2) Unit.
- (3) Type of obscurant.
- (4) Location.
- (5) Amount.

c. For Chemical, Biological, Radiological and Nuclear (CBRN) training involving the use of CS agents, and for training exercises involving smoke, the OIC will be in the grade of E-6 or above, or be a qualified civilian instructor. The OIC must also be certified by his/her commander for CBRN training involving the use of chemical and smoke agents. For training exercises involving smoke, the OIC will observe all safety precautions associated with the use of fog oil.

d. Training with CS is restricted to authorized training exercises and chambers. Only CS in capsule form may be used in the CS chamber.

e. CS and smoke producing materials will not be used under conditions that are dangerous to life or property. In addition, these agents will not be released within 1000 m of the reservation boundaries (including approved MOUT/TTB sites) or 300 m from public or heavily traveled installation roads and inhabited areas unless previously coordinated with Range Control. Do not exceed more than 480 canisters in a 24-hour period. Fog oil will not exceed 1,200 gallons in a 24-hour period. Smoke pots will not exceed 49 in a 24-hour period. BG spray will not exceed 10 lbs in a 24-hour period. Kaolin will not exceed 12 lbs in a 24 hour period.

f. The operation of smoke generators will comply with the following:

- (1) Coordinate all smoke generator operations through Range Control.
- (2) Refer to Appendix G for approved smoke generator training sites.
- (3) Post smoke control points no closer than 1000 m from the post boundary.
- (4) If notified that ranges or training areas occupied by other training units are adversely affected by smoke operations, the OIC will

coordinate with the RCO and the affected units to reduce the impact of smoke operations.

g. For additional information on the use of chemical agents see DA PAM 385-61.

h. Red smoke will be used only in the event of an emergency, with the exception of Range 31, which uses red smoke for demonstration purposes only.

3-10 Laser operations

Laser operations on FLW will be conducted IAW AR 385-63; DA Pam 385-63, Chapter 19; and the following:

a. Authorized laser designators and range finders. IAW special study numbers 25-42-0338-83 and 25-42-0403-88 conducted by the U.S. Army Environmental Hygiene Agency, the following laser designators and range finders may be used on FLW: AN/TVQ-2, the AN/GV-5 hand held LRF, the TAADS in the AH64 helicopter, the LAAT in the AH1-1 S helicopter, and the ANWG-2. The Ranges on which these laser systems may be used will be determined by the RCO.

b. Responsibilities.

(1) The laser firing unit commander is responsible for safety during all phases of a firing exercise conducted by the unit. Unit battalion commanders or above will establish and maintain a safety training and certification program. As a part of this program, battalion commanders will submit a list of individuals in their respective units qualified to perform duties of OIC and Laser Range Safety Officer (LRSO) to Range Division.

(2) Commanders of laser using units are responsible for submitting requests for laser training to Range Division 2 weeks in advance of training event. The request will include risk management work sheet, type of laser systems involved and mission training plan. The RCO is the final approving authority for laser training.

(3) Commanders will report any case of suspected radiation exposure of the eye to Range Control immediately. Commanders will ensure an eye examination is performed within 24 hours of the suspected exposure.

c. The LRSO will—

(1) Conduct a thorough safety countermeasure briefing to all personnel authorized to participate in the laser operation.

(2) Ensure that all laser beams terminate in the appropriate impact area.

(3) Ensure that operators fire only at designated targets, which are diffuse reflectors. At no time will operators fire at aircraft, manned vehicles, flat specular (mirror-like) surfaces such as vehicle windshields or water filled craters.

(4) Ensure that laser is not operated or experimented with outside the range area.

(5) Ensure the laser exit port, when not in use, is covered with an opaque dust cover and the laser is disabled IAW the appropriate TM/FM governing the weapon system.

d. Laser Hazards.

(1) Hazards are almost exclusively associated with inadvertent exposure of the unprotected eye to intra-beam viewing, either from the direct beam or the reflected beam. Very high-radiant exposures will cause gases to form near the site of absorption, which may disrupt the retina and may alter the physical structure of the eye.

(2) Adverse thermal effects resulting from exposure of the skin to radiation may vary from mild reddening to blistering, depending upon the exposure dose rate.

e. Safety Requirements for Laser Operations are as follows:

(1) The laser port will be covered by an opaque dust cover or ballistic cover when the laser is not in use to prevent accidental firing of the device. This requirement includes tactical exercises, movement to and from ranges, or when the device is in storage. The laser will be further disabled IAW the appropriate TM/FM governing the weapon system.

(2) This regulation does not apply when laser devices are used in two-sided tactical force on force training exercises. No tactical force-on-force training with laser devices is permitted with tactical laser; devices which are approved for that purpose, such as the Multiple Integrated Laser Engagement System (MILES), may be used.

(3) Laser warning signs will be posted on all normal approaches to the range. Night ranges will fly range flag and turn on red beacon when conducting laser training.

(4) Inclement weather and night operations require no additional safety precautions. Certain

ranges may be closed for operations if water begins ponding.

(5) Use training filters whenever possible. Training filters reduce the ocular hazard distance, which greatly improves system safety. When targets can be engaged effectively using training filters, training filters will be employed.

f. Buffer zones. During laser operations, no portion of the laser beam should extend beyond the controlled target area. Two types of buffer zones will ensure the laser beam terminates in the controlled target area: horizontal buffer zones and vertical buffer zones. Horizontal buffer zones extend to the right and the left of the target, while vertical buffer zone extends down from the horizon. A 10-mil buffer zone (horizontal and vertical) will be used for laser systems not previously evaluated by the Army Environmental Hygiene Agency. All other laser systems will use the data published in AR 385-63.

g. Units must submit range Laser Surface Danger Zone (LSDZ) to Range Division operations depicting specific firing points, left and right limits, vertical and horizontal buffer zones, and type of laser being used. These range fans must be provided to range division no later than 14 working days prior to intended training event.

3-11. Restricted airspace

a. Restricted areas of R4501, A through H, are airspace above live-fire ranges. Aircraft are restricted from these areas when they are "Wet" unless otherwise specified in the notice to airmen (NOTAM). A NOTAM check is required for all flights arriving and departing Waynesville Regional Airport at Forney Army Airfield. The following are the restricted areas with their flight levels.

Area	Restricted Airspace
R4501A	Surface to 2,200 feet MSL
R4501B	Surface to 2,200 feet MSL
R4501C	2,200 feet to 5,000 feet MSL
R4501D	5,000 feet to 12,000 feet MSL
R4501E	12,000 feet to 18,000 feet MSL
R4501F	Surface to 3,200 feet MSL
R4501H	Surface to 3,200 feet MSL

b. Training units will make final coordination for airspace requirements with Range Control 3 weeks prior to any training involving air missions.

c. Weather conditions for the flight period must be not less than basic visual flight rule (VFR) (1,000-foot ceiling and 3 miles visibility).

d. For all airborne operations within R4501, the drop zone safety officer (DZSO) will notify Range Control a minimum of 2.5 hours prior to time on target (TOT) that the mission is a GO or that it is cancelled. When Range Control does not receive 2.5-hour notification, authorization to enter R4501 may be denied. DZSO will call Range Control for clearance when aircraft is 10 minutes out from R4051.

3-12. Airstrips/landing zones

Personnel will not use airstrips/landing zones on the FLW Military Reservation for assembly or bivouac. Vehicles will stay clear of airstrip/landing zone boundaries. Driving vehicles across airstrips/landing zones for any reason is prohibited. Do not dig holes within 100 m of airstrips/landing zones and adjacent managed areas. Do not tamper with windsocks.

3-13. Opposing Force (OPFOR) actions

a. Any unit or evaluating team using OPFOR personnel during training will comply with the following:

- (1) OPFOR personnel will wear a distinctive uniform to make them easily recognizable.
- (2) OPFOR personnel will not undertake any operation that may create an unsafe condition.
- (3) Execute OPFOR attacks according to a coordinated schedule. Unplanned actions are prohibited. Such actions could conflict with another unit's training and cause serious injury or loss of life.
- (4) Physical contact between OPFOR personnel and opposing unit personnel is prohibited with the exception of enemy prisoner of war (EPW) training that includes searches. Fighting, rock throwing, and using rifle butts is prohibited. Modification or alteration of munitions of any type is strictly prohibited. This includes fuzes, flares, CS, and simulators.
- (5) Do not mistreat OPFOR personnel.
- (6) OPFOR activity is prohibited in an area where live ammunition is fired.
- (7) Do not fire blank ammunition at individuals within a distance of 25 m. Blank adapters will be installed on weapons at all times.
- (8) Account for all OPFOR personnel at the end of the exercise.

b. OIC and/or NCOIC (E-6 or above) of OPFOR personnel.

(1) The primary duty of the OIC/NCOIC is safety. The OIC/NCOIC will be present at all OPFOR actions.

(2) The OIC/NCOIC will inspect all weapons to ensure that blank adapters are installed and that OPFOR personnel have no live ammunition in their possession. Use only authorized pyrotechnics during OPFOR attacks.

(3) The OIC/NCOIC is responsible for coordination, supervision and execution to ensure safety during conduct of OPFOR activities.

3-14. Wildlife/stray livestock

a. Personnel observing wildlife or domestic animals on any range or training area causing interference with training or range firing will report the location and number of animals to Range Control. In the event that wildlife or domestic animals are observed in or entering range impact areas, units will cease fire, clear the firing line, and notify Range Control. Report any animals that are accidentally injured or shot to Range Control.

b. Range Control orders a cease-fire in appropriate areas where animals are observed or likely to enter, and assists units in expeditiously driving animals from the areas. In the case of stray livestock, Range Control furnishes the provost marshal's office with a description of the livestock, the number of animals, and their location.

3-15. Range maintenance and police

a. A unit will be designated as responsible for each range and training area upon signing in. This unit's responsibilities will include day-to-day maintenance of the range or training area such as housekeeping, lawn mowing, and general police. The unit will be responsible to properly identify to Range Maintenance any required preventive maintenance, repairs, or new construction of the real property facilities located on the range or training area.

b. Mowing of the target engagement areas on ranges is the responsibility of range maintenance. Units must request mowing of these areas no less than two weeks in advance on FLW Form 388-E (Range Division Material and Service Order, Request for Range/Training Area Upgrade and Maintenance). Range maintenance will not mow

within 50 feet of any structure other than target berms on any range.

c. Fighting position (foxhole) covers, target frames, ammunition separators, lister bag holders, and weapons racks will be fabricated or replaced by Range Maintenance.

d. Ranges and training areas are installation assets. All requests for troop projects or new projects on ranges and training areas that involve construction, land disturbance, or modification to existing roads/structures must be reviewed and approved by the RCO prior to the start of the project. Units must prepare a FLW Form 388-E outlining the project and submit to Range Control. Once approved by the RCO, the unit prepares a DA Form 4283, attaches the approved FLW Form 388-E and submits to DPW for action. DPW will not process work orders that do not have the FLW Form 388-E attached.

e. General range police.

(1) The responsible unit for each range will remove and dispose of unsightly and objectionable debris. Place major emphasis on areas of heavy use, for example - firing points, bivouac areas, recreation areas, and major range roads.

(2) Report any area not properly policed to Range Control. Range Control will contact the last using unit and determine responsibility for policing the area.

(3) Anyone finding lost or abandoned government property on ranges or range roads will secure the property and turn it in to their unit Property Book Officer.

(4) Upon completion of training, the using unit will conduct a thorough police of the range/training area ensuring that no debris is left in the area and that any soil excavations are filled with dirt and leveled. Report destroyed, damaged, or missing firing point markers to Range Control. Units are responsible for police within a 200-m radius of their occupied area.

(5) Range details are not released from their respective ranges until the NCOIC of said range inspects their work and formally releases them.

3-16. Tactical communications wire

Install and remove tactical communications wire IAW the following guidelines:

a. Tag communications wire to indicate unit designation.

b. Do not bury or cover wire lines.

c. Wire will not be placed where it would cause harm or interfere with mounted and dismounted troops and vehicular traffic.

d. Tactical communications wire will be sufficiently marked to allow maximum observation by low-flying aircraft, vehicles, and personnel.

e. Recover communications wire upon completion of the exercise.

f. The placing of communications wire within 100 m or across aircraft landing strips/zones or staging areas is prohibited.

g. Do not use telephone or power poles for hanging tactical communications wire.

h. Overhead wire will be at least 25 m from the nearest power line.

3-17. Environmental and natural resources

a. All users of lands and waters on FLW are responsible for the proper use, protection, and conservation of natural resources and the environment. Proper use IAW the requirements of this regulation will help ensure the long-term conservation of military terrain essential for current and future military missions. Training on waters other than those specifically designed and built for training, such as TA 250, may be authorized on a case-by-case basis and requires the user to coordinate with ITAM, Range Control, and Natural Resources Branch, DPW prior to scheduling so that potential impacts can be evaluated and appropriate mitigation/ monitoring measures can be put in place. Training activities impacting natural streams or manmade lakes and ponds will be coordinated through ITAM and Range Control prior to scheduling the activity. Subsequent coordination by ITAM/Range Control will be made with Natural Resources Branch, DPW. See the FLW Commander's Environmental Handbook and FM 3-100.4 (Environmental Considerations in Military Operations).

b. Restrictions.

(1) Roads, fire trails, and firebreaks will not be blocked, cratered, ditched, booby-trapped, or in any way rendered impassable unless coordinated through Range Control and an approved work order has been issued by DPW for permanent closure or

improvement of the facility. Movable obstructions capable of being moved by one person are allowed.

(2) Except on ranges and in training areas specifically designated for such activities (see Appendices B-D), or as approved by the RCO and coordinated with the Chief, Natural Resources Branch, DPW, the following restrictions apply:

(a) On all live-fire ranges that require target visibility, the responsible unit should identify what needs to be trimmed and contact Range Maintenance.

(b) Natural vegetation will not be cut, destroyed, or removed. Grass cutting will be restricted to established maintained grounds. The use of live vegetation for camouflage is prohibited. Trees will not be cut or damaged without prior approval from the ITAM; Range Control; and Natural Resources Branch, DPW. Care will be taken to ensure that ground cover is not stripped to bare soil.

(c) Only hand-digging is authorized on bivouac/FTX sites, unless specifically prohibited in Appendix D. After training is complete, the position will be filled with earth and returned to original grade.

(d) Mechanical excavation is permitted in training areas designated for that purpose, such as TA 244.

(e) All vehicle operations will be confined to existing gravel roads and driveways. No new trails or driveways may be cut to reach an area by vehicle. Firebreaks and forest access trails are maintained to contain fire in high-hazard areas and are not considered roadways. All users are responsible to ensure that their driving activity is not causing damage that will reduce passability for other vehicles.

(f) Unless otherwise designated or approved through Range Control and DPW Natural Resources Branch, all caves and rock shelters are off limits for military activities. Some caves are inhabited by endangered species of bats; therefore, training activities in proximity to these caves will be IAW guidelines established in the FLW Environmental Overlay. These activities must be coordinated through the Natural Resources Branch, DPW; the ITAM office; and RCO prior to scheduling. FLW environmental overlay guidelines identify restricted activities in environmentally sensitive areas. The environmental overlay is available at Range Control and battalion S-3.

(3) All lands posted or otherwise designated as closed for rehabilitation, restoration, or re-growth are off-limits.

(4) Washing of vehicles in natural bodies of water is prohibited. Wash vehicles at approved decontamination sites or washracks. Soaps and detergents are prohibited for use in the decontamination sites. See Appendix L for location of approved decontamination training sites.

(5) All archeological, historic and recreation sites are off limits for training activity. Recreation site are as defined by FLW Reg 210-21, paragraph 5c.

(6) Crossing streams is permitted only at designated ford sites. Driving in streambeds is prohibited.

c. Immediately report the release of any hazardous substances into the environment to Range Control. Hazardous substances may include, but are not limited to, petroleum, oils, and lubricants (POL); solvents; and antifreeze. CBRN agents will be used IAW the guidelines of the FLW Air Permit. See FLW Spill Prevention and Response Plan.

d. Be aware of vegetation fire danger and hazards. Destructive forest and grass fires are a real threat during dry periods at FLW. Refer to paragraph 3-25 of this regulation for guidance.

e. Natural resources and environmental damage caused by training activities will be investigated by the RCO, assisted by ITAM and DPW Environmental Division personnel, to assess damage and loss and to determine responsibility. Responsible persons may be held liable for repair and mitigation under appropriate laws and regulations. At a minimum, damage will be repaired or mitigated by the responsible party.

f. The Natural Resources Branch, DPW, is the responsible office for the conduct of the Vegetation Fire Management Program to include vegetation fire danger alerting, firebreak system development and maintenance, prescribed fire and controlled burning, vegetation fire behavior expertise and assistance to the Fire Department on vegetation fires, and close coordination with RCO. Refer to paragraph 3-26 of this regulation for detailed information.

g. Conduct all training with concern for conservation and future use of the military terrain.

3-18. Convoys and foot marches

a. When conducting convoys and foot marches outside the cantonment area, units will establish and maintain communication with Range Control. Conduct radio checks with Range Control at the start point, at designated checkpoints (or once per hour), and upon reaching the release point. Do not radio Range Control from the start point until your element is ready to move. (Note: For foot marches on the troop trail running to Range 22, report only at the start point, release point, and in the event of changes). If communication with Range Control is lost, halt the convoy or foot march immediately until contact is restored. The report format is as follows:

- (1) Line 1. Unit/activity designation
- (2) Line 2. RSO initials
- (3) Line 3. Number of vehicles
- (4) Line 4. Convoy route number

b. Map overlays.

(1) Prepare a map overlay for all scheduled foot marches conducted outside the cantonment area in which the troop trail is not used for the entire movement, using a FLW Military Installation Map, 1:50,000. Prepare map overlays IAW this regulation.

(2) Plot map overlay on a clear sheet of plastic and submit to Range Division Operations not later than 72 hours prior to movement. Information plotted on the overlay will be to the same scale as on the map. When the overlay is placed over the map, the details plotted on the overlay will be shown in their true position.

(3) When preparing overlays, units will use standard military symbols where possible. If it is necessary to invent nonstandard symbols to show the required information, the legend must show what these symbols mean.

(4) When conducting concurrent training during convoys or foot marches which includes the use of CS, smoke, pyrotechnics, or blank ammunition this information will be recorded in the marginal information of the overlay.

c. Convoys and road restrictions. The following traffic policies are established to ensure optimum safety during convoys and prevent unnecessary damage to road networks.

(1) Convoy. A convoy is any group of five or more vehicles temporarily organized to operate as a column, with an escort, proceeding together under a single commander. Also, when 10 or more vehicles per hour are dispatched to the same destination, over the same route, they are considered a convoy. All vehicles designated as "oversize" will be treated as a convoy, regardless of number of vehicles. Oversize vehicles will contact Range Control to coordinate access to convoy routes.

(a) The 58th Transportation Battalion and the MP School are authorized convoys of 20 vehicles, not including lead and trail vehicle.

(b) All other units are restricted to convoys of no more than 10 vehicles.

(2) Student Driver. Student Driver training/testing conducted on the installation will be called in to Range Control with proposed route, regardless of number of vehicles. Radio communication will be established and maintained with Range Control for the duration of the training/testing period.

(3) Speed. The maximum speed for wheeled vehicles is 5 MPH under the posted speed limit on improved and unimproved roads. Seatbelts will be used when available.

(4) Communication. Establish and maintain communication between the lead and trail vehicles.

(5) Traffic control for convoys.

(a) When crossing uncontrolled traffic intersections on post, convoys will post road guards. Some convoy routes cross low-water crossings or stream beds. During periods of heavy rainfall, these areas are prone to flash flooding. Never attempt to cross by vehicle or foot. Units are required to monitor Range Control frequency for weather-related advisories. Commanders are responsible to conduct daily risk management to include weather-related safety hazards.

(b) Road guards will wear reflective vests. In addition, provide road guards with baton flashlights for convoys operating during the hours of darkness (30 minutes before sunset to 30 minutes after sunrise), or when visibility is reduced to 500 feet or less due to weather conditions.

(c) Normally, post road guards from 50 to 100 m from the convoy crossing. Increase or decrease this distance depending upon the terrain, traffic, and weather conditions. Do not post road guards in traffic blind spots, such as around sharp or

obscured curves, over hills, or in low places that would hide or conceal the road guards from oncoming traffic.

(d) No more than two convoys will be permitted on any one road at a time. Range Control will track convoys; if a unit requests to open a route that has active convoys, Range Control will have unit stand by until the route is clear.

(6) Movement of tracked vehicles.

(a) The maximum speed for tracked vehicles is 20 MPH.

(b) Tracked-vehicle convoys do not require lead vehicle if headlights are used. A wheeled- trail vehicle or a wheeled trailer with operable lights is still required.

(c) Each tracked vehicle will have a track commander who will maintain communications with the driver. The driver may not act as track commander. Do not operate tracked vehicles without combat vehicle crewman (CVC) or kevlar helmets equipped with an intercommunication system.

(d) Tracked vehicles on the Bloodland Range Troop Trail are prohibited unless approved by the RCO.

(e) Use ground guides (front and rear) when moving in a confined area or where troops are bivouacked.

(f) Ensure that safety pins are properly affixed when hatch covers are open. Personnel will not ride on top of any tracked vehicle.

(g) Operation of tracked vehicles within the Riparian Management Zones is limited to established gravel roads and is not permitted without written authorization from Range Control. Refer to the environmental overlay for the extents of these areas.

(7) Blackout Drive Operations. Blackout drive operations are defined as movement of vehicles during hours of darkness where light discipline is in effect for the operation. Under blackout drive conditions, blackout lights will be used and the truck/track commander of the vehicle may use night vision goggles. All blackout drive operations outside of training areas specifically designed for vehicle operations (closed course) must be approved by the RCO. Once approved, an overlay is required 72 hours in advance of the training event.

(a) Blackout drive operations for IET Soldiers, to include the Officer Basic Course, 58th Transportation Battalion, and the Marine Corps Truck Driver's Course are only authorized on the blackout drive course at TA 236. MP units will train at TA 229. Other blackout drive training will be coordinated with Range Control.

(b) A request for blackout drive operations for FORSCOM, Reserve, and National Guard units must be submitted, with an overlay, to Range Control for approval by the RCO prior to being scheduled through DPTMS Scheduling Branch.

(c) Personnel authorized in blackout drive areas include troops in training and personnel on official military business. POVs will not travel in blackout drive areas during the hours of darkness unless on official military business. If a POV must enter a blackout drive area, parking lights will be used. Emergency vehicles responding to a call will travel with full service lights. Other vehicles will stop and allow emergency traffic to pass before continuing under blackout drive conditions.

(d) If blackout drive operations are halted by white light, blackout drive operations will cease for a period of 45 minutes.

(e) During periods of reduced visibility, blackout drive training may be suspended. The RCO will make this decision and notify affected units.

(f) Passing is prohibited under blackout drive conditions.

(g) Tactical night blackout convoys on public traffic routes are prohibited. Vehicles operating on or crossing public traffic routes will use headlights on low beam.

(8) Vehicles that do not constitute a convoy will cross public traffic routes without interrupting the traffic flow. Vehicles will stop at the edge of the right-of-way and the senior occupant of the vehicle will ensure that it is safe before crossing.

(9) The Bloodland Range Troop Trail is closed to wheeled vehicles except for trail vehicles following foot marches, and emergency and maintenance vehicles.

(10) Night driving operations are defined as movement of vehicles during the hours of darkness with the use of full service lights (headlights) and markers.

(11) MP convoys can travel in close column (15-20 m interval), open column (75-100 m interval), or infiltration (where vehicles leave in irregular patterns alone or in small groups).

d. Foot marches. A foot march is any movement of troops on foot, outside the cantonment area, for more than 1 kilometer (km).

(1) Conduct foot marches IAW this regulation, FLW Reg 385-4, and FM 21-18.

(2) All movement by foot or vehicle will be scheduled through Range Control. Foot marches crossing major roads will consolidate and post road guards to quickly move the unit across the road to reduce traffic congestion.

(3) Radio communication will be established with Range Control prior to movement and maintained for the duration of the march. If communication is lost, movement will be halted until communication has been re-established with Range Control.

(4) Foot marches are restricted to the areas outlined on the map overlay submitted to Range Control. Foot marches on the Bloodland Range Troop Trail do not require a clearance or map overlay; however, continuous communications with Range Control is mandatory.

(5) Units will not conduct foot marches on scheduled blackout routes during the hours of darkness without approval from Range Control.

(6) Trail vehicles are required for all foot marches of 1 km or more outside the cantonment area, including the troop trail. Vehicles will remain 25 to 100 m behind the column and carry enough potable water to resupply all marchers. Trail vehicles will remain with the unit at all times during the march. If the unit marches by platoon, each platoon will maintain communication with a trail vehicle. If the trail vehicle must leave the foot march, the unit will halt until the trail vehicle returns. Trail vehicles will be government vehicles.

(7) Ambushes conducted during tactical foot marches will be at least 50 m off main roads (300 m if using agent CS or smoke). Police all brass and residue upon completion of training.

(8) Rest breaks during foot marches will not interfere with the passage of traffic on roadways.

3-19. Prevention of heat and cold injuries

a. Prevention of heat and cold injuries requires continual emphasis and supervision at all levels. Commanders will develop and implement detailed programs for the prevention and treatment of heat and cold injuries.

b. Commanders should also coordinate with the Preventive Medicine Service of the Medical Department Activity (MEDDAC) for assistance in developing their programs.

c. Commanders will ensure that there is a positive notification system to provide all levels of their organization with timely knowledge of current WBGT index and wind chill factors. Range Control will conduct an hourly network call providing information on the current WBGT index or wind chill to all units training on the range complex. When the WBGT index exceeds 90 degrees or wind chill is less than -10 degrees, Range Control will notify the senior trainer on each site. Each unit is responsible for implementing internal controls to ensure the safety of their Soldiers. The WBGT provided by Range Control is taken in the vicinity of range Building 5286; units are cautioned that the WBGT may differ at their locations. It is imperative that each unit commander acquire a WBGT kit for increased accuracy at their training location. National stock number (NSN) for the WBGT is 6685-01381-3023.

d. All supervisory personnel and trainers will be familiar with and have in their possession the GTA 05-08-012 (Individual Safety Card) when training Soldiers. It is available at the Visual Information Center (VIC).

e. During the hot weather season, all units training within the range complex are required to use a WBGT kit when temperatures exceed 75 degrees. Commanders of units will ensure that one serviceable WBGT kit is issued to each training company.

f. Hot and cold weather uniform modifications will be made at the discretion of the senior commander.

g. Acclimatization to mission oriented protective posture (MOPP) training and the physical condition of personnel are primary factors used when planning permanent party MOPP training exercises. MOPP gear adds 10 degrees Fahrenheit to the WBGT index. During periods of warm weather, MOPP 4 training time will comply with GTA 05-08-012 and FM 3-4.

h. Commanders will ensure that adequate warm-up facilities are available whenever outdoor training is conducted during cold weather.

i. Units conducting training on the range complex must have ice blankets available from 1 April through 1 October.

3-20. Hazardous noise areas

Adequate hearing protection is required on all range firing facilities. Areas to the rear and sides of firing positions are hazardous noise areas. All personnel entering these areas are required to wear hearing protection. Range OICs will ensure hazardous noise areas are properly marked and noted in safety briefing. The following are distance (in meters) guidelines to reduce the impulse noise-hazard levels to 140 decibels.

Weapon/System	REAR	SIDES
Rifles and machine-guns up to 7.62mm	18	18
.45 cal and 9mm pistol	30	30
.50 cal machine-gun	30	30
MK19	30	30
AT-4	250	250
M203 grenade launcher	50	50
Hand grenades	50 Radius	
MICLIC line rocket	1200 Radius	

3-21. Rappelling

a. Conduct rappelling operations IAW this regulation.

b. Range Control will approve all rappel operations. Only approved rappel sites authorized by Range Control will be used.

c. Mandatory equipment for rappelling includes kevlar helmet with chinstrap, standard 120-foot nylon climbing rope (two per lane), one snap link with gate, and one pair of issue gloves. Only government-approved climbing is authorized. No homemade devices are allowed.

d. Responsibilities.

(1) Commanders will ensure that—

(a) There is one RSO for every 4 lanes of rappelling.

(b) RSOs have a current FLW Form 377-1.

(c) Rappel Point Safeties must possess a current FLW Form 377-1 and an FLW rappel certification card. Students in the Sapper Leader Course may serve as rappel point safeties after they have completed the applicable blocks of POI training. Range Control must approve civilian sources and proof of certification from other commands.

(d) There will be no less than two qualified rappel point safeties for each lane of rappelling.

(e) All rappels will be conducted with double ropes and sufficient equipment.

(f) All rappels will be properly belayed.

(2) Range Control will inspect all authorized rappel sites quarterly for safety (anchor points, cliff facing, loading and unloading platforms). A record of all rappel site inspections will be sent to DPTMS and be on file at Range Control.

(3) The MSO will inspect all authorized rappel sites annually for safety certification and provide Range Control with a copy of the inspection.

e. Safety measures.

(1) Establish and maintain communication with Range Control during all rappel operations.

(2) Conduct a safety briefing prior to all rappel operations.

(3) Inspect all rappel equipment prior to the beginning of training and after every 10th rappel for cuts, frays, and anchor point tie-offs. Pad the edge of cliffs to prevent damage to the ropes.

(4) Units will have a medic or combat lifesaver with aid bag and backboard on site during all rappel operations. Medical personnel, in a support capacity, will not participate in rappelling.

(5) The RSO will be positioned on the top of the rappel point overlooking and supervising rappel operations.

(6) Locate one instructor at the top of the rappel point, tied off by a safety line with a bowline around the waist or snap-linked to a harness and anchored to an anchor point. He is responsible for final safety checks and the hookup of Soldiers descending the rappel point. Place a second instructor at the bottom of the rappel point to observe and anchor the descent of the Soldier from the top.

(7) The rappel rope is anchored to the anchor point at two points, wrapping one end twice around a firm anchor, and then tying it to the remainder of the rappel rope with a bowline. Always use a double rope.

(8) When rappelling from cliffs, a safety check of the cliff will be conducted by a rappel point safety. This check will include, at a minimum, a rappel down the cliff, checking for hazardous conditions. These hazards include, but are not limited to, loose rock, dirt, mud, sharp rock edges, and rappel ropes becoming entangled either on themselves or around rocks or trees. Should any hazardous condition exist, an attempt will be made to correct it before training begins. Corrections include knocking any loose rock off cliff faces, cleaning away any slippery material, and checking ropes so they run freely to the bottom. Training unit commander will make weather call to stop training when winds are higher than 15 MPH. When winds reach 25 MPH or higher, the range NCOIC is authorized to stop training due to inclement weather.

(9) A qualified belayer will belay when clearing cliffs of safety hazards.

(10) Warrior tower will be governed by TRADOC and FLW guidance.

(11) Rappel Sites are listed in Appendix C.

3-22. Severe weather procedures

a. Upon receipt of a severe weather warning, Range Control will notify units by conducting a net call.

b. Upon receiving a weather alert, commanders will determine if training should be suspended or cancelled.

c. In the event a tornado is sighted while personnel are on ranges/training areas, move personnel from the tornado's path at a right angle. If there is not time to move, personnel will assume a squatting position in the nearest depression.

d. In the event of an electrical storm, take the following precautions, as a minimum, consistent with the nature and severity of the storm:

(1) Place weapons at least 50 feet away from personnel.

(2) Properly ground all switchboards and generators.

(3) Evacuate personnel from areas containing power lines, high-tension cables, and television communications antennas.

(4) Personnel riding in open vehicles should dismount and move approximately 100 m away from the vehicles.

(5) Avoid large open spaces, hilltops, wire fences, isolated trees, poles, and metal buildings.

(6) Avoid using phones and radios. Ensure that the antennas on radios are collapsed.

(7) If you are in an exposed area and feel static electricity (for example, your hair stands on end) assume a squatting position with your hands on your knees. Do not lay flat on the ground or place your hands on the ground.

(8) Personnel in bleachers or in a group should disperse quickly. If in water, they should emerge immediately upon the approach of a thunderstorm.

(9) Suspend all training until the storm has ended. Also, keep all radio and telephone communications to a minimum.

e. Training unit commander will make weather call to stop training when winds are higher than 15 MPH. When winds reach 25 MPH, the range NCOIC is authorized to stop training due to inclement weather.

f. Units that have training cancelled due to weather will coordinate an alternate date/time with DPTMS Scheduling Branch. Coordination will be accomplished within 3 working days of cancellation.

g. Units training on the range complex are required to maintain communications with Range Control. In the event that weather conditions change, units are required to contact Range Control for any weather updates as required.

h. Flash flooding may occur after significant rainfall. Never attempt to cross low-water crossing or river and stream ford sites.

3-23. Military operations on urban terrain (MOUT)

a. Upon arrival at MOUT training site, the Range OIC or RSO will notify Range Control of their intent to occupy the site.

b. CS is not authorized at the MOUT training site. Smoke and pyrotechnics can be used with permission from Range Control and IAW paragraph 4-7 of this regulation. When smoke is used, road guards will be posted at all roads leading to and from MOUT site.

c. Smoke, pyrotechnics and blanks are not permitted in the sewer system.

3-24. Medical support

a. Emergency medical support for units training outside the cantonment area is requested through Range Control, (573) 596-2525, or through the Range Control frequency. For support, contact Range Control with the following information:

(1) Accident site or pickup point (grid coordinates, range, training area, or common name).

(2) Number of casualties.

(3) Brief description of injuries and any special requirements.

b. Be prepared to send a knowledgeable person to meet and guide medical personnel to the accident.

c. If the situation permits and it would not cause further injury to the patient, units may be required to move injured personnel to a pickup point designated by Range Control.

d. Units training within the cantonment area contact the hospital Emergency Room directly in the event of a medical emergency. Notify Range Control of incident at the earliest opportunity. Emergency Room phone number is 596-2157 (request an ambulance at 596-2155).

e. Units will provide their own nonemergency medical support in the form of a certified combat lifesaver. Use good judgment in requesting use of ambulance; however, when in doubt, request emergency medical service.

f. Forward requests for field medical support to DPTMS. Requests must be received a minimum of 6 weeks prior to the support date.

g. The medical specialists at Range Control will be fully transitioned 91Ws and will have a High Mobility Multi-Wheeled Vehicle (HMMWV) ambulance.

h. In the event there are no medical assets at Range Control, Range Control will coordinate for emergency medical service through the Consolidated Troop Medical Clinic (CTMC) or General Leonard Wood Army Community Hospital (GLWACH).

i. It is the responsibility of the range cadre to be familiar with the location of their range or training area's medical evacuation (MEDEVAC) landing zone.

3-25. Fire prevention and control

a. Vegetation fire. In periods of dry weather, the threat of vegetation fire danger is high. Therefore, the following guidelines will be observed:

(1) In order to prevent and avert serious vegetation fires, the Fire Danger Class Restriction Chart at Appendix F must be adhered to at all times. This chart has been developed to reduce property damage, lost training time, and injury to personnel to a practical optimum; not an attempt to prevent all fires and curtail all fire starting activity. Fires will start and must be extinguished; however, if the guide chart is adhered to they should be small and easy to extinguish.

(2) All personnel in range and training operations will remain alert and report fires immediately to Range Control, giving the location and approximate extent of the fire and action being taken to deal with the fire. Additionally, Range Control will immediately notify the Fire Department and the DPW Environmental Division and Natural Resources Branch regarding date, time, and location for incorporation in air monitoring analysis.

(3) In the event of a fire on any range or training area, all personnel come under the control of the Range OIC, who will take charge of directing the firefighting activities until relieved by the fire department. The Range OIC will not, under any circumstances, commit troops to fight fires forward of the firing line without first obtaining clearance from Range Control to move downrange. All personnel entering a burning impact area are to be aware of the inherent hazards associated with a dud/UXO-laden area.

(4) All personnel will remain at the site until the fire is extinguished or until Range Control or the Fire Department Incident Commander releases them.

(5) The OIC of each range and training area will develop and implement a firefighting plan for the area. Ranges that use tracer or pyrotechnics will

maintain at least six long-handled shovels, six heavy-duty leaf rakes, and one ax for fighting vegetation fires.

(6) The provisions of FLW Reg 420-1 apply to the use of troop support to extinguish a fire.

(7) Open fires are prohibited unless approved by request through the RCO and a burn permit is issued by the Fire Department, and then only with the approval of Range Control immediately before starting the fire.

(8) The Natural Resources Branch, DPW, conducts a prescribed fire and controlled burning program to reduce fire hazards, maintain open areas for training activities, and improve ground cover for soil protection and wildlife habitat. A firebreak system has been developed and is maintained in order to contain fire in high-hazard areas such as tracer firing and demolition ranges and to allow controlled burning. The Natural Resources Branch, DPW, will maintain close coordination with Range Control in executing this program.

b. Space heaters.

(1) The Fire Department policy is that any space heater approved by the Army for use in a field environment is okay to use. Set up and use space heaters in strict compliance with manufacturer's operating instructions and all applicable TMs and regulations.

(2) Install the space heater on level ground, with noncombustible flooring, at least 3 feet from shelter walls. In tents with wooden floors or wooden sheds, install space heaters as follows:

(a) Construct a sandbox at least 36 inches long by 36 inches wide by 4 inches high. Place a sheet of metal on the bottom of the sandbox.

(b) Fill sandboxes with 3 1/2 inches of lightly packed sand. Do not use gravel.

(c) Place space heater in the center of the sandbox on two 8-inch by 16-inch concrete masonry blocks. Place space heaters at least 3 feet from tent or shed walls.

(3) Shelters using space heaters should be placed a minimum of 30 feet apart. Smoking is prohibited in tents and sheds containing wooden floors.

(4) Operation of space heaters.

(a) Train all space heater operators IAW AR 600-55 and ensure they are familiar with TM 10-4500-200-13. In IET units, cadre are the only persons authorized to operate and maintain space heaters.

(b) Do not leave space heaters in operation unattended. Units operating space heaters will have one fireguard in each tent with one serviceable 5-pound Type ABC rated dry-chemical fire extinguisher for each space heater in operation. Fire extinguishers installed in facilities are for the protection of real property and will not be taken to the field. Extinguish fires in space heaters when space heaters are no longer needed. Do not use fire extinguishers to extinguish space heaters except during an emergency.

(c) Place all ashes in a covered metal container located a minimum of 15 feet away from any combustible materials

(d) Only use fuels in space heaters that are IAW the heater design and TM.

(e) Never use adapter kits to convert Type I (solid fuel) space heaters to Type II (flammable liquid) space heaters. Never use flammable or combustible liquids, presoaked wood, ammunition, or ammunition by-products to start solid fuel heaters.

(f) Unit fire wardens will conduct weekly inspections of all space heaters in operation. Pay particular attention to the installation of the space heater and that it is free of soot and properly secured.

(5) Report all fires outside the cantonment area to Range Control and the Fire Department.

Chapter 4 RANGE FIRING

4-1. Who may be an Officer in Charge (OIC)/Range Safety Officer (RSO)/Smoke Control Officer (SCO)

a. A commissioned, warrant, or noncommissioned officer (NCO) in the grade of E-7 or above, from the training or firing unit chain of command may perform duties as Range OIC. EOD team leaders will assume duties as OIC for all EOD operations.

b. A commissioned, warrant, or NCO in the grade of E-6 or above from the training or firing unit chain of command may perform duties as RSO/SCO. NCOs in the grade of E-5(P) that are filling an E-6

position may also serve as the RSO/SCO. Memorandum from the battalion commander is required.

c. The RSO on combined arms live-fire exercises (CALFEX) will be of the grade prescribed in AR 385-63 based on the complexity of the exercise and number of participants (such as squad or platoon).

d. Civilians in the grade of GS-7 and above (or their equivalent civilian contractor) may act as OIC and GS-5 and above (or their equivalent civilian contractor) may act as RSO of firing ranges if they are qualified and approved to perform such duties by the RCO (such as weapons testing and competitive shooting).

e. All ranges will have a certified RSO present on the firing line during live-fire. The chain of command to which the RSO is assigned will have complete responsibility for all aspects of firing and firing safety.

f. Commander will designate OIC and RSO before training begins. He will ensure that the RSO knows his duties and has qualified with the weapons systems involved.

g. All OICs and RSOs/SCOs are required to receive an annual safety briefing from Range Control and will possess a valid FLW Form 377-1. Unit RSO/OIC will surrender their FLW Form 377-1 to range NCOIC while on the range. All OICs and RSOs/SCOs will also receive an ITAM sustainable range brief. Safety briefings are given every week. FLW Forms 377-1 are issued by the RCO and are valid for 1 year. Additional certification training is required for hand grenade, demolition, or rappelling. See Appendix G for smoke operations and for FLW Air Permit Compliance.

h. Responsibilities of the OIC, RSO, and SCO are detailed in paragraphs 1-4d, 1-4e, and 1-4g, respectively, of this regulation.

i. When personnel performing the duties as OIC/RSO/SCO commit a safety violation or violate a provision of this regulation certification may be revoked by Range Control. If Range Control relieves the OIC/RSO/SCO, the range will cease all live-fire until the OIC/RSO/SCO is replaced by a qualified OIC/RSO/SCO and has reported to Range Control. Requests for recertification will be signed by the brigade commander and approved by the Chief of Staff.

j. Commanders of artillery, mortar, and armor units will establish and maintain a safety training and certification program for their personnel. Range

Control may randomly test safety-qualified personnel to validate a unit's safety training program.

4-2. Assistant range safety officer (ARSO)

a. A commissioned, warrant, or NCO in the grade of E-6 or above, from the training or firing unit chain of command may perform duties as ARSO. West Point and ROTC cadets, between their third and fourth year, may perform duties as ARSO at the discretion of the unit commander. Reserve/National Guard units may use E-5 at the discretion of the firing unit commander.

b. The principal duty of the ARSO is to enforce safety regulations on the firing line, including weapons inspection prior to moving weapons off of the firing line.

c. ARSO personnel will understand the various safety signals necessary to ensure safe operation of the range.

4-3. Nonmilitary personnel on ranges/training areas

a. The organization or agency will comply with the requirements and procedures established by AR 385-63/MCO 3570.1B, local range regulations, and SOPs.

b. Requests for use will be coordinated via staffing paper with the installation Range Control Office and the Staff Judge Advocate (SJA) and submitted to the Garrison Commander for approval. Allow a minimum of 30 days for staffing and approval.

c. Request will identify if non-DOD associated minors will be involved in firearms activities. If so, the activity must be an approved course of marksmanship training, unless otherwise approved by the Garrison Commander.

d. A license must be obtained between the installation and the nonmilitary organization, detailing all rights and responsibilities of each party, liabilities, procedures, and regulatory and procedural requirements. This agreement will be incorporated into the report of availability as required by AR 405-80.

e. The nonmilitary organization designates an OIC and RSO. Personnel designated as OICs and RSOs will complete a pistol and rifle course approved by the National Rifle Association, or equivalent (for example, the U.S. Pistol Shooters Association). The Garrison Commander, based on

input from the RCO, safety officer, SJA, and other staff agencies, as appropriate, determines the equivalency.

f. The installation RCO will ensure that designated OICs and RSOs are briefed on their duties and responsibilities.

g. Inspection team members engaging in authorized marksmanship training or participating in activities involving weapons firing, such as organizational family days, will comply with this regulation, installation regulations, and SOPs. Requests for these activities will specify if minors are involved.

h. Civilian personnel, such as family members and local populace, must receive authorization from the installation RCO to enter the training complex to participate in or observe capability exercises, fire power demonstrations, training courses, competitions or other types of training. Such personnel will remain in the safe area as determined by the installation RCO.

i. The DOD, U.S. Government, and other nations' delegations arranged through the Office of the Secretary General Staff (SGS) are exempt from this requirement.

j. The use of civilians/family members during MOUT or urban training is prohibited. Civilian on the battlefield (COB) scenarios will utilize DOD members or civilian contractors hired to perform such duties. Units will coordinate with Range Control for any contract to perform COB scenarios.

4-4. Small arms range live firing

a. Upon arrival on the range, the unit will have all weapons on status "green," and clear all weapons by rodding and conducting a visual inspection of the weapon chamber. Lock bolts to the rear and place the weapon on safe. On convoy live-fire, weapons will be rodded by the safeties of each vehicle to ensure that their firers are at a green status. Rodding of the weapons will happen as the firers are entering the vehicle, after each engagement, and before exiting the route. **NOTE: ON THE CLFR, ONLY SAFETIES WILL ROD AND CLEAR WEAPONS.**

b. Communication with Range Control will be established upon occupation of any range. When ready to initiate firing, the OIC of the range will request permission from Range Control to go "wet."

c. Before entering or leaving the firing line, the RSO will visually clear and rod every weapon. RSO

will visually inspect the chamber of the weapon and observe the tip of the rod enter the chamber. Safety personnel will inspect each weapon prior to firing for serviceability.

d. All rifles will have the magazine out, bolt to the rear or chamber plug inserted, and placed on safe except during the conduct of live-firing, dry-firing or concurrent training. All other weapons will be cleared IAW applicable FMs or TMs and guidance from the senior commander. Weapons not being used will be stacked or placed in weapons racks, magazine out, bolt locked to the rear or chamber plug inserted, placed on safe, and adequate guards posted for security.

e. Upon completion of firing, Soldiers will perform a four-point safety check IAW FM 3-22.9. NCO verifies chamber is clear, magazine dropped, weapon on safe, and indicates to tower with a white panel. Soldiers place remaining empty magazines in their ammo pouches. Soldiers move with weapon at low ready position off the firing line to closest clearing barrel. Each Soldier conducts weapons clearing procedures at clearing barrel IAW FM 3-22.9 observed by NCO (final check on the firing line). Soldiers move from the clearing barrel at low ready position to the Ammo Issue Point to return empty magazines from their ammo pouch. While passing, RSO reconfirms each weapon is on safe with no magazine in the magazine well.

f. Weapons carried on the firing line may be carried at the low ready. When on the CLFR, weapons will be carried at the low ready at all times.

g. During live-fire exercises, consider all weapons loaded. Point weapons only at authorized targets.

h. During live-fire exercises, display a red flag from a prominent location at the entrance to the range. Clearly mark the right and left firing limits of each firing range with poles painted red and white. Ensure they are clearly visible from the firing line. The OIC and RSO are responsible for ensuring all firers and range personnel are fully aware of the location of range boundary markers prior to firing. The RSO will ensure that safety fan limitations are not exceeded. During exercises requiring movement, an ARSO will accompany firers to ensure that they are properly aligned and that all weapons are pointed downrange.

i. During night-firing exercises, display a red light and a red streamer from a prominent location at the entrance to the range. Also use red lights to mark the right and left firing limits.

j. Conduct dry-firing away from the firing line in a designated concurrent training area. Personnel in the rank of E-5 or above must supervise dry fires.

k. Smoking is permitted in designated areas only.

l. Running is not permitted on the firing line except on ranges that are specifically designed to incorporate such training.

m. Personnel will not move forward of the firing line until all weapons are cleared and given clearance from the tower.

n. Any individual who observes an unsafe condition during firing exercises will immediately command, "cease-fire." When a cease-fire command is heard, all personnel will repeat it until firing has ceased. RSO will immediately investigate the unsafe condition, take necessary corrective action, and inform the OIC.

o. When using the M16A1 rifle, affix M16 brass deflection device for left-handed firers.

p. All personnel will wear authorized, properly fitted hearing protection when on or near the firing line (see paragraph 3-20).

q. Safety personnel will inspect personnel for brass, ammunition, and residue, and clear their weapons prior to leaving the range IAW the guidance issued by the senior commander.

4-5. Special operations range complex and antiterrorism evasive driving complex (TA 210)

a. The Special Operations Range Complex consists of several stations for firing weapons that may be in operation simultaneously and requires special safety precautions and supervision. The Antiterrorism Evasive Driving Complex consists of a 1.7-mile high-speed track, skid pad, motor pool, and classroom facility. The RSO and OIC are responsible for the overall control and safe conduct on these facilities. Each station of the complex will have an ARSO that is responsible for that station's control and safe conduct. Because the student/instructor ratio is generally never more than 2:1, instructors may simultaneously perform duties as ARSO for the station. All RSO, ARSO, and instructors will be RSO certified.

b. The RSO for the Rappel Tower will have been rappel certified within the previous 12 months.

c. All visitors to the Special Operations Range Complex will report to Range Control for

authorization and instructions prior to entry on the range.

d. Uniform for training is dictated by the existing Special Operations Range Complex and Antiterrorism Evasive Driving Complex SOP and is specific to the type of training conducted. All firers (live-fire or special effects small arms marking cartridges) and instructors will wear safety ballistic eyewear. Hearing protection will be worn during all live-fire events.

e. The OIC for the Special Operations Range Complex and Antiterrorism Evasive Driving Complex will establish and maintain communication with Range Control. OICs will also maintain communication with each of the stations within the range or driving complex at all times.

f. The Special Operations Range Complex SOP outlines special conditions for modified or nonstandard firing positions, weapons handling, target engagement, and movement with a weapon to include running on the range. These activities are authorized only for the specified training as stated in the Special Operations Range Complex SOP. Any deviation from established training SOPs must be submitted, in writing, through DPTMS to Range Control for approval by the RCO.

g. The Antiterrorism Evasive Driving Complex SOP outlines special conditions for high-speed, evasive-maneuver driving and safety requirements. The activities are authorized only for the specified training as stated in the Antiterrorism Evasive Driving Complex SOP. Any deviation from established training SOPs must be submitted, in writing, through DPTMS to Range Control for approval by the RSO.

h. Units desiring to use this facility must submit a request through the Special Tactics Training Division, Director of Training, United States Army Military Police School (USAMPS).

i. All range safety procedures outlined in paragraph 4-4 of this regulation apply to the Special Operations Range Complex and Antiterrorism Evasive Driving Complex except where stated above.

j. Civilian GS-07 and above or their equivalent contract civilian employee may serve as OIC/RSO.

k. Range Control will provide medical support during all live-fire and rappelling operations conducted on the Special Operations Range Complex.

l. Firers will load on command of their individual instructor or as determined by the firer as required when conducting the gun stress and shoothouse exercises.

4-6. Powder burning

a. Burning of unused powder must be approved by Range Control and be supervised by a certified representative of Range Control.

b. Transport excess propellant to the powder burning area in a metal container on a cargo vehicle with a metal cargo bed. Do not transport other material, equipment, or passengers in the cargo bed with excess propellant.

c. Conduct powder burning only at the location given and specified by Range Control. Powder burning will not take place at the same location within a 24-hour period. Range Control will sign DA Form 581 (Request for Issue and Turn-In of Ammunition) upon completion of the burn.

d. Except for a two-man burning detail, all personnel and equipment will be at least 300 m from the burning site.

e. Only one unit at a time is authorized to use a powder burning area.

f. Mark powder-burning pits with a red flag for daytime burning and a red light for nighttime burning. Space increments 2-3 inches (5-7 cm) deep, 18 inches (45 cm) wide, and as long as necessary. Ignite powder on the upwind side by lighting a starting train of powder at least 12 inches (30 cm) long.

g. Clear brush, grass, and leaves at least 10 m from the burning area to prevent a fire from spreading.

4-7. Ammunition and explosives care, handling, and safety

a. Adhere to safety precautions contained in AR 385-63, AR 385-64, FLW Reg 700-2, TM 43-0001-28, and the appropriate operator's manual when handling, transporting, and firing weapons.

b. Protect ammo from adverse weather elements, to include the direct rays of the sun. Do not remove ammunition from sealed containers earlier than is necessary to prepare it for firing, which includes inspection and maintenance. Precutting of powder charges is prohibited except for controlled demonstrations where a registration has been

conducted, or for training in suppressive fire situations. Commanders will ensure that rounds with charges pre-cut are fired safely.

c. Use only authorized fuze wrenches to install the fuze in the projectile. Do not use excess pressure. If the projectile contains a deep fuze cavity, insert supplementary charge into the cavity unless a long intrusion variable trim (VT) fuze (M728, M514, or M513) is used.

d. When affixing artillery and mortar fuzes to projectiles, select modes and time settings IAW TM 43-0001-28. Use minimum range authorized on safety card as it applies to the fuze used.

e. Do not leave ammunition/residue powder unattended.

f. Secure ammunition to prevent any movement.

g. Vehicles loaded with explosives will carry "EXPLOSIVES" signs on the front, rear, and each side of the vehicle. Cover or remove signs when explosives are unloaded from the vehicle. Coordinate with the SFO in determining appropriate fire extinguisher requirements.

h. Locate staging areas at least 400 m from cantonment area boundaries and public traffic routes. Staging areas may be set on established firing positions.

i. Ammunition may be distributed to tactical vehicles IAW the TMs for that vehicle. Propellant and projectiles may be carried on firing vehicles with weapon systems designated for that purpose. Do not transport projectiles while fuzed, except when issued as a fuzed round.

j. Vehicles will not park within 10 m of fire control equipment of any type.

k. Do not use lights, other than approved electric lanterns or flashlights, near explosives or ammunition.

l. Ensure that two serviceable BC-rated fire extinguishers, 5 pounds or larger, are available in areas where ammunition or explosives are being handled.

m. Separate explosives and components of explosives located in shelters in such a manner that a fire cannot spread from one shelter to another.

n. Clear boxes, containers, dunnage, and packing materials from areas where explosives are

handled as soon as contents are removed. Stack in a neat and orderly fashion.

o. Smoking is prohibited in any building, vehicle, or location within 50 feet of buildings or vehicles containing explosives or ammunition.

p. Every precaution will be taken to prevent mixing ball and tracer ammunition with blanks and dummy rounds. Ammunition points for ball and tracer will not be co-located with blank ammunition points. RSO and OIC, with help from unit cadre present, will conduct an "ammo shakedown" and clear all weapons when there is a change in ammunition used.

q. The OIC of any exercise involving the use of ammunition will conduct an ammunition safety briefing prior to issue. The briefing will cover, as a minimum—

- (1) Dangers of ammunition tampering
- (2) Handling and firing ammunition
- (3) Proper storage
- (4) Steps to be taken in the event of an ammunition mishap

r. Military munitions, to include expended smoke pots and smoke grenades, must be managed IAW FLW Reg 700-2, Appendices L and M, and the Military Munitions Rule (MR2). All grenade spoons and pull rings must be turned in to the Ammunition Logistics Section (ALS). The following information provides general guidance as set forth in FLW Reg 700-2, Appendix F.

(1) Use of military munitions for training activities by using units is considered to be the intended use of the munitions, and does not generate waste (Military Munitions Rule (MR2), Chapter 3, Paragraph B.1). Training units will not take any action, such as removal, transportation, or burial, to dispose of munitions that land on the range. Such actions would be considered disposal of waste under the Resource Conservation and Recovery Act (RCRA) and Military Munitions Rule (MR2, Chapter 5, Paragraph B.1).

(2) Regarding munitions which land on the range, EOD personnel will check and certify in place that those munitions that have malfunctioned are rendered safe or destroy such munitions in place (considered a routine range maintenance activity; it is exempt from RCRA under MMR, Chapter 3, Paragraph B.3). Regarding munitions which land

outside a range, EOD personnel will contact the Missouri Department of Natural Resources (MDNR) concerning the need for an RCRA emergency permit and will dispose of munitions IAW the terms of such permit.

(3) All range munitions determined to be unsafe misfires and all UXO will be destroyed on-site by EOD personnel during range clearance. Destruction of munitions during range clearance operations is considered a routine range maintenance activity, exempt from RCRA.

(4) Management of range scrap (expended military munitions), must be managed per explosive, safety, and environmental requirements. When range scrap is removed from the range, qualified personnel (as identified by the installation commander) must inspect and certify that they are inert.

(a) Inspection methods include a 100 percent visual inspection. When removed from the range, range scrap is a solid waste and potentially a hazardous waste.

(b) FLW Regulation 700-2, Appendix H, provides a listing of ammunition and explosives currently used in training on this installation. Those items preceded by a plus (+) have been tested by other organizations for hazardous waste (HW) determination. These items are considered hazardous waste based on the tests performed unless determined by ALS to have a market value for recycling as scrap metal. If there is no market available for these items, prior to removal from the range, the activity will coordinate with the Ammunition Supply Point (ASP) for the return of these items as HW to the Satellite Accumulation Point (SAP) located at the ALS. Those items preceded by two pluses (++) have not been evaluated for hazardous waste determination.

(5) Currently, the Army Environmental Center (AEC) is testing expendable range residue for HW determination. These items will remain on the range until evaluated for HW determination. Contact the DPW Environmental Branch, 6-0882, for further guidance on these items. All other items not preceded by a plus(es) may be removed from the ranges and taken to the ALS for further evaluation/processing as recyclable scrap metal. If not feasible, these expended munitions will be placed in with regular trash refuse once they have been certified explosive free by qualified installation personnel.

4-8. Security of arms and explosives

a. Arms, Ammunition and Explosives (AA&E) will be under continuous positive control. A minimum of two persons will perform guard duty.

b. AA&E will not be left unattended or unsecured.

c. Persons charged with custody of AA&E will have the capability to sound the alarm if a forceful theft is attempted.

d. A system of supervisory checks will be established to ensure that all personnel comply with security procedures. Supervisory checks of the AA&E holding area will be made to ensure that the AA&E being guarded have not been tampered with.

e. Control of ammunition and explosives during field training or range firing will be monitored closely by the OIC and cadre conducting the training. Soldiers who are in a "trainee" status will be closely supervised if used for ammunition detail or to guard ammunition and explosives. Upon completion of training, the area(s) will be policed and unused ammunition and explosives collected for turn-in. Personnel will be checked closely to ensure unused ammunition and explosives are not retained.

4-9. Explosive charges, mines, firing devices, pyrotechnics, hand grenades, and blank ammunition

a. Conduct of demolition training on Fort Leonard Wood IAW FM 3-34.214.

b. Scheduling of Demolition Ranges.

(1) All demolition ranges will be scheduled through DPTMS Scheduling Branch.

(2) Final approval/disapproval authority for all demolition requests is Range Control.

c. Maximum Demolition Charges (in net explosive quantity).

(1) Maximum demolition charge (surface) is 100 pounds (lbs). Maximum demolition charge in a steel-cutting bunker is two lbs.

(2) Maximum demolition charge (subsurface) is 200 lbs except for quarry and EOD operations, which cannot exceed 2,000 lbs without Range Control approval.

(3) Maximum Demolition Effects Simulators (DES) charge is 5 lbs Det Cord, M456 (see "g" below for details on DES utilization).

(4) Exceptions will be submitted to Range Control with blast request.

(5) Charge limits may be reduced by Range Control due to low cloud cover or other safety factors. Range Control will inform the unit prior to issuing a blast window.

d. Blast Window Requests (request, open, close).

(1) Blast Requests will be submitted for DES/Pyrotechnics, Urban Breach, and Demolitions.

(2) Blast requests will be forwarded to Range Control Operations no later than 2 weeks prior to the date training is to begin, and will include the following: matrix of explosives and firing devices, diagram, or sketch of blast, and risk management worksheet. See sample blast request at Appendix M.

(3) Before detonation, contact Range Control and open the appropriate window for pyro/DES, urban breach, or demo. While opening the appropriate window, notify Range Control of the type and size of the charge, location, number of detonations, and the expected time of detonations. Reference the blast request submitted 2 weeks prior. Once notified, Range control will issue a blast window with time constraints to execute the detonation. Windows will vary based on amount of detonations. Units are responsible for notifying Range Control upon completion of detonations.

(4) Blast requests may be submitted to cover a "maneuver box" to facilitate concurrent execution of detonations for units training.

(5) A DES/Pyro window and an urban breach window can be opened for up to 4 hours. A live demolitions window is opened for 10 minutes.

(6) Upon the completion of training, units will report all munitions expended by DODIC to Range Control.

e. Explosive Urban Entry, FM 3-34.214, Chapter 7.

(1) Each breaching charge is designed and constructed to defeat a specific target. Calculating the Net Explosive Weight (NEW) of the charge will allow the breacher to determine the safe distance for the assault team during detonation. Without this information, the breacher could place the assault team in a dangerous location.

(2) NEW equals the total lbs of explosives expressed in TNT equivalent. The formula is—

$$Qty \times Wt \times RE \text{ Factor} = NEW$$

f. Utilization of Firing Systems.

(1) Trainers will know the misfire procedures as outlined in FM 3-34.214 as well as the appropriate TM for the type of firing system being used.

(2) When Modern Demolition Initiators (MDI) are used, trainers will ensure that they are familiar with the procedures as outlined in FM 3-34.214 and the Primadet instruction pamphlet.

(3) The electric dual firing system, as outlined in FM 3-34.214, is the preferred method for firing demolitions when positive detonation is required. Trainers are encouraged to use this method to the maximum extent possible in light of training objectives and the tactical scenario.

(4) Use of non-electric dual firing systems, as outlined in FM 3-34.214, may be used for specific training objectives or tactical scenarios.

(a) A test burn of time fuse will be performed to establish the burn rate.

(b) No one will go down range after detonation for a period of time equal to the burn time for the longest piece of time fuse in the firing system, or 10 minutes, whichever is greater.

(c) Dual prime all cratering charges with detonating cord. Never place blasting caps underground. All other caps will be handled IAW FM 3-34.214. Attach electrical and non-electrical caps to the detonating cord above ground.

(5) If possible, detonate charges on soil free from gravel, rock, metal, or other possible missiles to a depth of at least 6 inches. Provide a sandbag barricade of at least 1 m above surrounding level ground between the location of charge and personnel.

g. Demolition Effects Simulators (DES). DES charges are explosives which use detonating cord, blasting caps, MDI, cardboard, sand and chalk to simulate explosives. DES is not pyrotechnics; however, it is fired during an authorized DES/pyro window. DES training is not to be confused with urban breaching (technique that uses detonation cord as primary explosive). IET Units conducting DES or Urban Breach training will require one of the top three unit representatives to be on site for the duration of the training event. The following safety precautions will be followed when training with DES.

(1) Safety.

(a) Follow all safety precautions in Regulation, TC 5-250 and FM 3-34.214, AR 385-63 and DA Pam 385-63.

(b) The minimum safe distance (MSD) requirements are the same for DES charges as the charge it simulates and the training being conducted, for example: 40 lbs cratering charge MSD is 342 m; the MSD for 40 lbs cratering DES charge is 342 m. The commander of the unit conducting training ensures proper MSD.

(c) Units are required to post a demolitions guard once DES charges are constructed. At no time will DES charges be unattended.

(d) Units will not combine DES charges with inert training devices at any time.

(2) Authorized DES charges, IAW FM 3-34.214:

M118 sheet explosive
M112 (C4) block
One-pound TNT block
M5A1 demolition block
M183 demolition (satchel) charge
M2A3 fifteen-pound shape charge
M3 forty-pound shape charge
Forty-pound cratering charge
Bangalore torpedo
M1 military dynamite

(3) Construction of DES Charges.

(a) The construction of DES charges will be IAW materials list in FM 3-34.214; units will not deviate from this material list.

(b) The construction of Improvised explosives devices (IEDs) using real explosives or components of live demolitions is not authorized.

(4) Scheduling DES training events.

Units training with DES will be scheduled on a range or training area that is approved for that purpose. If a training exercise is going to utilize multiple training areas/ranges, all applicable land requests must be cleared through Range Control for DES use (See Blast Requests, para. d).

h. Training/Testing Requirements

(1) All personnel instructing in the use of explosives or exercising immediate close supervision in the use of explosives, other than

pyrotechnics or hand-fired simulators, will attend the Demolition Orientation Briefing given by Range Control. This briefing is required before training at any demolition range on Fort Leonard Wood.

(2) Demolition Orientation Briefings are given every week as needed after the Range Safety Officer Briefing.

(3) Units are responsible for training and testing RSOs/OICs on demolitions. Personnel will bring a memorandum signed by the battalion commander or S-3 authorizing them to receive a demolition stamp from Range Control. Stamps are good for one year.

(4) EOD personnel are not required to receive a Demolition Orientation Briefing; however, they will comply with the provisions of AR 75-15 and all EOD applicable regulations and FMs for all demolition procedures and safety precautions during training and operations.

i. Use of nonstandard items of explosives and field expedient explosives.

(1) The term "nonstandard item of explosive" relates to an item that has—

- Not been accepted and type classified by the U.S. Military.
- Is a standard munition that has been altered to change its characteristic, or to do an essentially different function than that for which it was intended and then used as initially intended. For example, adding excess increments to mortar/artillery ammunition, jamming VT fuzes, or increasing the powder in small arms cartridges.

Use of nonstandard explosives requires waiver approval by the Commanding General, U.S. Army Material Command (AMC), under the provisions of AR 385-63.

(2) The term "field expedient explosive" denotes a standard item of explosive that is combined with other standard explosive items and/or items that are normally nonexplosive by using techniques and procedures outlined in FM 3-34.214 and FM 5-34. Field expedient explosives do not require TRADOC waiver approval to be employed. However, use of field expedient explosives must be approved by the CG, MANSCEN. Approval will be granted only after a memorandum and Safety SOP for use of the specific field expedient explosive has been developed and implemented. The MSO and

Range Control must approve a detailed risk assessment.

(3) Unit commanders will determine the requirement to train with field expedient/nonstandard explosives.

j. Cratering charges.

(1) The maximum charge to be fired in training will not exceed 145 kilograms (kg).

(2) MSD for personnel not in missile proof shelters will depend on the net explosive weight of explosive used. MSD for up to 2 kg is 100 m; for up to 30 kg, 300 m; over 30 kg, 500 m. All personnel will wear approved protective helmets, flak vest, and single hearing protection. Eye protection should be worn. Missile-proof shelters, if strong enough to withstand any material propelled onto it by the detonation and located not fewer than 100 m from the detonation site, may be occupied by personnel.

(3) All cratering charges will be dual primed with detonating cord. Blasting caps will not be placed underground. Electric or non electric caps will be attached to the detonating cord above ground.

k. Mines.

(1) Training with non self-destructing antipersonnel mines (APs) is prohibited unless approved by Chief of Staff, U.S. Army, or the Commandant of the Marine Corps. When training with non self-destructing APs is authorized, the following additional restrictions apply:

(a) No training with live M14 mines.

(b) No training with the M16 APs without the positive safety pin remaining in the M605 fuze.

(c) Live mine firing demonstrations.

1 Demonstrations must be authorized by the installation commander. This requires that a risk management plan be developed by the using unit and coordinated through the installation range control and safety office. The M15 AT, M19 AT, and M21 AT mines are authorized for demonstrations.

2 Personnel conducting demonstrations must be proficient in all safety and technical aspects pertaining to the live mine demonstration and follow procedures in FM 20-32.

3 The MSDs for personnel in the open is 300 m for the M14 and M16 AP (when authorized) mines and 1,000 m for the M15, M19, and M21 AT mines.

The MSD for personnel in missile proof shelters (capable of withstanding blast and missiles produced by the blast) is 100 m for all five types of mines.

4 Only personnel arming the charges will be downrange during the arming process with flak vest and protective helmets. Spectators and observers will remain at a safe distance (or in a missile-proof shelter) until the demonstration is completed and the area has been declared safe to move downrange to view the effects.

(2) Claymore antipersonnel mines will be operated under the following firing conditions:

(a) Range OICs will ensure mines are installed correctly and facing into the impact area

(b) Emplaced mines will not be disarmed except by order of the Range OIC.

(c) Firing devices will only be connected at the command of the Range OIC.

(3) After firing, the impact area will be inspected by the OIC to ensure that all mines have detonated.

(4) SDZ.

(a) SDZ requirements for firing the M18 and M18A1 Claymore mine are provided in DA Pam 385-63.

(b) Personnel will not be allowed within 16 m to the rear of the mine. Firing personnel may occupy an area between 16 and 100 m to the rear of the mine if they are located in a covered position, lying prone in a depression, or behind a physical barrier. All personnel will wear approved protective helmets, flak vest and single hearing protection. Eye protection should be worn.

I. Pyrotechnics

(1) Care and handling of pyrotechnics, particularly simulators, should be of major concern, because when misused or abandoned, they become extremely dangerous. Pyrotechnics will be authorized by the unit commander and approved only by Range Control for use while training on the range complex. Commanders, OICs, and RSOs will ensure that persons using pyrotechnics or explosive hand-fired simulators are thoroughly trained in the safe control, preparation, and use of these items. See TM 9-1370-207-10 and TM 9-1370-208-10. Pyrotechnics will not be used in any manner that

may cause injury or damage to personnel, wildlife, or the environment.

(2) Do not attempt to disarm, disassemble, or make alterations to simulators under any conditions. Personnel using simulators will select a target spot that is free from gravel, sticks, or other objects that may become missiles, and will ensure that no one is within 30 feet of the target spot or within the trajectory of the simulator. For IET units, only unit cadre will detonate simulators or other pyrotechnics.

(3) RSO must be present when pyro and/or simulators are being used. Personnel using artillery and hand grenade simulators will wear blast protective, leather work gloves or Nomex fire-retardant gloves and protective eyewear.

(4) Turn in all pyrotechnics with evidence of moisture contamination in the item or any indication of mishandling (cracks, dents, breaks, etc.). Do not use. Do not touch malfunctioning pyrotechnics. If there is a malfunction of any kind with pyrotechnics, they are then considered a Dud/UXO. Mark them in accordance with FM 3-34.214 and report them to Range Control in a 9-line reporting format. Pyrotechnics will not be altered in any manner. Use IAW TM 9-1370-207-10 and TM 9-1370-208-10.

(5) Pyrotechnics will not be altered in any manner. Use IAW TM 9-1370-207-10 and TM 9-1370-208-10.

(6) The OIC is responsible for the accountability of all pyrotechnics.

(7) IED/UXO. No IED/UXO training will be conducted along the following roads: Missouri Avenue, Polla Road, FLW 1, FLW 8 and FLW 10. All units conducting IED/UXO training along any FLW roads must contact range control and provide overlay describing training aid description, location, length of time in place and unit POC information. IED/UXO will not be constructed with live demolitions or components such as det cord and blasting caps. The only exception is a formal program of instruction taught on the installation that has been approved and reviewed by the safety office and range control.

m. Hand grenades.

(1) See Appendix B for unit personnel requirements when training on the grenade range (Range 31).

(2) Certification. Personnel performing the duties as OIC/RSO or ARSO on the grenade range

will possess a valid Range Safety Officer Card with Grenade Stamp. Units may coordinate directly with Range 31 to schedule their personnel for certification. Once certified, Range 31 will provide the unit with a memorandum signed by the OIC listing the names of the personnel who have been certified. Units will provide this memorandum along with each certified individual's FLW Form 377-1 (Range Safety Officer Card) to Range Control who will annotate them with the Grenade Stamp.

(3) Under no circumstances will hand grenades be stocked in the throwing bay.

(4) Only one grenade at a time will be thrown into each bermed impact area, regardless of the number of throwing bays being used. Another grenade will not be thrown until the OIC has assured that the preceding grenade has exploded. Dud/UXOs will be reported to Range Control immediately. Training will cease immediately in the bay that contains the UXO and hand grenade throwing will not be resumed in that bay until EOD personnel have destroyed the dud/UXO grenade.

(5) Personnel conducting police call of practice hand grenades will wear gloves.

n. Blank ammunition.

(1) Blank ammunition will not be fired at personnel at distances less than 25 m. Use of blank ammunition in hand-to-hand training is prohibited.

(2) The person signing for the ammunition will ensure that each round is blank ammunition; the ammunition has not been altered or tampered with in any way, and that grenade cartridges are not being used as blank ammunition.

(3) Safety personnel will visually inspect all ammunition and magazines for use in exercises requiring blank ammunition. Such inspections are required prior to deploying the individual to their firing position.

(4) Do not store or transport blank ammunition in any ammunition box or container that contains ball ammunition.

(5) After training has been completed using blank ammunition, the RSO ensures each weapon is cleared by locking bolt to the rear and rodding the weapons.

(6) Blank and ball ammunition will not be issued from the same issue point. Soldiers will not possess ball and blank ammunition within the same training scenario with the exception of the Convoy

Live Fire Ranges (CLFR). On the CLFR, after the blank firing is complete, a cease fire will be called with Range Control so that the firers and safeties can conduct a police call of all expended and non-expended blanks. At the completion of the police call, the range cadre will call for another hot time with Range Control to conduct the live fire scenario. The RSO will ensure a comprehensive "ammo shakedown" is conducted prior to using different ammunition.

o. Commercial fireworks. Commercially manufactured fireworks (those for civilian use) will not be handled, stored, or used in any way by military personnel on FLW.

p. Safety.

(1) Missile hazard.

(a) Explosives can propel lethal missiles (rocks, gravel, shrapnel, etc.) for great distances. The missile hazard from steel-cutting charges extends a greater distance under normal conditions than that from cratering, quarrying, or surface charges of bare explosives.

(b) Personnel in defilade are provided additional protection within the surface danger zone. Defilade can be below ground or an area above ground protected from the blast source by a natural or artificial barrier capable of deflecting or absorbing blast fragments. The installation RSO will assess the adequacy of a natural or artificial barrier.

(c) The following criteria gives distances at which personnel in the open are relatively safe from missiles created by bare charges placed in or on the ground, regardless of the type or condition of the soil.

1 For charges weighing less than 27 lbs, the minimum missile hazard distance is 300 m.

2 For charges weighing more than 27 lbs, the distance at which personnel in the open are relatively safe from missiles can be calculated from the following formula. Safe distance (in meters) is equal to 100 times the cube root of the pounds of explosives. Safe distance (m) = $100 \times \sqrt[3]{\text{pounds of explosives}}$. Safe Distance in feet is equal to 300 times the cube root of the pounds of explosives ($300 \times \sqrt[3]{\text{pounds of explosives}}$). See FM 3-34.214 for minimum safe distances calculated for selected charge weights.

(d) For personnel, provide missile-proof shelters designed to prevent fragment and debris penetration when charges are placed to demolish

solid material. These shelters will be placed at least 100 m from the detonation site and will be strong enough to withstand the heaviest material that might be thrown at them.

(2) Mine safety.

(a) Mines will have the appropriate identification marking stenciled on them. Service, practice, and inert mines and fuzes will not be mixed.

(b) Inert mines and mine fuzes do not present a safety hazard. They will be color coded and marked in accordance with MIL STD-709C to prevent mixing with practice and HE mines.

(c) Practice mines and their fuzes contain a small, low explosive charge or a smoke producing increment. They will be color coded in accordance with MIL STD-709A.

(d) Live mine training (individual training) is authorized with the M15 antitank mine, M19 antitank mine, and the M21 antitank mine.

1 Do not arm and disarm any mine more than 25 times.

2 Do not use trip wires, anti-handling devices, or booby traps, or bury live mines.

3 Do not use tilt rods with live mines.

4 Do not conduct live mine and simulator training at the same time and location. This will prevent a live mine from being mistaken for an inert mine.

5 Procedures in FM 20-32 will be followed.

6 Flak vests will be worn in addition to approved protective helmets.

7 Live mines will not be camouflaged during training.

(3) Electric blasting caps can be detonated by radio frequency. Calculate MSD from Table 6-1 in FM 3-34.214.

(4) No detonation will occur within 300 m of any road unless road guards are posted and traffic is halted.

(5) The RSO will adhere to safety restrictions and distances listed in AR 385-63, FM 3-34.214, or appropriate training manual, whichever is greater.

The RSO must be on site and ensure that Range Control approves all charges as indicated by the Demolition Reconnaissance Report.

(6) Fire fighting materials, as determined by the RCO and the SFO, will be available at all times in blasting areas to suppress vegetation fires.

(7) Multiple demolition blasts will be separated by intervals of at least one minute, but not more than 10 minutes.

(8) Discontinue all demolition training operations during or on the approach of an electrical storm or severe dust storm.

(9) Do not conduct demolition training within 155 m of energized power transmission lines.

(10) Remove all other possible sources of static electricity from the area when electric firing is planned.

(11) Detonate charges electrically from a position that allows a clear view of the demolition area and the immediate vicinity.

(12) Conduct steel-cutting only on Range 33 or Range 26 in a steel cutting bunker. Maximum charge weight in the steel cutting bunkers is two pounds.

(13) Conduct timber-cutting (Abatis) in accordance with FM 3-34.214. Only ten-inch diameter trees or less may be used. DPW Environmental Division will identify trees and coordinate with range control to cut the trees.

(14) Due to maximum safe distances and surface danger zones, some fans may overlap and some training facilities will be closed when units are using ammunition and explosives. Range Control will monitor the MSD and SDZ for all range complex areas and inform units that may be affected. No unit will be within an active SDZ if another range is "wet." In the event of a conflict, Range Control has final control over which unit will suspend training.

(15) The gases released by the detonation of common explosives are toxic. Positioning personnel upwind from the detonation point should avoid breathing these fumes.

(16) Misfires will be handled in accordance with FM 23-23.

(17) Report the location of dud/UXOs or abandoned pyrotechnics to Range Control.

4-10. Mortar and artillery fire

a. Artillery and mortar fire are restricted to indirect fire, except for special circumstances approved by Range Control.

b. Overhead fire requires certified ammunition and will be conducted IAW AR 385-63. Lots for artillery fuzes, projectiles, and propellants must also be certified for overhead fire IAW AR 385-63.

c. Units firing are responsible for coordinating with Range Control to determine if the Cannon Range is operating on the day they are scheduled to fire. Range Control will establish controls to ensure a cease-fire while aircraft are on station.

d. Unit commanders or the S-3 will hand-carry copies of their firing data to Range Control for verification that firing is planned within the prescribed safety limits.

e. Safety overlays must be submitted to the S-3, TSB for approval a minimum of 6 weeks prior to firing. Safety fans will be drawn on overlay paper or clear plastic using FLW Installation Map 1:50,000.

f. The firing unit will ensure that the correct firing data is plotted by each FDC and correctly placed on their weapon systems before firing downrange.

g. Conduct of firing requirements.

(1) Indirect-fire weapons will only be fired from established mortar and artillery firing points. For artillery, the base piece must be within 100 m of the firing-point marker. Range Control maintains a survey list for all approved artillery and mortar firing points. Do not use nonestablished firing points without approval of the RCO.

(2) Prior to firing, units will obtain a 10-minute window from Range Control.

(3) Indirect-fire weapons will be laid for live-fire operations only with a properly declinated aiming circle. A second properly declinated aiming circle will be used to verify the lay of the weapon. Orienting angle is the preferred method of laying the battery. The grid azimuth method will only be used if survey is not available. There will be no more than 2-mils variance between the "lay" circle and the "safety" circle, regardless of the method of lay used.

(4) Using units will establish and maintain an artillery safety training and certification program for their personnel.

(5) The OIC is responsible for all aspects of safety in the firing unit and on the assigned firing range/position.

(6) Before departing for firing points, the OIC will ensure that—

(a) An approved safety overlay has been submitted to Range Control.

(b) He is familiar with all publications concerning the activities to be conducted and weapons used.

(c) He has in his possession required maps, this regulation, AR 385-63, and current publications pertaining to the unit's activities and weapons used.

(d) RSOs are properly qualified in their duties and have valid FLW Forms 377-1 in their possession.

(e) The weapon has been bore scoped within prescribed time frames.

(7) Before firing, the OIC will ensure that—

(a) All participating personnel are familiar with current safety regulations pertaining to the unit's activity.

(b) The bore sight and lay of each weapon is correct.

(c) Minimum elevations (determined by the RSO) will be compared with the firing battery executive officer's minimum elevations for site to crest, using the larger of the two as the minimum elevation.

(d) Communication has been established with Range Control and permission to fire has been obtained.

(e) Maximum safe quadrant that will ensure illuminating projectiles impacting in the fans is computed.

(f) Safety overlays have been reviewed and support the intended training.

(g) Approval has been received to fire illumination, if applicable.

(8) During firing, the OIC of the firing unit will ensure that all personnel on or near firing points are wearing kevlar helmets and authorized, properly fitted hearing protection.

(9) Before firing, the RSO will—

(a) Verify that Range Control approved the range request.

(b) Verify that all range safety overlays comply with the firing data.

(c) Verify the boresight and lay of each weapon.

(d) Compute the minimum elevation and the data from the safety diagram.

(e) Supervise the placing of safety stakes and the raising of the range flag.

(f) Ensure that ammunition is handled and stored safely and checked for obvious defects.

(g) Inform each section chief of the right and left deflection limits, minimum and maximum quadrant elevation, and the minimum time setting.

(h) Check the line visually.

(i) Establish internal safety communications. Ensure that permission to fire is granted by Range Control, and ensure compliance with all cease-fires/check-fires.

(j) Verify that weapons have been bore scoped, and the correct entry is made in the logbook, DA Form 2408-4 (Weapon Record Data), and verified by the commander.

(10) During firing, the RSO will—

(a) Enforce all safety regulations at all times.

(b) Ensure each weapon system fires a minimum of one round of smoke to verify gun target lay.

(c) Not allow weapons to fire with an incorrect setting or charge that would cause a projectile to land or burst outside the safety limits or permit overhead fire of ammunition or fuzes not cleared for overhead fire.

(d) Command cease-fire/check-fire immediately when an incorrect setting or charge that would cause a projectile to land or burst outside the safety limits is detected.

(e) Report all duds/UXO immediately to Range Control.

h. Restrictions are as follows:

(1) Entry into surface danger areas, restricted areas, or off-limits areas is prohibited. Report violators to Range Control.

(2) Access to impact areas is prohibited without special authorization from Range Control.

(3) Firing unfuzed projectiles on any FLW firing point is prohibited.

(4) Do not bring gun tubes down to loading elevation or correct for aiming post displacement until initial rounds have impacted safely in the impact area.

(5) Use only mechanical fuze setters. Do not use fuzes loose enough to be set by hand.

4-11. Aerial gunnery

Cannon Range is used as a bombing/strafing range for fixed-wing high-performance aircraft. The scheduling activity for this range is the 131st Tactical Fighter Wing (TFW), Detachment-1, Air National Guard, Fort Leonard Wood, Missouri. The scheduling of this range will be IAW Chapter 2, this regulation.

a. High-performance aircraft.

(1) Commanders of aircraft will comply with applicable regulations and range SOP safety directives applicable to live-fire/bombing procedures.

(2) Aircraft will confine their activities to flying above 3200 above ground level (AGL), south to north. Range Control should be notified at least one hour in advance of any deviation from this flight path so that necessary ranges can be closed down. Altitude over active small arms ranges will be at least 2200 feet AGL.

b. Helicopter gunnery.

(1) Conduct all firing from a hover below 200 feet AGL.

(2) All firing will be IAW applicable regulations and an approved range SOP.

(3) A representative from the firing unit must be briefed by Range Control personnel prior to firing.

(4) At minimum, a preflight briefing will be conducted by Range Control with the unit OIC/RSO prior to firing on the range.

4-12. Privately owned weapons (POW) firing (other than hunting)

a. The provisions of FLW Reg 210-25 will be complied with in regard to privately owned weapons (POWs).

b. The POW range is authorized for use by all military personnel, their family members, and DOD civilians with a valid FLW Form 377-1.

c. Sighting and practice firing of privately owned rifles, shotguns, and pistols, both metallic and black powder, are permitted on this facility.

d. Administrative requirements are as follows:

(1) Requests to utilize the POW range will be made in person at Range Control, building 5282.

(2) All POW firers will have in their possession a FLW Form 377-1, which is available by attending the POW Range Safety Class given by Range Control on a scheduled basis. A sponsor or adult who is in the possession of a FLW Form 377-1 will supervise all persons under the age of 18. Each individual is responsible for the safe operation of the range.

(3) Range Control will provide targets, range flags, the range regulation, and the range SOP.

f. Any violations of this regulation could result in the violator losing their privilege to use the POW range pending review/investigation. POW range users will dispose of all trash and brass in the receptacles provided prior to leaving the range.

g. For safety purposes—

(1) Use only targets provided by or approved by Range Control. Glass or plastic bottles, cans, metal or clay-thrown targets are prohibited. The Sportsmen's Center is the only authorized location for Skeet and Trap shooting.

(2) Firing will cease and all weapons cleared and benched prior to any firer, observer, or any person replacing, inspecting, or removing targets downrange.

(3) POVs are not allowed downrange.

(4) Clear all weapons before leaving the firing line. The breech of the weapon will be opened before leaving the firing line.

(5) Personnel who appear to be under the influence of alcohol or drugs are not allowed on any range.

(6) All personnel will wear appropriate attire and hearing protection when on or near the firing line.

(7) Smoking is not permitted on the firing line.

(8) No more than five personnel will fire at any one time.

(9) Automatic weapons and any weapon with a maximum range greater than 4100 m are prohibited.

h. POW range users will dispose of all trash and brass in the receptacles provided prior to leaving the range.

4-13. Disposal of duds/unexploded ordnance (UXO)

a. All contracted workers are required to receive a briefing from Range Control, DPTMS, on UXO procedures before any land disturbance is to take place on the installation.

b. Every reasonable effort will be made to locate duds/UXO that fall in both permanent and nondesignated dud/UXO areas. This applies whether firing into a permanent dud/UXO area or in a non-designated dud/UXO area. During firing, known or suspected duds/UXO will be recorded by the FDC personnel for mortars and artillery and the RSO for direct-fire weapons.

c. Hand grenade duds/UXO will be reported to Range Control. Training will cease until EOD has destroyed the dud/UXO grenade in the bay with the dud/UXO.

d. Dud/UXOs found in nondesignated dud/UXO impact areas will be marked and reported immediately to Range Control using the 9-line reporting format.

e. Upon completion of firing any "dud/UXO-producing" weapons in a nondesignated dud/UXO impact area, range cadre or other qualified personnel will make a thorough search of the area. Initial Entry Training Soldiers or students will not be used for the task of dud/UXO search/removal. Do not drive stakes or other objects into the ground near the duds/UXO or jolt duds/UXO in any way. **NOTE: DUDS-/UXO WILL NOT BE TOUCHED OR MOVED BY ANYONE OTHER THAN EOD PERSONNEL.** The firing unit will furnish a guide to assist EOD personnel in locating the duds/UXO.

When reporting duds/UXO to Range Control, the following information will be reported:

- (1) Number of duds/UXO.
- (2) Type and caliber of duds/UXO.
- (4) Location of terrain features.
- (5) Method by which marked.
- (6) Names of individuals who will assist EOD personnel.
- (7) Name, unit, and phone number of individual making report.

NOTE: The following 9-line reporting format will also be followed and submitted:

Line 1: Date-Time Group item was discovered.

Line 2: Reporting Activity (Unit identification code (UIC) and 8-digit location of dud/UXO)

Line 3: Contact method. Radio frequency, call sign, point of contact, and telephone number

Line 4: Type of ordnance dropped, projected, placed, or thrown. If available, supply the subgroup. Give the number of items if more than one.

Line 5: CBRN contamination. Be as specific as possible.

Line 6: Resources threatened. Report any equipment, facilities or other assets that are threatened.

Line 7: Impact on Mission. Provide a short description of your current tactical situation and how the presence of the UXO affects your status.

Line 8: Protective Measures. Describe any measures you have taken to protect personnel and equipment.

Line 9: Recommended Priority. Recommend a priority for response by EOD technicians

e. Upon completion of dud/UXO disposal by EOD personnel in nondesignated dud/UXO impact areas, the OIC of the firing unit will submit a written report to Range Control that a surface search has been conducted and all known duds/UXO have been reported or destroyed.

f. When firing is conducted into a permanent dud/UXO impact area, units will maintain a record indicating the number and caliber of duds/UXO observed or suspected. Upon completion of firing, this information will be submitted to Range Control. Range Control will maintain a log of all known or suspected duds/UXO.

4-14. Procedures for misfires

a. Misfire procedures for specific rounds are prescribed in the appropriate weapon or ammunition manual. When in doubt, contact Range Control.

b. Prior to turn-in to the ASP, misfires will be repacked into the original container, tagged or otherwise identified, and kept separate from other ammunition items. For mortar ammunition, safety pins will be replaced in fuzes prior to turn-in. If the pin cannot be replaced, notify Range Control. Range Control will contact the Quality Assurance Specialist, Ammunition Surveillance (QASAS), DOL; the Ammunition Officer, DOL; and the Ammunition Inspector, DOL; to determine if the ammunition is safe to handle. If it is determined that a misfire is unsafe to handle, Range Control will notify EOD for disposal.

4-15. Erratic firing/round out of impact

a. Any projectile that bursts or lands outside of firing limits will be reported to Range Control immediately. Reports will include:

- (1) The location (8-digit grid coordinates) of the impact.
- (2) The name, unit, and location of person reporting.
- (3) The type and caliber of weapon and ammunition.
- (4) The location of weapon.
- (5) Injuries or damage caused.

b. If exact locations are not known, provide the location of observer and direction and distance to weapon(s) and impact location.

c. If a projectile has burst or impacted outside of safety limits, the unit will cease-fire immediately and notify Range Control. All weapons and personnel, regardless of the type of firing, will remain at the

weapon position until released by Range Control.
NOTE: ALL FIRING DATA, AMMUNITION, AND FIRE CONTROL INSTRUMENTS PERTAINING TO MORTAR, ARTILLERY, AND TANK FIRING WILL BE SECURED AND NOT MOVED. As soon as the unit, range, or firing point that is responsible for the erratic firing is identified, other firing locations may be given permission to resume firing.

d. The Chief, Range Division, or his designated representative, will make a decision as to whether to close the range. OIC of firing will submit a full report to the CG, MANSCEN (through channels). The Chief, Range Division, will conduct an investigation and submit a report when directed by the DPTMS or Commander, TSB.

Chapter 5 AIRSPACE AND AIRBORNE OPERATIONS

5-1. Restricted airspace

See paragraph 3-11, this regulation.

5-2. Facilities

a. Forney Field is operated by FLW and used jointly by military and private civilian pilots.

b. Units can coordinate with Forney Tower for support, to include aircraft parking space, fuel, weather data and message relay between the DZSO and the aircraft.

c. Forney Field has no maintenance support.

d. The tower is currently open for two shifts for a total of 15 hours a day. Hours of operation can be modified by special arrangement.

e. Aircraft may use the runway when the tower is closed; however there may be conflict with private civilian aircraft in the vicinity.

f. A small hangar is available for aircraft storage until unit maintenance personnel can complete repairs. There is outdoor parking for four C-130 aircraft or three C-17 aircraft.

g. Points of Contact are provided below:

(1) To coordinate support at Forney Field, call 596-0165.

(2) Tower frequencies U268.7, V125.4 and FM 40.95.

(3) Base operations (BASOPS) frequency is U229.4.

5-3. Airborne operations

a. Scheduling.

(1) There are no nap-of-the-earth (NOE) training routes on FLW.

(2) All airborne operations will be conducted at or above 500 feet AGL.

(3) Military free-fall and sport parachute activities are authorized on Forney drop zone (DZ) ONLY if parachute is deployed at 3500 ft AGL or lower. **NOTE: NO HIGH ALTITUDE HIGH OPENING (HAHO) PARACHUTE DROPS ARE AUTHORIZED.**

(4) Requests for the use of DZs will be submitted in duplicate to reach Range Control NLT 6 weeks in advance and will be locked in through DPTMS 5 weeks prior to the week of training. Requests will include the location of the DZ, the type and number of aircraft involved, and the inclusive times for the airborne/airmobile activity.

(5) Late requests and changes require the approval of the DPTMS and depend on the availability of airspace and the degree of impact on other scheduled activities.

b. Operational checks.

(1) Pre-operational checks.

(a) Before the drop, the senior medic or medical officer will conduct a joint DZ reconnaissance with the DZSO. Subject to the approval of the DZSO, the senior medic or medical officer selects a casualty collection point (CCP).

(b) All medics are assigned "zones of coverage."

(c) Dismounted medics will be positioned on the DZ where they can observe their zones of coverage.

(d) Ambulances will be positioned at the edge of the DZ adjacent to their zone of coverage.

(e) Senior medic conducts a communication check with each dismounted medic, each front-line ambulance (FLA), and on a separate net with the DZSO.

(f) The Senior Medic or Medical Officer will predesignate multiple contingency pickup zones (PZ) for aeromedical evacuation and provide grid coordinates to the DZSO.

(2) During the Operations Checks.

(a) A DZSO will be physically present on the DZ at all times during airborne operations, and will ensure that medical support is on the DZ prior to any personnel drops.

(b) Contact Range Control to receive an occupation code NLT 2.5 hours before airborne operations. The code grants permission only to occupy, not to begin training.

(c) DZSO will ensure that positive communications with Range Control is established via radio as primary means and landline as backup means of communication. DZSO will maintain continual communications with Range Control during all airborne or airmobile operations and any follow-on route training.

(d) When the Evasive Driving Course has been scheduled for use during the same time period as the airborne operation, Range Control will notify the Chief of Protective Services Division.

(3) Post-Operational Checks. Report to Range Control the total number of jumpers and their injuries, if any.

c. Approved Training Sites.

(1) DZs will not be used for establishment of gun positions, command posts (CPs), company bivouac areas, or comparable administrative or tactical installations, unless specifically approved by the Installation Range Officer.

(2) Forney DZ:

(a) Aircraft will approach from the south and exit to the north. After the drop is completed, aircraft will make right turn to appropriate heading, climb to 3000 feet MSL, weather permitting, and clear R4501 to the north.

(b) The OIC will assure that DZs and spectator areas are thoroughly policed upon completion of activities and prior to departure. All rigging materials, boxes, platforms, and other trash will be policed up and removed.

(3) Cannon Range DZ:

(a) This DZ is suitable for heavy drops.

(b) In addition to regular requirements, special authorization to conduct training on Cannon Range must be obtained through the DPTMS 6 weeks prior to scheduling.

d. Parachute operations. Commands desiring to conduct unit parachute operations on FLW will submit a request with the following information:

(1) Location of the DZ.

(2) Numbers and types of aircraft involved.

(3) Fuel requirements.

(4) Time period for the drop.

(5) Requirements for tower support at Forney Field (whether or not aircraft will land at Forney Field).

Chapter 6 LOGISTICS

6-1. Field water supply

All ranges and training areas will comply with FLW Reg 58-1 for field water supply.

6-2. Range and training area construction and modernization

All requests for range and training area construction, to include targetry, will be submitted in writing to the RCO for approval. See paragraph 3-15d for submission requirements.

6-3. Target requests

All requests for targets will be submitted to range division supply. For basic rifle marksmanship (BRM) ranges, the request will be coordinated through the committee chiefs. Pickup of targets will be coordinated in advance by calling 596-6140.

Chapter 7 WEAPON AND AMMUNITION ACCIDENT/INCIDENT REPORTS

7-1. General

All incidents involving personal injury or property damage will be reported IAW paragraphs 7-2 and 7-3 below.

7-2. Weapons and ammunition incidents

a. Weapons and ammunition accidents and malfunctions will be reported under the provisions of AR 75-1, AR 385-40, and FLW Reg 385-6. In addition, reporting is required IAW paragraph 7-3 below. The senior commander will ensure that all available facts on weapon and ammunition accidents/malfunctions are promptly obtained and reported for early determination of the cause of the malfunction and timely action to prevent similar malfunctions.

b. When an accident or malfunction occurs, the OIC will suspend all firing. The weapons and ammunition involved will be retained in place and intact until qualified personnel make an investigation.

c. The OIC/RSO will take necessary steps to prevent tampering with material involved, and items will not be removed from the range until investigated by the QASAS, DOL, or his representative. Once the QASAS has cleared the ammunition as safe to fire, firing can be resumed with all weapons except the one that has malfunctioned. Disposition of the weapon(s) involved will be determined by the Weapons Shop, Tactical Army Command (TACOM). Following the investigation, the responsible officer of the unit concerned will submit a detailed written report to the Ammunition Surveillance Office, DOL, ATTN: QASAS within 2 working days after the accident or malfunction.

d. All other defects (other than routine operating cases) or nonstandard conditions noted within various type weapons or ammunition, whether a malfunction or accident has been experienced or not, will be reported to Range Control. Range Control will notify the Weapons Shop, TACOM, and the QASAS, Ammunition Surveillance Office, DOL. When in doubt, contact Range Control. A copy of the report will be provided to the MSO and the Chief, Range Division.

7-3. Accident/incident reporting

a. When an accident or malfunction involving any weapons or demolitions used for training is experienced, immediate notification will be made by the OIC of the unit training to Range Control furnishing all available information pertaining to the accident or malfunction. Report the following information to Range Control and DOL, Ammunition Surveillance Office within 24 hours:

(1) Organization conducting the training.

(2) Location of the incident (range/training area number and location on that site).

(3) Commander of the organization.

(4) OIC and RSO of the range.

(5) Weapon(s), ammunition, and/or demolitions involved including caliber, type, model, serial number and manufacturer. Include NSN and lot number as applicable.

(6) Date and time of the incident and a brief summary of what happened.

(7) Complete identification of all personnel involved, to include name, rank, job title, and organization.

(8) Extent of personal injuries, if any.

(9) Full name, social security number, rank, and unit of injured personnel.

(10) Extent of property damage.

(11) Type of weapon.

(12) Number of rounds fired from weapon on day of malfunction.

(13) Condition of weapon prior to malfunction.

(14) Statements from personnel having knowledge pertinent to the accident/incident or malfunction.

b. Range Control will coordinate emergency medical support, if necessary, and will immediately notify the following applicable organizations during normal duty hours.

(1) QASAS (Ammunition Officer or Ammunition Inspector, DOL), 596-0832.

(2) Weapons Shop, TACOM, 596-0895.

(3) Chief, Range Division, 596-4943/2525.

(4) Logistics Assistance Office (LAO), 596-0278.

(5) MSO, 596-0116 or 596-1274.

(6) 763d EOD, 596-2818.

(7) Directorate of Emergency Services, 596-6141.

(8) Should an accident and/or malfunction cause personal injury to a civilian or damage to civilian property, either real or personal, the Claims Officer, Office of the Staff Judge Advocate, will be notified.

c. If an ammunition/explosive accident occurs during other than normal duty hours, Range Control will notify the installation Staff Duty Officer (SDO). SDO will notify the QASAS Ammunition Officer, DOL and the Chief, Range Division. If unavailable, contact the Ammunition Inspector, DOL, followed by the LAO. The SDO will report the malfunction and all subsequent actions taken to the Ammunition Surveillance Office (596-1165) at the beginning of the next duty day.

d. The QASAS and Ammunition Officer are responsible for—

(1) Gathering data as necessary for all reported malfunctions.

(2) Locally suspending affected ammunition, within established guidelines. ALS personnel may be contacted to assist.

(3) Immediately making a preliminary report for any ammunition or explosive malfunction to LAO using DA Form 4379-R (Ammunition Malfunction Report). Preliminary reports will be made by the fastest means possible with the information that is currently available. The preliminary report will not be delayed if some of the information is not immediately available.

e. Missile malfunctions are to be reported to the Missile Command at commercial (205) 876-0341.

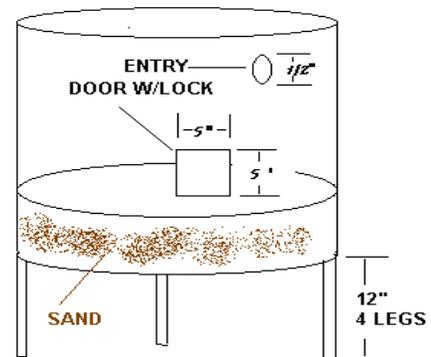
f. Unless overriding safety or security considerations exist, the malfunction area, including equipment and weapons, will not be disturbed before necessary on-site inspections are performed by a Department of the Army Investigation Team for Malfunctions (DAITM). Notification of a DAITM will be given to the installation within 24 hours from the receipt of the preliminary report.

g. Fragments and residue will be kept for 90 days after the malfunction.

h. Accidents and incidents in which an ammunition malfunction is thought to be a direct or contributing factor will also be reported IAW AR 75-15 and AR 385-40.

i. Amnesty points are located at Range Control. Senior commanders will establish amnesty points within the cantonment area with at least one point in each battalion area. Senior commanders will ensure points are secured, publicized, and frequently checked to collect and turn in any ammunition deposited. Amnesty container will be limited to small arms. Standard is as follows:

- Container constructed from a 55-gallon barrel (see figure below).
- Sand - used for weight purpose.
- Entry - Size will only permit small arms ammunition.
- Legs will prevent container from rusting from bottom.
- Door w/lock - Used to remove ammunition, position door five inches above sand.
- Secure container to concrete floor, slab, or fixed structure.
- Paint container red.



**Figure 7-1
Amnesty Container**

Appendix A REFERENCES

Section I Required Publications

AR 75-1

Malfunctions Involving Ammunition and Explosives (Cited in paragraph 7-2a)

AR 75-15

Policy for Explosive Ordnance Disposal (Cited in paragraphs 4-9a(13)(d) and 7-3h)

AR 190-11

Physical Security of Arms, Ammunition, And Explosives (Cited in 3-1r)

AR 385-40

Army Accident Investigations and Reporting (Cited in paragraph 7-2a and 7-3h)

AR 385-61

The Army Chemical Agent Safety Program (Cited in paragraph 3-9g)

AR 385-63

Range Safety (cited in paragraphs 1-4d(5); 3-1g; 3-2, 3-2(e); 3-10, 3-10f; 4-1c; 4-3a; 4-7a; 4-9a(11)(a); 4-9c(2); 4-9c(5)(b); 4-9f(4)(h); 4-10b; and 4-10g(6)(c))

AR 385-64

U.S. Army Explosives Safety Program (Cited in paragraph 4-7a)

AR 405-80

Management of Title and Granting Use of Real Estate (Cited in paragraph 4-3d)

AR 600-55

The Army Driver and Operator Standardization Program (Selection, Training, Testing and Licensing) (Cited in paragraph 3-25b(4)(a))

DA Pam 385-61

Toxic Chemical Agent Safety Standards (Cited in paragraph 3-9g)

DA Pam 385-63

Range Safety (Cited in paragraphs 1-4d(2); 1-4e(2); 3-10; 4-9a(11)(a); and 4-9f(d)(8))

DA Pam 710-2-1

Using Unit Supply System (Manual Procedures) (Cited in paragraph 3-1r)

FM 3-4

NBC Protection (Cited in paragraph 3-19g)

FM 3-22.9

Rifle Marksmanship, M16-/M4-Series Weapons (Cited in paragraph 4-4e)

FM 3-34.214 (Includes Change 1)

Explosives and Demolitions (Cited in paragraph 4-9a; 4-9a(5)(6)(7)(8)(9); 4-9a(11)(a)(c)(d); 4-9a(12); 4-9c(3); 4-9c(5)(b); 4-9d(3)(b); 4-9g(8))

FM 5-34

Engineer Field Data (Cited in paragraph 4-9c(3))

FM 21-10

Field Hygiene and Sanitation (Cited in paragraph 3-7g(1))

FM 21-18

Foot Marches (Cited in paragraph 3-18d(1))

TM 9-1370-207-10

Operator's Manual - Pyrotechnic Simulators (Cited in paragraphs 4-9g(1) and 4-9g(8)(9))

TM 9-1370-208-10

Photoflash Cartridges, Surface Flares and Miscellaneous Pyrotechnic Items, Operator's Manual (Cited in paragraphs 4-9g(1) and 4-9g(8)(9))

TM 10-4500-200-13

Operators Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tool Lists); Heaters, Space: Radiant-Type, Portable (Type I, Model 1941, Solid Fuel) (NSN 4520-00-257-4077); (Type II, Model 1941 Liquid Fuel) (4520-00-927-4214); (Yukon Model M1950, Solid or Liquid Fuel) (4520-00-287-3353); Heaters, Immersion: Liquid Fuel Fired for Corrugated Cans (All Makes and Models) (4540-00-266-6835) (Preway Model 447-2EX) (4540-00-266-6834) (Cited in paragraph 3-25b(4)(a))

TM 43-0001-28

Army Ammunition Data Sheets for Artillery Ammunition: Guns, Howitzers, Mortars, Recoilless Rifles, Grenade Launchers and Artillery Fuses (Federal Supply Class 1310, 1315, 1320)). (Cited in paragraph 4-7a and d)

TRADOC Reg 350-6

Enlisted Initial Entry Training (IET) Policies And Administration (Cited in paragraph 3-1i)

FLW Reg 58-1

Management of Nontactical Vehicles (Cited in paragraph 6-1)

FLW Reg 210-21

Hunting and Fishing Regulation (Cited in paragraphs 3-8d and 3-17b(5))

FLW Reg 210-25

Privately Owned Firearms & Other Weapons (Cited in paragraph 4-12a)

FLW Reg 215-3

Use, Operation, Maintenance, and Management of Post Recreation Areas (Cited in paragraph 3-8c)

FLW Reg 350-8

US Army Engineer Center and Fort Leonard Wood TRADOC and FORSCOM Permanent Party/Unit Training Directive (Cited in paragraph 2-2c)

FLW Reg 385-4

Soldier Movement on Foot (Cited in paragraph 4-19d(1))

FLW Reg 385-5

Composite Risk Management (Cited in paragraph 3-3b)

FLW Reg 385-6

Safety Program (Cited in paragraph 7-2a)

FLW Reg 420-1

Troop Support to Combat Vegetation Fires (Cited in paragraph 3-25a(6))

FLW Reg 700-2

Ammunition (Cited in paragraphs 4-7a and 4-7r)

Section II.

Related Publications

AR 40-5

Preventive Medicine

FM 3-100.4

Environmental Considerations in Military Operations

TRADOC Reg 350-29

Prevention of Heat and Cold Casualties

FLW Reg 350-6

Enlisted Initial Entry Training (IET) Policies And Administration (cited in paragraph 2-1n)

Section III

Prescribed Forms

FLW Form 23

Range Control Training Area Inspection Checklist

FLW Form 23-1

Range Control Range Inspection Checklist

FLW Form 377-1

Range Safety Officer Card

FLW Form 388-E

Material and Service Order Request for Range/Training Area Upgrade and Maintenance

FLW Form 2010

TTB In/Out Processing Checklist

FLW Form 2010-1

Training Area In/Out Processing Checklist

FLW Form 2010-2

MOUT In/Out Processing Checklist

Section IV
Referenced Forms

DA Form 581

Request for Issue and Turn-In of Ammunition.

DA Form 2203-R

Demolition Reconnaissance Record.

DA Form 2408-4

Weapon Record Data.

DA Form 4283

Facilities Engineering Work Request

GTA 05-08-012

Individual Safety Card

Appendix B RANGE FACILITIES

B-1. Grid coordinates mark the location of range towers. For ranges without towers, coordinates mark the range ready lines.

B-2. The scheduling activity for all ranges is the DPTMS. The responsible unit ensures safe operation of the range, to include user maintenance and submission of work orders for organizational maintenance (to range maintenance) or DS/GS (to DOL, DPW, DOIM).

B-3. In addition to the scheduling activity, prior coordination will be made NLT 72 hours prior to training with the unit responsible for the range. For ranges owned by the Combat Training Committee, TSB, coordination will be made through the TSB operations section, 6-0187.

B-4. All civilian organizations and military units not stationed at FLW will schedule the use of facilities through the DPTMS Reserve Component Operations, (573)563-4053 or (573) 563-4073.

B-5. Bivouac operations are not permitted on live-fire ranges without prior written approval of the Range Officer.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
2 (Montereau)	25 METER / 50 FIRING POINTS	WB 76167473	6-6554	TOWER - #5310, MESS AREA OVERHEAD COVER, CLASSROOM - #5169, LATRINE - #5166, BLEACHERS, BLEACHER COVER, RANGE SPT BLDG - #5167, RG HOUSE - #5165	M16 RIFLE, M249 SAW BALL & TRACER, SHOTGUN. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets and frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
2A	25 METER/ 50 FIRING POINTS	WB 76167473		TOWER, OTHER FACILITIES SHARED WITH RANGE 2	M16 RIFLE, M249 SAW BALL & TRACER, SHOTGUN. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets and frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
3 (Kasserine)	MODIFIED RECORD FIRE / 16 FIRING POINTS	WB 75757470	6-7969	TOWER - #5317, COVERED MESS AREA, LATRINE/CLASSROOM - #5161, COVERED BLEACHERS, - #5318, RG SUPT BLDG - #5315, AMMO /TARGET SHED - #5316	M16 RIFLE, 9MM, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets and frames. P.I.T.S. compatible. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
4 (Pork Chop Hill)	OVERHEAD LIVE-FIRE, NIGHT INFILTRATION	WB 75357463	6-3322	TOWER - #5337, MESS AREA, CLASSROOM - #5334, LATRINE - #5335, OFFICE - #5336 BLEACHERS, BLEACHER COVER - #5338, RG SPT BLDG - #5339	M16 RIFLE, M240 MACHINE-GUN, 7.62mm BALL & TRACER, 5.56mm BLANK ONLY. PYROTECHNICS AUTHORIZED, NO CS GAS	TSB	OIC, RSO, ONE ARSO WALKING THE COURSE WITH THE UNIT, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Only use authorized ammunition for overhead firing. 2. Tracer ammunition and pyrotechnics may be used IAW Appendix F. 3. The using unit is responsible for controlling flares, and reporting and extinguishing fires.
5 (Valverde)	25 METER ZERO /50 FIRING POINTS	WB 75077429	6-3929	TOWER - #5343, MESS AREA, CLASSROOM - #5346, LATRINE - #5347, BLEACHERS, BLEACHER COVER - #5341, OFFICE - #5344, AMMO SHED, TARGET SHED - #5345	M16 RIFLE, 9MM, M249 SAW/ 5.56mm BALL & TRACER, SHOTGUN. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
5A	25 METER ZERO /50 FIRING POINTS	WB 75077429		TOWER, OTHER FACILITIES SHARED WITH RANGE 5	M16 RIFLE, 9MM, M249 SAW/ 5.56mm BALL & TRACER, SHOTGUN. NO CS GAS		OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
7	MODIFIED RECORD FIRE / 16 FIRING POINTS	WB 74657355		TOWER - 13430, COVERED MESS AREA - 13424, LATRINE/CLASSROOM - #13428, SUPT BLDG - #13435 COVERED BLEACHERS - #13432, AMMO/ TARGET SHED - #13436	M16 RIFLE, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 5 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
8 (Gettysburg)	MODIFIED RECORD FIRE / 16 FIRING POINTS	WB 74677334	6-2744	TOWER - #13454, COVERED MESS AREA (2) #13443, 5369, LATRINE/CLASSROOM - #13447, COVERED BLEACHERS - 13454, RG SUPT BLDG - #13444, AMMO/ TARGET SHED - #13456	M16 RIFLE, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 5 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
9 (A Shau)	MODIFIED RECORD FIRE / 15 FIRING POINTS	WB 74837250	6-1378	TOWER - #5384, COVERED MESS AREA - #5389, LATRINE/CLASSROOM - #5377, COVERED BLEACHERS - #5388, RG SUPT BLDG - # AMMO SHED - #5378	M16 RIFLE, M249 SAW, . 5.56mm BALL & TRACER, . PISTOL 9mm. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
10 (Manassas)	25 METER ZERO/ 50 FIRING POINTS	WB 74907218	6-2955	TOWER - #5394, MESS AREA, CLASSROOM - #5390, LATRINE - #5396, BLEACHERS, BLEACHER COVER - #5395, RG SUPT BLDG (2)- #5397, #5391, 15X15 (2)	M16 RIFLE, 9MM, M249, M240 MG, 7.62mm, 5.56mm BALL & TRACER, 9mm TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
10A	25 METER ZERO/ 50 FIRING POINTS	WB 74907218		TOWER, OTHER FACILITIES SHARED WITH RANGE 10	M16 RIFLE, 9MM, M249, M240 MG, 7.62mm, 5.56mm BALL & TRACER, 9mm TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
11 (Santiago)	DAY/ NIGHT DEFENSE/ 6 FIRING POSITIONS	WB 74927184	6-4048	TOWER - #5503, CLASSROOM - #5500, LATRINE, OFFICE - #5502, BLEACHERS, BLEACHER COVER - #5363, RG SUPT BLDG - #5501	M16 RIFLE, M249, 5.56mm BALL & TRACER. PYRO AUTHORIZED. NO CS GAS	TSB	OIC, RSO, ONE ARSO EACH FIRING POINT, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use IAW Appendix F. 2. The using unit is responsible for controlling flares and, reporting and extinguishing fires.
12	FIRE & MANEUVER COURSE/ 3 LANES	WB 74867155	6-1227	RG SUPT BLDG - 5510	M16 RIFLE, 5.56mm BALL & TRACER PYROTECHNICS AUTHORIZED, NO CS GAS	TSB	OIC, RSO, ONE ARSO EACH LANE, WEAPON GUARD, AMMO SUPERVISOR, AMMO GURAD.	1. No tower. Blank fire/miles course. 2. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use IAW Appendix F. 3. The using unit is responsible for controlling flares and, reporting and extinguishing fires.
13	SPECIAL OPERATIONS RANGE COMPLEX: PISTOL QUAL, (2) SHOOTING HOUSES, (2) FIREARM STRESS SHOOTING COURSES, OBSTACLE COURSE, VEHICLE ASLT COURSE VERTICAL SHOOTING HOUSE	WB 74917127	6-3066	CLASSROOM - #5540, LATRINE, OFFICE - #5530, COVERED BLEACHERS - #5537, #5538, RG SUPT BLDGS - #5534, #5535, RANGE TOWER - #5536, SHOOTING HOUSES - #5542 & 5543, VERTICAL SHOOTING HOUSE.	ALL HANDGUN CALIBERS, 5.56mm RIFLE, SHOTGUN	USAMPS	OIC, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. The special operations range complex is available to all units for pistol qualification. All other training at the complex is available only to military units and civilian agencies for training that is essential to a direct law enforcement mission. 2. Standard hours of operation are 0730-1615 Monday thru Friday. Using unit must pay overtime after regular duty hours. 3. ALET D agrees to host training events on a case-by-case basis. Overtime for hosted events is funded by ALET D. 4. Scheduling for any part of the SOR complex must be completed NLT 14 weeks prior to training. ALET D is given priority for scheduling. 5. Steps to schedule training, other than basic pistol qualification, at the SOR complex: Step 1. Complete the FLW range safety officer course. Step 2. Complete the SOR certification course. Call range 13 to schedule certification (6-3066). Step 3. Coordinate with the SRT chief (6-1573) for use the complex. Step 4. Contact G3/DPTM (3-4050) for scheduling. 6. To schedule basic pistol qualification, complete steps 1, 3, & 4. It is not necessary to attend the SOR certification course. 7. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use IAW Appendix F. 8. The using unit is responsible for reporting and extinguishing fires. Protective berms provide 360-degree range fan for the shooting houses.
14	SPECIAL OPERATIONS RANGE COMPLEX: MARKSMAN/ OBSERVER RANGE	WB 74697080		THREE-STORY FIRING LINE	RIFLES 7.62mm AND SMALLER, M203 W/TTP ROUNDS	USAMPS	OIC, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	See range 13
15	URBAN ASSAULT COURSE			OFFENSE/DEFENSE BLDG/ SQD & PLT TASK TRAINER, GRENADIER GUNNERY & UNDERGROUND TRAINER	5.56mm BALL, M203 (TP ONLY)	USAMPS	OIC, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	See range 13

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
16A (San Juan Hill)	LOMAH/24 FIRING POINTS	WB 74857053	6-5047	TOWER - #5741, MESS AREA, CLASSROOMS (2) - #13601,#13602, LATRINES (2) - #13603, #13604, COVERED BLEACHERS,15X15	M16 RIFLE, M249, 5.56mm, NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, IAW Appendix F.
17 (Chosin Reservoir)	MARINE CORPS PISTOL QUAL/ 25 FIRING POINTS	WB 74597020	6-3041 6-2789	TOWER - #5583, CLASSROOM - #5585, OFFICE, COVERED BLEACHERS - #5582, RG SUPT BLDG - #5581, COVERED FIRING LINE - #5586, CONTROL ROOM - #5583, FIREARMS TRAINING SIMULATOR - #5584	.38 CAL, .45 CAL, AND 9mm PISTOL, 12 Ga AND NON-LETHAL SHOTGUN, M203-Non-lethal rds only, MK141 FLASH-BANG, STINGER BALL GRENADE	USMC	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. Protective berms on three sides. 2. Site of DoD non-lethal individual weapons instructor course.
18 (Marne)	MULTI-PURPOSE/ 6 FIRING POINTS	WB 74656985	6-1500	TOWER - #5599, COVERED MESS AREA, CLASSROOM - #5597, LATRINE, OFFICE - #5593, COVERED BLEACHERS - #5595, RG SUPT BLDG - #5594	M16 RIFLE: 5.56mm, M240 MG: 7.62mm, PISTOL 9mm BALL & TRACER, M203 (TP ONLY), M249, CLAYMORE MINE, 50 CAL (SRTA ONLY)	TSB	TSB OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. No dud/UXO-producing ammo permitted. 2. The down range area is a controlled burn area bounded by fire breaks to allow tracer firing in fire danger class three & four IAW Appendix F.
18A	MULTIPURPOSE MACHINE GUN RANGE (MPMG)	WB 74376830		BLEACHERS, BLEACHER COVER - TARGET SHED. OFFICE.	M249 SAW, 5.56mm, 7.62mm, MK19, 40mm (TP ONLY)	TSB	OIC, RSO, ONE ARSO PER FOUR FIRING POINTS, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. No dud/UXO-producing ammo permitted. 2. The down range area is a controlled burn area bounded by fire breaks to allow tracer firing in fire danger Class 3 and 4, IAW Appendix F.
19 (Ardennes)	US WEAPONS FIRE/ M203: 6 FIRING PTS, AT4: 9 FIRING PTS, M249 SAW: 6 FIRING PTS, MK19: 4 FIRING PTS, M18A1: 1 FIRING PT	WB 74486785	6-5655	TOWER - #5710, COVERED MESS AREA - #5711, CLASSROOM - #5712, LATRINE - #5713, OFFICE, BLEACHERS, BLEACHER COVER - #5709, RG SUPT BLDG - #5708	M16 RIFLE: 5.56mm, M240 MG: 7.62mm, PISTOL 9mm BALL & TRACER, M203, AND MK 19: 40mm (TP ONLY) , AT4, M18A1 CLAYMORE MINE	TSB	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. Dud/UXO impact area. No down range access permitted except EOD personnel. 2. The down range area is a controlled burn area bound by maintained fire breaks to allow tracer firing in fire danger class three & four IAW Appendix F.
20 (Antietam)	MODIFIED RECORD FIRE (RETS)/ 16 FIRING POINTS	WB 75226711	6-7755	TOWER - #5731, MESS AREA OVERHEAD COVER - #5736, CLASSROOM - #5734, LATRINE - #5737, BLEACHERS, BLEACHER COVER, (2) RG SUPT BLDGS - #5732, #5733, AMMO SHED - #5735	M16 RIFLE, 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER EIGHT FIRING POSITIONS, TOWER OPERATOR, AMMUNITION SUPERVISOR, AMMUNITION AND WEAPONS GUARD	
21 (Devil's Den)	MILITARY POLICE PISTOL QUALIFICA-TION/ 100 FIRING POINTS	WB 75506678	6-2778	TOWER - #5546, MESS AREA, CLASSROOM - #5743, LATRINES - #5746, #5747, BLEACHERS, BLEACHER COVER - #5745, RG SUPT BLDG - #5742, OFFICE - #5744, FIRE ARMS TRAINING SIMULATOR - #5748	9MM PISTOL	USAMPS	OIC, RSO, ONE ARSO PER FOUR FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Coordinate use of range with USAMPS, then schedule through G3/DPTM.
22 (Utah Beach)	MODIFIED RECORD FIRE/ 16 FIRING POINTS	WB 76026646	6-7546	TOWER - #5763, MESS AREA, CLASSROOM - #5760, LATRINE - #5764, BLEACHERS, BLEACHER COVER - #5761, RG SUPT BLDG - #5765	M16 RIFLE, 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER FOUR FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	
24 (Inchon)	MULTI-PURPOSE: MACHINE GUN (M2/ M240/ M249) M16 RIFLE RANGE	WB 73896780	6-1560	TOWER & COVERED BLEACHERS	M249: 5.56mm, M240 MG: 7.62mm, M2 MG: .50 CAL LINKED, BALL & TRACER,	RANGE CONTROL	OIC, RSO (SSG/ E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD, WEAPON GUARD. 3 MANNED ROAD GUARD POSITIONS W/RADIO	

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
25	M203/ 10 FIRING POSITIONS	WB 74257103	6-3344	TOWER	M203: 40mm TP AND HE GRENADES.	RANGE CONTROL	OIC, RSO, ONE ARSO PER FIRER, AMMO SUPERVISOR, AMMO GUARD, WEAPON GUARD.	1. Permanent dud/UXO impact area. 2. The area beyond the firing line is a controlled burn area.
26	Engineer Qualification Range (EQR)	(SEE SITE LISTING BELOW.)		CLASSROOM	(SEE SITE LISTING BELOW.)	TSB	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. No permanent cadre. 2. Sites on range 26 will be signed for separately. A site-specific risk assessment will be prepared each time that site is used. 3. Blast restriction. For all sites except 26g: 100lbs. Surface, 200 lbs. Sub-surface. For site 26g: 2lb. Maximum 4. In addition to RSO certification, the RSO/OIC will receive annual demolition orientation briefing from RC. Obtain a ten-minute window from RC prior to blasting demo. 6. Live mine training restrictions: no anti-handling devices, no tilt rods. Mines are armed/ disarmed no more than 25 times. 7. Requests to use explosives not covered in published sop will be submitted in writing to RCO.
26A	TRNG BRIDGE	WB 74096863		1 BRIDGE	BLANKS ONLY. NO DET CORD, INCENDIARY, OR SMOKE ON THE BRIDGE	USAES		
26C	ABATIS	WB 73656890		2 DEMO PITS, 1 BLAST BUNKER	C-4, TNT	USAES		
26D	WIRE OBSTACLE	WB 73816887		2 DEMO PITS, 1 BLAST BUNKER	BANGALORE TORPEDO, FIELD EXPEDIENT EXPLOSIVES	USAES		
26E	AP MINE	WB 72886796		3 DEMO PITS, 1 BLAST BUNKER	C4, TNT, AP MINE	USAES		
26F	ROAD CRATER	WB 72876812		2 DEMO PITS, 1 BLAST BUNKER	C4, TNT, SHAPE CHARGES, CRATERING CHARGES	USAES		
26H	AVLB MOBILE BRIDGING	WB 79306940		NO SUPPORT FACILITIES ON THIS SITE.	NO DEMO ALLOWED	USAES	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	
31 (Junction City)	HAND GRENADE/ 4 LIVE BAYS, MOCK BAY, HIGH/LOW WALL, QUAL COURSE	WB 73937322	6-1645	TOWER, MESS AREA, CLASSROOM, 2 LATRINES - #5237, #5238, AMMO - #5234, 2 COVERED BLEACHERS - #5236, RG SUPT BLDG - #5233, 15X15 SHED	HAND GRENADE: ALL TYPES EXCEPT CS & WP	TSB	OIC, RSO (E-6 OR ABOVE), ONE ARSO (QUALIFIED CADRE MEMBER) PER LIVE BAY, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Dud/UXO impact area. No down range access permitted except for EOD personnel.
33 (Petersburg)	DEMOLITION (HEAVY/LIGHT)/ 1 STEEL CUTTING BAY, 1 HEAVY DEMO PIT	WB 71957295		EXPLOSIVES BUNKERS (2), BOMB SHELTERS (8)	ALL MILITARY EXPLOSIVES, EXPEDIENT EXPLOSIVES, M15, M19, M21 ANTI-TANK MINES	USAES	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Receive demolition orientation briefing from RC (yearly). 4. Obtain a ten-minute window from RC prior to blasting demo. 5. Live mine training restrictions: no anti-handling devices, no tilt rods. Mines are armed/ disarmed no more than 25 times. 6. Explosives not covered in published sop will be submitted

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
36	EOD DEMOLITION	WB 72177370	6-5853	STORAGE BLDG	ALL MILITARY EXPLOSIVES	EOD	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Obtain a ten-minute window from RC prior to blasting demo. 4. No two-way radios within 87 meters of live explosive components. 5. Emergency explosive disposal may be conducted immediately upon request through RC.
38	SAPPER DEMOLITION (HEAVY)/ ONE HEAVY DEMO PIT	WB 67756768		EXPLOSIVES BUNKERS (3), BLEACHERS, BLEACHER OVERHEAD COVER, 15X15 SHED	ALL MILITARY EXPLOSIVES, M16 RIFLE: 5.56mm BLANK, M240 MG: 7.62mm BLANK	USAES	OIC, RSO (SSG/ E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Special demo: grape shot, expedient bangalore, platter charges. 4. Explosives not covered in sop will be submitted in writing to RC officer.
39	CONVOY LIVE-FIRE RANGE (CLFR)	WB 70386958	6-4321	MESS AREA, CLASSROOM - #6005, LATRINE, BLEACHERS, BLEACHER COVER, TARGET SHET, OFFICE	M16 RIFLE, 5.56mm, 7.62mm BLANKS ONLY. PYROTECHNICS AUTHORIZED. NO CS GAS.	TSB	OIC, RSO, ONE ARSO PER VEHICLE, WEAPON GUARD, AMMO SUPERVISOR AND GUARD	The area beyond the firing line is not a controlled burn area. Use of tracers in fire danger Class 3 and 4 may be limited.
50 CANNON RANGE	AIRCRAFT BOMBING & STRAFING, ARTILLERY & MORTAR IMPACT AREA	WB 69256721	6-0298 6-0299	AIRCRAFT MAINTENANCE BAY, FENCED STORAGE AREA, FLIGHT CONTROL TOWER	7.62mm, 20mm, 30mm, 40mm, INERT BOMBS	CANNON RANGE/ 1st Det, 131ST FW	OIC, RSO, TOWER OPERATOR	1. Cannon range is available for ground units to train on a case-by-case basis. Requests will be submitted to director, range division, two weeks prior to scheduling with G3/DPTM. 2. Firebreaks have been constructed around the target areas. The 131st TFW is responsible for maintenance of the firebreak system and confining fires inside the firebreaks. 3. Natural resources branch, DPW, will coordinate controlled burning inside the firebreaks. 4. DRC will be responsible for coordinating with the 131st TFW, cannon range OIC, in order to confine artillery & mortar impacts to the area inside the firebreak system and to determine compatible targeting.
FP1	ARTILLERY FIRING POINT	WB 74276759			ARTILLERY	TSB		
FP2	ARTILLERY FIRING POINT	WB 74576720			ARTILLERY	TSB		
FP3	ARTILLERY FIRING POINT	WB 74046645			ARTILLERY	TSB		
FP4	ARTILLERY FIRING POINT	WB 71286666		FORWARD OBSERVATION POINT	MORTAR	TSB		
FP5	ARTILLERY FIRING POINT	WB 71286482		FORWARD OBSERVATION POINT/ STEEL TOWER	MORTAR	TSB		
FP6	ARTILLERY FIRING POINT	WB 73326757			ARTILLERY	TSB		
FP7	ARTILLERY FIRING POINT	WB 72846738			ARTILLERY	TSB		
FP8	ARTILLERY FIRING POINT	WB 70936880			ARTILLERY	TSB		
FP10	ARTILLERY FIRING POINT	WB 72316731			ARTILLERY	TSB		
FP11	ARTILLERY FIRING POINT	WB 70667111		FORWARD OBSERVATION POINT	ARTILLERY	TSB	BATTERY SAFETY OFFICER (RSO), ONE ARSO PER FIRING POSITION.	1. Altitude will not exceed 5,000 ft. Maximum of four charges. 2. Obtain permission to fire from RC. 3. RC will assure that procedures will result in all rounds falling within the target impact area. 4. RC will coordinate with the 131st TFW; cannon range OIC, to determine compatible targeting and fire fighting procedures. 5. Firing will be allowed only in fire danger class zero thru three (0-3). 6. Illumination devices must be targeted in a manner that will cause all burning material to fall inside the firebreak system.

Appendix C Training Areas

The scheduling activity for all training areas is the DPTMS. The responsible unit, designated as "UNIT" in the table below, ensures safe operation within the area, to include user maintenance and submission of work order for organizational maintenance (to Range Control, ITAM or Operations) and/or DS/GS maintenance (to DOL, DPW, or NEC). Bivouac activities are only permitted at designated bivouac sites. Exceptions may be requested, in writing, from Range Control. Removal of or damage to vegetation is prohibited.

TA	USE	LOCATION	UNIT
3 A, B, C	PFT	EAST OF BUCKEYE, ENCLOSED BY BLDS 652 AND 660.	USACBRN
5	PFT	WEST OF IOWA AVE, CENTER OF NEW STAR BASE COMPLEX	USAMPS
61	LIGHT WHEELED VEH. RECOVERY COURSE	ON FLW ROAD 25 AT WB 83257499 ON BIG PINEY RIVER; EAST OF QUARRY COURSE; IN MANUEVER AREA 7. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON RIVER FLOOD PLAIN. BE ESPECIALLY CAREFUL TO AVOID POL SPILLS.	USMC
75	LAND NAV COURSE	ON FLW ROAD 10 AT WB 80057994, IN MANEUVER AREA 3.	DPTMS
77	K-9 TRAINING	1ST STREET ADJACENT TO BUILDING 2240.	DES
88	PFT	PFT TRACK AT NORTHWEST CORNER OF MINNESOTA AVENUE AND CONSTITUTION.	USACBRN
90N/S	PFT/D&C	EAST OF IOWA AVENUE; NORTH OF BAKER THEATER; AND SOUTH OF SOFTBALL FIELD; AT WB77467930.	USACBRN
91	PFT/D&C	BETWEEN TA 97 AND BUILDING 6150; BOUNDED ON THE EAST BY INDIANA AVENUE.	USACBRN
93A	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76957937.	USACBRN
93B	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76947945.	USACBRN
93C	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76947954.	USACBRN
93D	PFT/D&C	UNPAVED PARKING LOT BOUNDED ON NORTH BY 6TH STREET; ON SOUTHWEST BY 7TH STREET; AND ON EAST BY BUCKEYE AVENUE; AT WB76917928.	USACBRN
93F	PFT	BOUNDED BY ALABAMA AVENUE ON WEST; ON EAST BY BUCKEYE AVENUE; ON SOUTH BY 6TH STREET; AND ON NORTH BY 4TH STREET; AT WB76867948.	USACBRN
94	PFT/D&C	BETWEEN VIRGINIA AVENUE AND IOWA AVENUE.	USACBRN
95	PFT/D&C	BOUNDED ON WEST BY ALABAMA AVENUE; ON NORTHWEST BY BUCKEYE AVENUE; AND ON SOUTHWEST BY OAK STREET.	USACBRN
97	CONFIDENCE COURSE	ON WEST SIDE OF INDIANA AVENUE; NORTH OF INTERSECTION WITH MINNESOTA AVENUE.	TSB
98	PECS COURSE	BOUNDED ON EAST BY INDIANA AVENUE; ON NORTH BY FLW ROAD 12; AND ON SOUTH BY SIGNAL MAINTENANCE BUILDING.	TSB
99	CS CHAMBER	AT WB 764774	TSB
103	PFT	EAST OF ALABAMA AVENUE; NORTH OF TA107; AT WB76847865.	USACBRN
106A	PFT	SOUTHWEST CORNER OF KANSAS AVENUE AND INDIANA AVENUE JUNCTION; BOUNDED ON NORTH BY KANSAS AVENUE; ON EAST BY INDIANA AVE; AND ON SOUTH BY TA149 AND DIRT ACCESS ROAD.	USAES
106B	PFT/H TO H	SOUTHWEST CORNER OF KANSAS AVENUE AND INDIANA AVENUE JUNCTION; BOUNDED ON NORTH BY KANSAS AVENUE; ON EAST BY INDIANA AVE; AND ON SOUTH BY TA149 AND DIRT ACCESS ROAD.	USAES
107	PFT/H TO H	BETWEEN ALABAMA AVENUE ON WEST AND METAL BUILDING ON EAST; SOUTHERN THIRD BETWEEN MINNESOTA AVENUE AND KANSAS AVENUE ON SOUTH.	USACBRN
108	PFT/H TO H	BOUNDED ON EAST BY ALABAMA AVENUE; ON WEST BY INDIANA AVENUE; AND ON NORTH BY BUILDING 839.	USACBRN
110	PARADE FIELD	BOUNDED ON WEST BY IOWA AVENUE; ON SOUTH BY KANSAS AVENUE; ON NORTH BY NORTHERN RUNWAY; AND ON EAST BY GRAVEL ROAD AREA.	DPTMS
113	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USAES
114	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USAES
115	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USACBRN
116	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USACBRN
122	PFT	NORTH OF GERLACH FIELD; WEST OF SOFTBALL FIELD BETWEEN CONSTITUTION AND NEBRASKA AVENUE.	USACBRN

TA	USE	LOCATION	UNIT
127	SURVEYING FIELD TRAINING	ON FLW ROAD 36, BEHIND BROWN HALL AT WB 77987684.	DPTMS
131	D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USAES
133	LEADERSHIP REACTION COURSE 6-8322	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF FIRST DIRT ROAD; NORTH OF BUILDING 6150. There are 17 stations (wet and dry). Crews of 4 to 6 arrive 2 hours early to fill the pool, draw equipment, etc. Unit must provide an FLW certified RSO.	TSB
135	BAYONET ASSAULT COURSE	AT THE END OF THE DIRT ROAD RUNNING BETWEEN TA100 AND TA132, WEST OF INDIANA AVENUE.	TSB
136	WARRIOR TOWER	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF TA 133	TSB
137	TEAMWORK DEVELOPMENT COURSE	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF TA 133	TSB
147	SAPPER LEADER CRS	BOUNDED ON NORTH BY TA106; ON EAST BY INDIANA AVENUE; AT WB76287797.	USAES
148	LAND NAVIGATION COURSE	ON FLW 20, ENTRANCE AT WB 754784. BOUNDED ON WEST BY TA 247, ON NORTH BY FLW EE	TSB
153	PFT (INACTIVE)	TRACK WEST OF ARTILLERY CIRCLE AT WEST 20TH STREET.	DPTMS
160	PFT	BETWEEN ALABAMA AND KANSAS AVE	USAMPS
162	PFT	BETWEEN ALABAMA AND BUCKEYE AVENUE; BETWEEN BUILDING 1134 AND 1139.	USAES
164	MTOC DRIVERS TESTING COURSE	BOUNDED ON NORTH BY SOUTH DAKOTA AVENUE; ON EAST BY CAISSON DRIVE; ON WEST BY GRASS COVERED AREA; AND ON SOUTH BY BUILDING 230.	USACBRN
165	SURVEY FIELD TRAINING	WEST OF IOWA AT WB77097740.	USAES
166	MOCK MP VILLAGE	BOUNDED ON NORTH BY SOUTH DAKOTA; AT WB76507779.	USAMPS
167	ADV. LAW ENFORCEMENT TRAINING SITE	SOUTH OF TA166; AT WB76517767.	ALETD
168	DECON. TRAINING SITE	EAST OF INDIANA; AT WB76467801.	USACBRN
180	PFT	BETWEEN NEBRASKA AVE AND ARTILLERY CIRCLE	USAMPS
182	PFT	EAST OF IOWA AVENUE; SOUTH OF BATTERY STREET; AT WB77457741.	USAMPS
183	PFT	BOUNDED ON EAST BY CONSTITUTION; ON NORTH BY CAISSON DRIVE; ON WEST BY ARTILLERY CIRCLE; AND ON SOUTH BY TSC WAREHOUSE AND MODEL SHOP.	USAMPS
184	PFT	EAST OF IOWA AVENUE AT WB77267728.	USACBRN
185	REINFORCEMENT AREA	BOUNDED ON NORTH BY 19TH STREET; ON WEST BY ARTILLERY.	USAMPS
186	END OF COURSE TESTING	BOUNDED ON NORTH BY NEBRASKA AVENUE AND ON SOUTH BY TA127.	USAES
187	LIGHT WHEELED VEHICLE MAINTENANCE COURSE	BOUNDED ON NORTH BY NEBRASKA AVENUE; ON EAST BY CONSTITUTION; AND ON SOUTH AND WEST BY TA212.	USAES
190	UNMANNED SYSTEMS EXPERIMENT SITE	ON ARTILLERY CIRCLE AT WB7707614.	Futures Center Maneuver Support Battle Lab
192	MTOC DRIVER COURSE	ON ARTILLERY CIRCLE AT WB76977655.	USACBRN
193	MTOC DRIVER COURSE	ON ARTILLERY CIRCLE AT WB7773758.	USACBRN
201	BASIC TRAINING APFT	ON EAST SIDE OF IOWA AVENUE AT WB 76427657.	USACBRN
204	TEST SITE	SOUTHEAST OF SOUTH DAKOTA AVENUE.	TSB
206A	FIELD ENGR COMPLEX	ON FLW ROAD 1 (IOWA AVENUE).	USAES
206B	DEMOLITIONS & LANDMINE WARFARE COMPLEX	ON FLW ROAD 1 (IOWA AVENUE).	USAES
207	FIRE FIGHTING TRAINING SITE	WEST OF FLW ROAD 1; EAST OF TA210; AT WB75467597.	DPW

TA	USE	LOCATION	UNIT
208	HMMWV COURSE	ON FLW ROAD 1; AT WB75507547.	USAMPS
209	AIR FORCE READINESS TRAINING	WEST OF FLW ROAD 1, ACROSS FROM TA 206, SOUTH OF AIRFIELD.	AIR FORCE
210	EVASIVE DRIVING COURSE	ON FLW ROAD 28 AT WB75447573; SOUTH OF AIRFIELD	ALETD
211	FIXED BRIDGE TRAINING COMPLEX	SOUTHWEST OF FLW ROAD 1 AND FLW ROAD V AT WB 75667516.	USAES
215	CHEMICAL DEFENSE TNG FACILITY (CDTF)	WEST OF FORNEY ARMY AIRFIELD AT WB74607724.	USACBRN
219	BABBS AIRFIELD, NBC TRAINING COMPLEX	BOUNDED ON WEST BY FLW ROAD, NORTH OF TA23, WB71207430	USAF DET
224	COUNTERMINE TEST FACILITY	AT WB71797465, FORMER BABBS DROP ZONE	MSBL
227	MEDICAL FIELD TRAINING SITE	AT WB72087346.	DPTMS
228	MTOC DRIVING COURSE	SOUTH OF HWY 38; WEST OF FLW 1	USACBRN
230	MOUT VILLAGE	ON FLW ROAD 28 AT WB 71647548.	USAMPS
231	MTOC/HEMTT	ON FLW ROAD 5 AT WB 7147838.	USACBRN
232	EPW TRAINING SITE	NORTHWEST OF BLOODLAND LAKE AT WB72737406.	USAMPS
235	HUMANITARIAN DEMINING TRAINING SITE	FLW RT WP (WEST SIDE), SOUTH OF FLW RT 38	HDTC
235A	COUNTER EXPLOSIVES HAZARD CENTER (CEHC)	FLW RT WP (EAST SIDE), SOUTH OF FLW RT 38	CEHC
236	MTOC/5 TON	ON FLW ROAD PA AT WB7417202.	USACBRN
241	STX LANES	ON FLW 37 AT WB 70967248	TSB
244	ENGR EQUIP OPERATORS COURSE	ON FLW ROAD 28 AT INTERSECTION WITH FLW ROAD 5 AT WB74287568. REMARKS: ALL VEHICLE OPERATION MUST BE CONFINED TO THE CONTROLLED WATERSHED LIMITS OF THE SEDIMENTATION BASINS.	USAES
246	FORSCOM TTB	ON FLW 5 AT WB 74007765	DPTMS
247	LAND NAVIGATION	WB 73487935	TSB
250	FLOAT BRIDGE, FOX VEHICLE TNG COMPLEX	ON BIG PINEY RIVER ON FLW ROAD 25 AT WB83807750. REMARKS: SENSITIVE AREA - BE ESPECIALLY CAREFUL TO AVOID POL SPILLS. THE RIVER IS A PUBLIC WATERWAY - DO NOT DELAY CIVILIAN WATER TRAFFIC UNNECESSARILY.	USAES
251	MTOC/HEMTT	AT WB 833771.	USACBRN
256	QUARRYMAN ASPHALT OPERATORS COURSE	ON FLW ROAD 25 AT WB81327530. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON A RIVER FLOOD PLAIN. THE RESPONSIBLE UNIT WILL MAINTAIN THE SEDIMENTATION BASIN THAT CATCHES ALL RUNOFF BEFORE ENTERING THE RIVER. THE ENVIRONMENTAL DIVISION, DPW, IS RESPONSIBLE FOR WATER QUALITY CONTROL COORDINATION.	USAES
259	USMC MTOC	ON FLW ROAD 25 AT WB 81047579. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON RIVER FLOOD PLAIN. BE ESPECIALLY CAREFUL OF POL SPILLS. ABSOLUTELY NO DRIVING OFF THE EXISTING GRAVEL ROADS.	USMC
275	SAPPER LEADER COURSE BASE CAMP	ON FLW ROAD TT AT WB68287059. REMARKS: 1. THIS IS AN EXTREMELY SENSITIVE ARCHEOLOGICAL AREA. ABSOLUTELY NO EXCAVATION OF ANY KIND. NATURAL AND ARCHEOLOGICAL FEATURES ARE NOT TO BE DISTURBED. POINT OF CONTACT IS THE NATURAL RESOURCES OFFICE, DPW.	USAES
290	IED DETECTION AND DEFEAT	H HIGHWAY/MANEUVER AREA 29	DPTMS
310	ENEMY PRISONER OF WAR TRAINING SITE	FLW RT 20 WB729711	USAMPS
400	BALLARD HOLLOW SMOKE TA	AT WB741812.	USACBRN

TA	USE	LOCATION	UNIT
401	BAILEY/McCANN HOLLOW SMOKE TA	AT WB710695.	USACBRN
402	MUSGRAVE HOLLOW SMOKE TA	AT WB722658.	USACBRN
403	MUSHPADDLE HOLLOW SMOKE TA	AT WB668662.	USACBRN
601	RAPPEL #1	AT WB82247883.	DPTMS
602	RAPPEL #2	ON FLW ROAD 25 AT WB83747832, CONSOLIDATED ROCK, SHORT FACE	DPTMS
603	RAPPEL #3	AT WB81497659.	DPTMS
604	RAPPEL #4	ON FLW ROAD NA AT WB79307459; IN MANEUVER AREA 8. REMARKS: 1. NATURAL CLIFF. DO NOT DISTURB SOIL OR VEGETATION.	DPTMS
605	RAPPEL #5	AT WB69326973.	DPTMS
606	RAPPEL #6	SOUTH OF FLW ROAD D AT WB68747031 (SAPPER LEADER COURSE)	USAES
607	RAPPEL #7	AT WB74757973.	DPTMS
608	RAPPEL #8	AT WB74667987.	DPTMS
609	RAPPEL #9	AT WB73718188.	DPTMS
610	RAPPEL #10	AT WB72298270.	DPTMS
615	RAPPEL #15	AT WB74797070	DPTMS

Appendix D MOUT and TTB Sites

1. Grid coordinates mark the location of the telephone connection, if available. For sites without a telephone connection, grid coordinates mark the entrance to the training area.
2. The scheduling activity for all bivouac areas is the G-3/DPTMS. The responsible unit, designated as "UNIT" in the table below, ensures safe operation of the site, to include user maintenance and submission of work order for organizational maintenance (to range maintenance) and/or DS/GS maintenance (to DOL, DPW, and NEC).
3. Removal of, or damage to, vegetation is prohibited.
4. All vehicles operating within the footprint of these TAs must maintain speeds of less than 5 mph and have a ground guide at all times.
5. Tracked vehicles operated within the TA footprint must remain at least 5 m from any permanent structure, including concrete tent pads, towers, and other vertical construction.
6. No digging or excavation allowed in TTBs or MOUTs without prior approval from Range Control.

TA	USE	LOCATION	UNIT	NOTES
229 F	TTB	ON FLW F AT WB 74046645	USAMPS/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE.
74F	TACTICAL TRAINING BASE (TTB)	ON SPORTSMANS ROAD AT WB 82008025, IN MANEUVER AREA 3	NCOA/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE. CONTACT RANGE CONTROL FOR USE OF PYROTECHNICS OR SMOKE PRODUCING ORDNANCE.
74M	MOUT	ON SPORTSMANS ROAD AT WB 814801, IN MANEUVER AREA 3	NCOA/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE. CONTACT RANGE CONTROL FOR USE OF PYROTECHNICS OR SMOKE PRODUCING ORDNANCE.
221	TTB	ON FLW 1 AT WB 74607365	USAES/TSB	
221M	MOUT	ON FLW 1 AT WB 74607365	USAES/TSB	
223	TTB	ON FLW H AT WB 72757187	USACBRNS/TSB	
241F	TTB	ON FLW 37 AT WB 70967248	USACBRNS/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE.
241M	MOUT	ON FLW 37 AT WB 70257238	USACBRNS/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE.
242A	TTB	ON FLW 20 AT WB 71647597	USAMPS/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE.
246	TTB	ON FLW 5 AT WB 74007765	4 TH MEB/DPTMS	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE. IN CASE OF SCHEDULING CONFLICT, FORSCOM UNITS HAVE PRIORITY.
247M	MOUT	ON FLW 5 AT WB 73707795	TSB	CONTAINER (MILVAN) MOUT FACILITY
255	TTB	ON FLW 37 AT WB 711725	USACBRNS/TSB	
257B	TTB	ON FLW 22 AT WB 82027769	USAES/TSB	ACCESS TRAILS THROUGH AREA MUST REMAIN UNOBSTRUCTED WHEN NOT IN USE.
257C	MOUT	ON FLW ROAD 22 AT WB 82907837.	USAES/TSB	
275M	MOUT	ON FLW TT AT WB 68407085	USAES/TSB	
401F	TTB	AT WB 71956955	USACBRNS/TSB	
401M	MOUT	AT WB 72206950	USACBRNS/TSB	

Appendix E Bivouac Sites

1. Grid coordinates mark the location of the telephone connection, if available. For sites without a telephone connection, grid coordinates mark the entrance to the training area.
2. The scheduling activity for all bivouac areas is the DPTMS. The responsible unit, designated as "UNIT" in the table below, ensures safe operation of the site, to include user maintenance and submission of work order for organizational maintenance (to range maintenance) and/or DS/GS maintenance (to DOL, DPW, and NEC).
3. Removal of, or damage to, vegetation is prohibited

TA	MA	DESCRIPTION	LOCATION	COMS	UNIT	NOTES
70	7	INACTIVE	WB 83357470	RADIO	TSB	1
74	3	BIVOUAC/FTX	WB 81468003	RADIO	GC	2
74A	3	BIVOUAC/FTX	WB 81717990	RADIO	GC	2
109	8	BIVOUAC/FTX	WB 81087530	RADIO	TSB	3
123	8	BIVOUAC/FTX	WB 79617435	RADIO	TSB	3
125	8	BIVOUAC/FTX	WB 79597528	6-1563	TSB	3
126	6	MNCOA BIVOUAC/FTX	WB 79157575	6-1564	TSB	3
128	6	BIVOUAC/FTX	WB 79667533	RADIO	TSB	3
148	35	BIVOUAC/FTX	WB 75417849	6-1565	TSB	3
191	9	BIVOUAC/FTX	WB 77707524	RADIO	TSB	3
194	8	BIVOUAC/FTX	WB 79007396	6-1567	TSB	3
220	26	BIVOUAC/FTX	WB 74597434	RADIO	TSB	3
222	26	INACTIVE	WB 74107295	RADIO	TSB	1
225	25	BIVOUAC/FTX	WB 72577175	6-1576	TSB	3
229	16	BIVOUAC/FTX	WB 74246669	RADIO	TSB	3
233	25	BIVOUAC/FTX	WB 71827139	RADIO	TSB	3, 4
234	16	BIVOUAC/FTX	WB 73886475	RADIO	TSB	3
237	25	BIVOUAC/FTX	WB 71527139	6-1575	TSB	3
238	31	BIVOUAC/FTX	WB 72157546	6-1576	TSB	3
239	28	BIVOUAC/FTX	WB 70817413	6-1592	TSB	3
240S	24	BIVOUAC/FTX	WB 70577307	6-1578	TSB	3
240N	29	BIVOUAC/FTX	WB 70737384	6-1577	TSB	3
241	24	STX LANES	WB 70967248	RADIO	TSB	6
242B	30 & 31	BIVOUAC/FTX	WB 71157583	6-1579	TSB	3,4
243	27	MECH CATEX, BIV/FTX	WB 73577668	6-1580	TSB	5
248	37N	MECH BIVOUAC	WB 73608153	RADIO	TSB	5
249A	31	LZ/BIVOUAC	WB 72458024	RADIO	TSB	3
249B	31	LZ/BIVOUAC	WB 71558057	RADIO	TSB	3
253	35	BIVOUAC/FTX	WB 74377757	6-1583	TSB	3
254	34	BIVOUAC/FTX	WB 74037714	RADIO	TSB	3
257A	4	BIVOUAC/FTX	WB 82367805	6-1585	TSB	3
269	13A	BIVOUAC/FTX	WB 73297049	RADIO	TSB	3
270	13A	BIVOUAC/FTX	WB 73337030	6-1587	TSB	3
271	13A	BIVOUAC/FTX	WB 73587021	6-1588	TSB	3, 4
272	13A	BIVOUAC/FTX	WB 73837000	6-1589	TSB	3, 4
273	13A	BIVOUAC/FTX	WB 73786967	6-1590	TSB	3
275	22	BIVOUAC/FTX	WB 68407082	RADIO	USAES	7
276	13A	BIVOUAC/FTX	WB 74457045	RADIO	TSB	3
277	13A	BIVOUAC/FTX	WB 74457020	RADIO	TSB	3
280	9	BIVOUAC/FTX	WB 77607490	RADIO	TSB	3
281	12	BIVOUAC/FTX	WB 66807515	RADIO	TSB	3,8
283	9	BIVOUAC/FTX	WB 76257490	RADIO	TSB	3
284	16	BIVOUAC/FTX	WB 74806600	RADIO	TSB	3,9
337	25	BIVOUAC/FTX	WB 71607163	6-1575	TSB	3, 4

Notes:

1. Environmentally sensitive area, off limits to training (Appendix N)
2. Military police working dog area only
3. Hand tool excavation only
4. Closed for restoration
5. Mechanical excavation is authorized. Must remain 25 feet from standing trees
6. No excavation
7. Sapper Base Camp
8. No Pyrotechnics, adjacent to installation boundary

Appendix F
FIRE DANGER CLASS RESTRICTION CHART

DANGER CLASS	RESTRICTIONS
0 (VERY LOW)	None.
1 (LOW)	All authorized ammunition, explosives and pyrotechnics are allowed on live-fire ranges and training areas, as approved by Range Control.
2 (MODERATE)	Do not use white phosphorus (WP) or other incendiary devices on ranges and training areas where a large accumulation of vegetation and debris exists.
3 (HIGH)	Tracer ammunition, pyrotechnics, WP, or incendiary devices will be used only on ranges and training areas that are contained by a currently maintained firebreak. The range or training area does not have to be burned prior to firing unless WP or incendiary devices are to be used. Range Control will approve use.
4 (VERY HIGH)	Flares and WP will not be used. Tracer ammunition, pyrotechnics, explosives, and explosive projectiles will be used only on ranges and training areas that are contained by a currently maintained firebreak and preburned as approved by the Fort Leonard Wood SFO. Range Control will approve use.
5 (EXTREME)	Only ball and blank ammunition will be used. No other type of ammunition, pyrotechnic or explosive will be used with the exception of hand grenades, which may be used on Range 31, and demolition explosives may be used on Ranges 33, 38 and Range 36 for EOD emergency operations only.

Appendix G ENVIRONMENTAL PERMIT COMPLIANCE

G-1. Purpose. The purpose of this appendix is to aid leaders in the planning, execution, and reporting of training. This involves the following activities covered by the FLW Air Permit:

- Fog Oil
- Smoke/CS Grenades
- FOX Vehicle/Biological Integrated Detection System (BIDS)
- Asphalt Production
- Rock Crushing
- Unpaved Route Training

G-2. Applicability. These procedures apply to all MP and CM unit training, and to asphalt and quarry operations, conducted on FLW. Contact the DPW, Environmental, Energy, and Natural Resources (EENR), for more information.

G-3. Key Terms.

a. Meteorological (MET) Data Event- A scheduled event that requires favorable MET data from Range Control to execute training in compliance with the FLW air permit.

b. Non-MET Data (MET-D) Event- A “scheduled” training event that does not require meteorological data to execute and is not reportable under the FLW permit.

c. Wet Code- An initiation code given by Range Control indicating approval to begin a training event.

G-4. Operational Checks.

a. Pre-operations checks:

(1) Ensure training area requests and overlays are submitted to Range Control.

(2) Confirm training plan at the weekly Range Operations scheduling meeting.

(a) Confirm routes, number of smoke/CS grenades, number of smoke pots, number of vehicles, amount of simulant use, and amount of fog oil as appropriate to be used during the training event.

(b) Confirm the time and location of the training event and route authorization.

(c) Confirm alternate training activities/sites in the event that training requiring MET data cannot be conducted.

b. During-operations checks:

(1) Contact Range Control upon occupation of range/training area and receive an “occupation code.” The code is permission to occupy only, not to begin training.

(2) Maintain continual communications with Range Control during all training events.

c. Range/training area procedures:

(1) Give the Range Control Firing Desk Technician the names and card numbers of OIC and RSO.

(2) Inform Range Control this is a MET Data Event. Confirm the usage of smoke/CS grenades, smoke pots, stimulants/fog oil for training. A pyrotechnics window is required for smoke/CS grenades and smoke pots.

(3) Call Range Control and request a "wet code." Unit may have to wait 15 minutes to ensure satisfactory MET data.

(a) After 15 minutes, units will receive MET data conditions from Range Control.

(b) If the data is a GO, the unit will be given a "wet code" to begin training.

(6) If the data is a NO-GO, the unit cannot conduct training that requires monitoring of MET data. Range Control will advise the unit to call back in 15 minutes. The unit may decide to conduct their alternate training activity that does not involve MET data.

(d) If the MET data goes out of tolerance, Range Control will direct the unit to stop all applicable training until further notice.

d. Unpaved route training procedures:

(1) Give the Range Control Firing Desk Technician the six-line communication report IAW paragraph 3-18, this regulation.

(2) Inform Range Control this is a MET Data Event. Confirm the usage of routes and smoke/CS grenades for training. A pyrotechnics window is required.

(3) Call Range Control and request a "wet" code.

(a) After 15 minutes, units will receive MET data conditions from Range Control.

(b) If the data is a GO, the unit will receive a "wet code" to begin training.

(c) If the data is a NO-GO, the unit cannot conduct training that requires monitoring of MET data. Range Control will advise the unit to call back in 15 minutes. Alternate training not dependent on MET Data may be conducted.

(d) If the MET data goes out of tolerance, Range Control will direct the unit to stop all applicable training until further notice.

e. Post Operations Checks. Upon completion of training, the unit will notify Range Control of:

- The number of personnel trained
- The number of smoke/CS grenades and/or smoke pots used
- The amount of fog oil used
- The number of simulants used
- The amount of quarry rock and/or asphalt produced
- The number of vehicles used during training.

G-5. Approved Training Sites.

a. Bids/FOX Sites:

Babbs Airfield	Firing Point 6	Range 27
	TA 400	TA 401

b. Smoke/CS Grenade Sites:

Range 24	Range 33	TA 125
TA 126	TA 148	TA 194
TA 230	TA 233	TA 237
TA 238	TA 240S	TA 241
TA 243	TA 400	TA 401

G-6. Points Of Contact.

a. For more specific range operations information:

- (1) Range Control Desk – 596-2525
- (2) Meteorological NCO - 596-4532

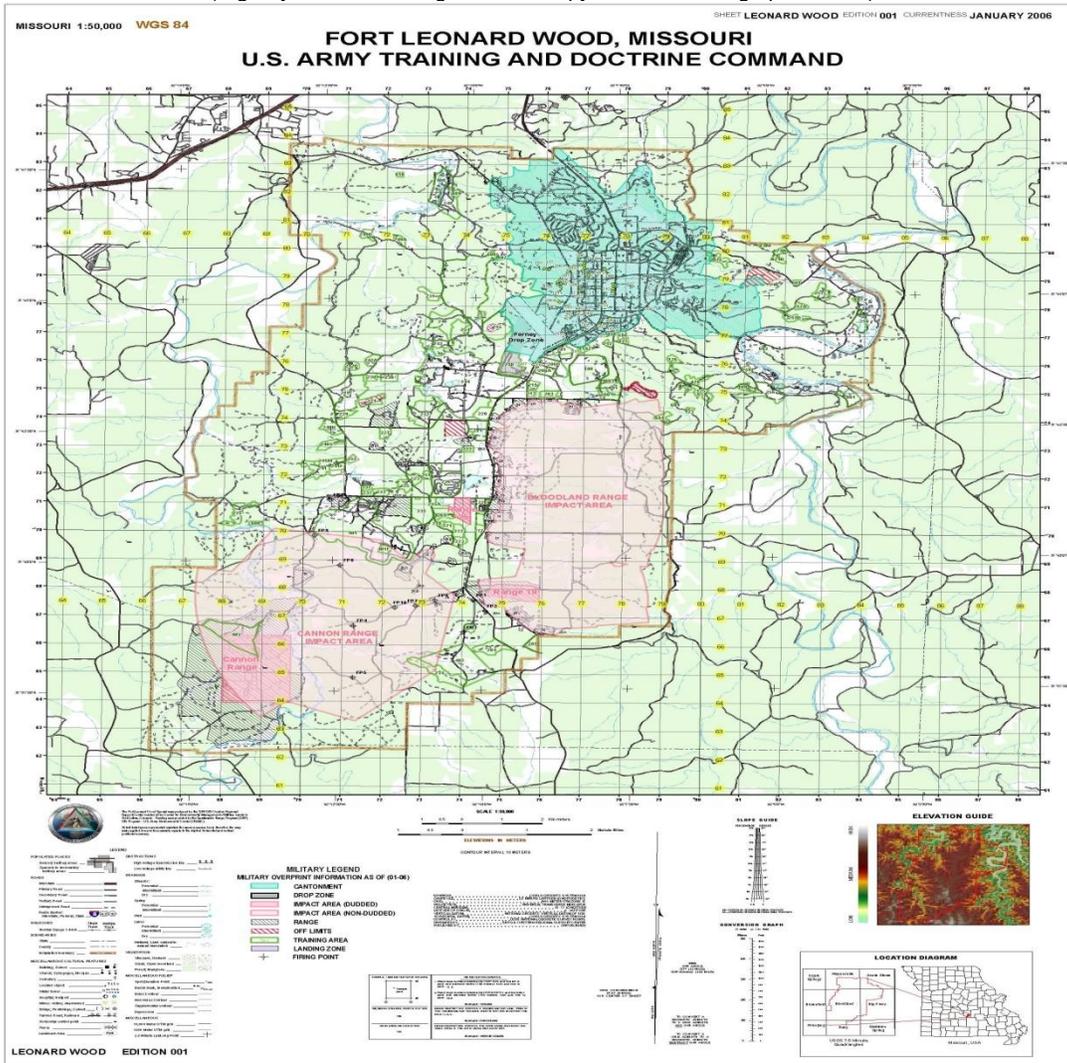
b. For more specific information on the air permit contact the Directorate of Public Works, EENR:

- (1) Air Compliance POC – 596-8627
- (2) Environmental Coordinator – 596-0882

Appendix H

RANGE AND TRAINING AREA MAP WITH DEPICTION OF CANTONMENT

(Digitally available through ITAM or copy the embedded graphic below)



Appendix I
RFMSS STATUS CODES

PEN-CUST	Pending-Customer – The request has not been approved through the chain of command. A number will follow the status. 1 - Platoon 2 - Company 3 - Battalion 4 - Brigade
CAN-CUST	Customer Canceled – Someone in the chain of command has cancelled the request.
DISA-CUST	Customer Disapproved - The request is invalid, or the request is not needed.
PEN-RC	Pending-Range Control – The request is pending the approval of DPTM.
DISA-RC	Range Control Disapproved – DPTM has disapproved the request. This status is used when the request has conflicts.
CAN-RC	Range Control Canceled – The request is invalid, or the request is not needed.
COND-RES	Conditional Reservation – The request has been reserved to hold the facility, but <u>DOES NOT</u> grant the requestor access to the facility.
RES	Reservation – The request is in an approved status.

**Appendix J
SAMPLES OF FORMS**

TTB IN/OUT PROCESSING CHECKLIST				
DATE		UNIT		PHONE #
TRAINING AREA			NUMBER OF VEHICLES	
# OF TROOPS		# OF DRILLS		# OF OFFICERS
INPROCESSING			OUTPROCESSING	
UNIT REP:			UNIT REP:	
CARD #		EXP DATE		CARD #
INSPECTOR		INSPECTOR		
INPROCESSING		OUTPROCESSING		
YES	NO	YES	NO	
				AREA PROPERLY POLICED
				GUARD POSITIONS POLICED
				TENT PADS SWEEP/UNDAMAGED
				OBSTACLES REMOVED
				NATURAL VEGETATION INTACT
				PALLETS/FIREWOOD NEATLY STACKED
				BUILDINGS SWEEP/DOORS & WINDOWS OK
				GENERATOR PIT CLEAN
				NO TRASH NEAR CLEARING BARRELS
				PORTABLE TOILETS CLEAN/SERVICEABLE
				FIREGUARDS/FIRE EXTINGUISHERS PRESENT
				FM COMMUNICATION WITH RANGE CONTROL
AREAS OF CONCERN				
	BRIEFED ON POV/MILITARY VEHICLE PARKING			
	BRIEFED ON AMBUSH/TCP/IED OVERLAYS			
	BRIEFED ON PYRO WINDOWS (4HRS/DUNNAGE)			
	BRIEFED ON INCLEMENT WEATHER			
	BRIEFED ON HUNTING AREA			
	BRIEFED ON ROAD IN TRAINING AREA			
	BRIEFED ON ACCIDENT/INJURY IN TRAINING AREA			
	BRIEFED ON OPENING/CLOSING REPORTS			
	BRIEFED ON CONTACTING TA 230 CADRE			
	BRIEFED ON CONVOYS/FOOTMARCHES			
DATE UNIT WANTED TO CLEAR TA				
DATE UNIT CLEARED TA				
INPROCESSING CHECKLIST RECEIVED BY:				
REMARKS:				

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TRAINING AREA IN/OUT PROCESSING CHECKLIST				
DATE		UNIT		PHONE #
TRAINING AREA			NUMBER OF VEHICLES	
# OF TROOPS		# OF DRILLS	# OF OFFICERS	
INPROCESSING			OUTPROCESSING	
UNIT REP:			UNIT REP:	
CARD #	EXP DATE		CARD #	EXP DATE
INSPECTOR			INSPECTOR	
INPROCESSING		OUTPROCESSING		
YES	NO	YES	NO	
				AREA PROPERLY POLICED
				FIGHTING POSITIONS FILLED
				TENT DITCHES FILLED
				OBSTACLES REMOVED
				NATURAL VEGETATION INTACT
				PALLETS/FIREWOOD NEATLY STACKED
				BUILDINGS SWEEPED/DOORS & WINDOWS OK
				PORTABLE TOILETS CLEAN/SERVICEABLE
				FIREGUARDS/FIRE EXTINGUISHERS PRESENT
				FM COMMUNICATION WITH RANGE CONTROL
AREAS OF CONCERN				
	BRIEFED ON POV/MILITARY VEHICLE PARKING			
	BRIEFED ON AMBUSH/TCP/IED OVERLAYS			
	BRIEFED ON PYRO WINDOWS (4HRS/DUNNAGE)			
	BRIEFED ON INCLEMENT WEATHER			
	BRIEFED ON HUNTING AREA			
	BRIEFED ON ROAD IN TRAINING AREA			
	BRIEFED ON ACCIDENT/INJURY IN TRAINING AREA			
	BRIEFED ON OPENING/CLOSING REPORTS			
	BRIEFED ON CONTACTING TA 230 CADRE			
	BRIEFED ON CONVOYS/FOOTMARCHES			
DATE UNIT WANTED TO CLEAR TA				
DATE UNIT CLEARED TA				
INPROCESSING CHECKLIST RECEIVED BY:				
REMARKS:				

FLW Form 2010-1 (Sept 2008)

MOUT IN/OUT PROCESSING CHECKLIST				
DATE		UNIT		PHONE #
TRAINING AREA			NUMBER OF VEHICLES	
# OF TROOPS		# OF DRILLS		# OF OFFICERS
INPROCESSING			OUTPROCESSING	
UNIT REP:			UNIT REP:	
CARD #		EXP DATE		CARD #
				EXP DATE
INSPECTOR			INSPECTOR	
INPROCESSING		OUTPROCESSING		
YES	NO	YES	NO	
				AREA PROPERLY POLICED
				OBSTACLES REMOVED
				NATURAL VEGETATION INTACT
				BUILDINGS POLICED
				NO TRASH NEAR CLEARING BARRELS
				PORTABLE TOILETS CLEAN/SERVICEABLE
				BRASS AND RESIDUE POLICED
				FM COMMUNICATION WITH RANGE CONTROL
AREAS OF CONCERN				
	BRIEFED ON POV/MILITARY VEHICLE PARKING			
	BRIEFED ON AMBUSH/TCP/IED OVERLAYS			
	BRIEFED ON PYRO WINDOWS (4HRS/DUNNAGE)			
	BRIEFED ON INCLEMENT WEATHER			
	BRIEFED ON HUNTING AREA			
	BRIEFED ON ROAD IN TRAINING AREA			
	BRIEFED ON ACCIDENT/INJURY IN TRAINING AREA			
	BRIEFED ON OPENING/CLOSING REPORTS			
	BRIEFED ON CONTACTING TA 230 CADRE			
	BRIEFED ON CONVOYS/FOOTMARCHES			
DATE UNIT WANTED TO CLEAR TA				
DATE UNIT CLEARED TA				
INPROCESSING CHECKLIST RECEIVED BY:				
REMARKS:				

FLW FORM 2010-2 (Sept 2008)

**Appendix K
REQUEST FOR LATRINE SUPPORT**

ATZT-TC-AC

8 MAY 2007

MEMORANDUM FOR Directorate of Public Works, Operations Branch, ATTN: ATZT-DPW-EO

SUBJECT: Portable Latrines

1. Request portable latrines be placed at WB 704618 for an FTX conducted by B-3-10 IN from 1200 hours on 22 Aug 00 to 1200 hours on 25 Aug 00.
2. The unit will have 173 male and 174 female personnel on site.
3. A strip map is attached.
4. POC for this memorandum is 1SG Sanford at 596-8248.

Encl

BART O. RIDDEL
CPT, IN
Commanding

Figure K-1
Sample Memorandum Requesting Latrine Support

Appendix L
CBRN Hasty Decontamination Training Sites

Requirements/Restrictions as part of the Standard Operating Procedures for decontamination training in field locations:

1. No form of detergents or soap will be added to the washwater in the field.
2. No form of chemical simulant (e.g., PEG-200, antifreeze, methyl salicylate, diethyl malonate) will be applied to vehicles or equipment in the field.
3. Washwater runoff will be channelized NOT to run directly back into a lake, pond, or stream.
4. Students and trainers will avoid washing (direct spray) onto engine components in the field.
5. The decontamination sites (aka Hasty Decon sites) will be upstream (uphill) of the Monitoring Points listed in the current NPDES Discharge Permit (MO-0117251).
6. Instructors, Course Managers, Drill Sergeants, and OICs/NCOICs of Hasty Decon training will attend a briefing on the environmental compliance measures and Range Control procedures, and they must pass a certification test.
7. Deliberate decontamination training, or any activity that results in the washing/rinsing of drivetrain (in whole or in part) is authorized ONLY at washracks or RG 27A. All runoff from deliberate decontamination conducted at RG 27A must drain into the existing pond. No modification of the range is permitted except for work approved by the Director, DPTMS and performed by the Integrated Training Area Management (ITAM) program.

Decon Site #	Location	Description	Monitoring Point	Monitoring Location	Hunting Areas To Request	Comment
1	WB 729735	TA 232	*EE	WB 684731	25	Need to haul water into site
2	WB 715734	Rg 33 between FLW H and W	*EE	WB 684731	25	Need to haul water into site
3	WB 715725	Area between Penn's Pond & FLW H	*EE	WB 684731	25	Need to haul water into site
4	WB 725714	TA 225	*EE	WB 684731	25	Need to haul water into site
5	WB 729715	TA 223	*EE	WB 684731	25	Need to haul water into site
6	WB 712720	Penn's Pond	*EE	WB 684731	25	Better for Drawing Water than Decon
7	WB 691708	McCann Hollow near TA 275A	012	WB 694713	22	Intermittent Pond, hard to find, steep terrain, very thick
8	WB 707748	Babb AF Lake	*CC	WB 719852	28, 29, 30	Better for Drawing Water than Decon
9	WB 733756	Horseshoe Shaped Pond near AVLB training	001	WB 728758	27	Better for Drawing Water than Decon, Lots of Engineer equipment training nearby
10	WB 731765	Pond near TA 243	001	WB 728758	27, 31	Better for Drawing Water than Decon, Lots of Engineer equipment training nearby, hard to find pond
11	WB 734813	Ballard Hollow near Roubidoux Creek	*CC	WB 719852	33, 35, 36, 37, 38	Good road network on Northern training area, water is intermittent in streams
12	WB 734688	Pond on entrance road to Range 27A	012	WB 694713	13	Pond on side of road entering Range 27A area

**Appendix M
BLAST REQUEST**



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
COMPANY B, 554th ENGINEER BATTALION,
U.S. ARMY ENGINEER SCHOOL
FORT LEONARD WOOD, MISSOURI 65473-8941

ATSE-DEB

26 April 2008

MEMORANDUM THRU Commander, 554th Engineer Battalion, ATTN: Battalion S-3, Fort Leonard Wood, Missouri 65473

FOR Range Division, ATTN: Range Operations, Fort Leonard Wood, Missouri 65473

SUBJECT: Use of Live Demolitions for EOBC 6-08 Live-fire Exercise on 22 May 2008

1. This request is to obtain approval for the use of live explosives for training purposes on the FLW installation during EOBC Class 6-06 Demolition Training on 22 May 2008. Five separate blast windows (12 shots) will be requested between 0700 and 1700 hrs on May 22 at Range 33, and one pyro window (4 shots). Each shot will be separated by a minimum of one minute. Listed below are the type, explosive weight and location of each charge:

2. The following is the breakdown of the blasts.

Breaching Drill

Blast Number 1	Explosive	DODIC	Wt of Charges	Number of Charges	Total Wt	Range
1	Bangalore Torpedo	M028	10.5 lb	2	21.44	33
2	Bangalore Torpedo	M028		2	21.44	
3	Bangalore Torpedo	M028		2	21.44	
4	Bangalore Torpedo	M028		2	21.44	
5	Bangalore Torpedo	M028		2	21.44	
Total				10	107.2 lbs	

Shots 1-5: Items are surfaced laid, single primed, single initiated and command detonated using MDI.

ATSE-DEB

SUBJECT: Use of Live Demolitions for EOBC 6-08 Live-fire Exercise on 22 May 2008

Confidence Blast

Blast Number 2	Explosive	DODIC	Wt of Charges	Number of Charges	Total Wt	Range
1	TNT 1/4 lbs blocks	M030	0.25lbs	39	9.75 lbs	33
1	Dynamite	M591	0.50lbs	39	19.5 lbs	33
1	C-4 M112	M023	.625lbs	39	48.75 lbs	33
Total				117	78	

All items are surfaced laid, single primed, dual initiated with command (primary) and time delay (secondary) MDI.

Steel Cutting/Shape Charges

Blast Number 3	Explosive	DODIC	Wt of Charges	Number of Charges	Total Wt	Range
1	C-4 M112	M023	1.25 lbs	40	50 lbs	33
2	15 lb Shape charges	M420	11.2 lbs	30	33.6 lbs	33
Total					94.8 lbs	

Shot 1: all items are surfaced laid, single primed. Dual initiated and command detonated using MDI.

Shot 2: all items are surfaced laid, single primed. Dual initiated and command detonated using MDI.

Steel Cutting/Shape Charges

Blast Number 4	Explosive	DODIC	Wt of Charges	Number of Charges	Total Wt	Range
1	C-4 M112	M023	1.25 lbs	40	50 lbs	33
2	15 lb Shape charges	M420	11.2 lbs	4	44.8 lbs	33
Total					94.8 lbs	

Shot 1: all items are surfaced laid, single primed. Dual initiated and command detonated using MDI.

Shot 2: all items are surfaced laid, single primed. Dual initiated and command detonated using MDI.

ATSE-DEB

SUBJECT: Use of Live Demolitions for EOBC 6-08 Live-fire Exercise on 22 May 2008

Cratering Charges

Blast Number	Explosive	DODIC	Wt of Charges	Number of Charges	Total Wt	Range
1	C-4 M112	M023	1.25 lbs	4	5 lbs	33
1	Cratering Charge	M039	40 lbs	3	120 lbs	33
Total					125 lbs	
2	C-4 M112	M023	1.25 lbs	4	5 lbs	33
2	Cratering Charge	M039	40 lbs	3	120 lbs	33
Total					125 lbs	

Shot 1: all items are placed sub-surfaced, dual primed, dual initiated and command detonated using MDI.

Shot 2: all items are placed sub-surfaced, dual primed, dual initiated and command detonated using MDI.

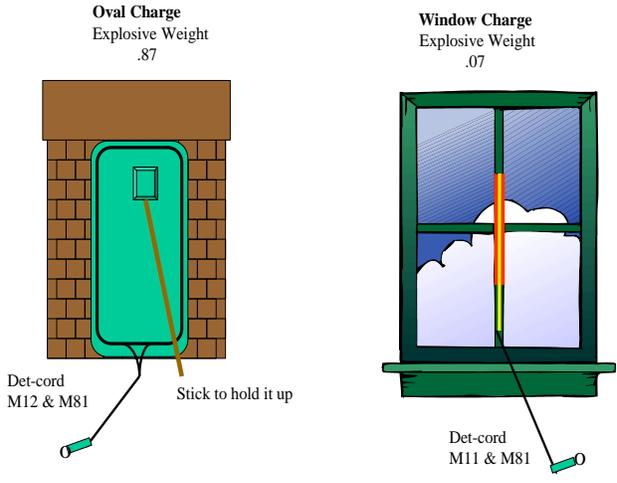
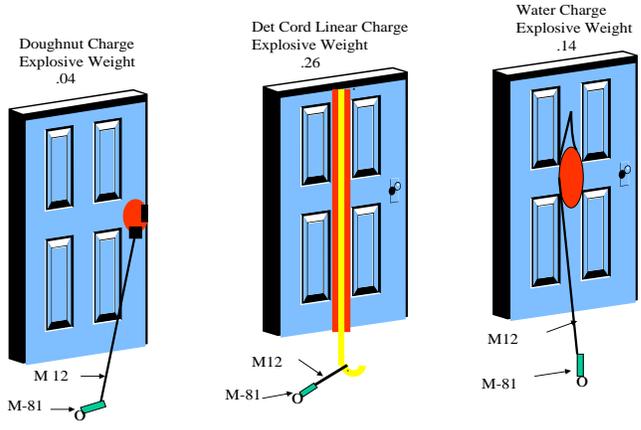
3. All students will be in blast resistant bunkers on Range 33. The firing teams for all blasts will be in a blast resistant/missile proof bunker.

4. POC for this memorandum is the undersigned at 596-0793 or 573-528-3148.

2 Encls

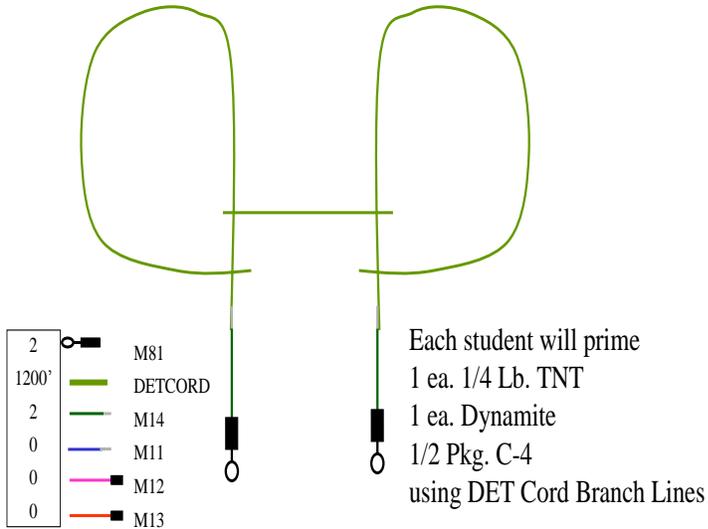
1. Explosive Weight Samples
- 2 . Confidence Blast Data

SEYMOUR JONES
CPT, EN
Commanding

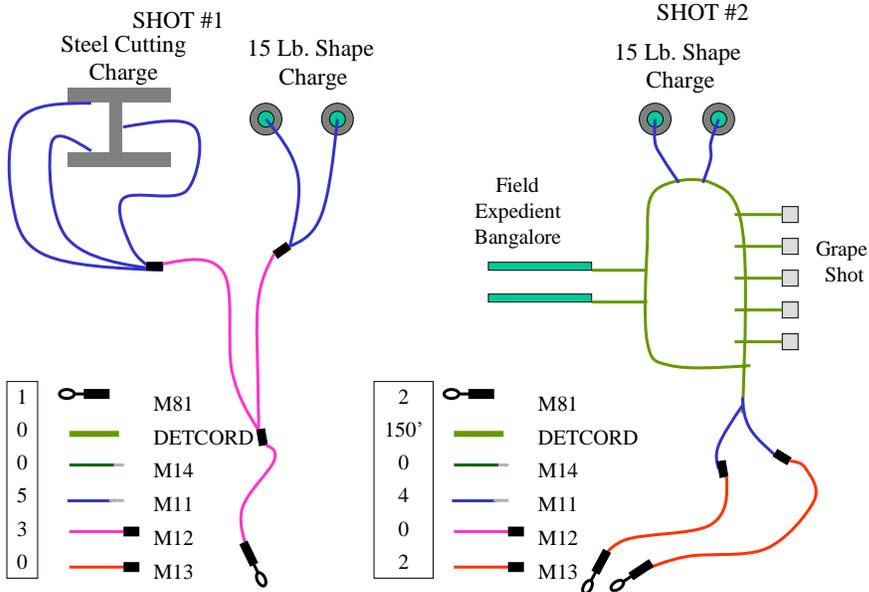


Explosive Weights

**BLAST #1 (CONFIDENCE BLAST)
1 SHOT**



**BLAST #2
2 SHOTS**



Appendix N
FORT LEONARD WOOD ENVIRONMENTAL OVERLAY GUIDELINES

The FLW environmental overlay was designed to provide information about natural and cultural resources and other environmentally sensitive or other wise off-limits areas on Fort Leonard Wood. It is printed at a scale of 1:50000, and can be overlaid directly on the Fort Leonard Wood Reservation Special Map. The overlay, which supplements all existing regulations, guidelines, and state and federal laws, is intended to be used by scheduling personnel, trainers, planners, land managers, and regulatory personnel in order to minimize damage to sensitive areas and help guide future development. The DPW Environmental Division will periodically update this overlay. Any questions regarding this overlay or training restrictions in these areas should be referred to DPW Natural Resources Branch (596-2814). The categories and their respective restrictions/training limitations are as follows:

N-1. Endangered Bat Area – Restricted. These locations are extremely sensitive due to the presence of federally endangered species. They are sensitive to disturbance, development, training activities, and noise, especially during the spring and fall migration periods. Any activities must be approved by DPW Natural Resources in consultation with the U.S. Fish and Wildlife Service. Disturbance of bats during hibernation may cause bat mortality.

Brooks Cave	(WM 7701 7376)	Saltpeter Cave #3	(WM 6855 6859)
Wolf Den Cave	(WM 7257 7476)	Freeman Cave	(WM 8339 7556)
Joy Cave	(WM 7250 7456)	Davis Cave #2	(WM 6787 6965)

a. The following constraints apply to all activities to ensure that bat habitat is neither altered nor destroyed.

- (1) These caves are off-limits for military operations.
- (2) There will be no development in the 20-acre area (162-m radius) surrounding these caves.
- (3) Foot maneuvers are permitted within this restricted use zone.
- (4) No smoke, CS gas, pyrotechnics, or noise simulators are permitted during the followings periods:

Wolf Den Cave, Brooks Cave, Joy Cave, and Davis Cave #2:	August 1 – May 31
Saltpeter Cave #3, Freeman Cave:	April 1 – October 31

b. Bat Management Zone 1. The area between a 162 and a 457-m radius from the cave (160 acres). No bivouac, smoke, CS gas, or use of noise simulators is permitted during the following dates from 1 hour before sunset to 1 hour after sunrise:

Wolf Den Cave, Brooks Cave, Joy Cave, and Davis Cave #2:	March 15 – May 31 and August 1 - October 15
Saltpeter Cave #3, Freeman Cave:	April 1 – October 31

c. Bat Management Zone 2. The area between a 457 and a 1932-m radius from the cave. Disruptive activities should be given a low priority or restricted, especially during the spring and fall. The DPW Natural Resources Branch must approve any training activity which results in the loss of tree canopy. Bat Management Zones 1 and 2 combined represent a 1.2 mile (1932 m) radius buffer zone around known Indiana and Gray bat locations. Undisturbed stream corridors and forest canopy are important habitat

components and are not to be impacted without approval from DPW Natural Resources. Noise should be minimized within this area, especially during the spring and fall periods. Foot maneuvers are permitted year-round. Development of training facilities and sites should be given a low priority within this zone.

N-2. Bald Eagle Nest. A buffer zone has been established around this nest site (WB 8330 7920). This zone extends up to ¼ mile (406 m), in some places, from the nest site. Activities that have potential to disturb nesting eagles are restricted in this area during the period of 1 January thru 30 June. Human entry is prohibited unless performed in connection with necessary eagle research and management by qualified personnel.

a. Military training activities are not authorized within the established buffer zone during the period of 1 January thru 30 June. The restriction is to include all foot and vehicle traffic, CS gas, smoke, pyrotechnics and demolition simulators.

b. All recreational activities within the buffer zone are prohibited. This does not restrict persons from floating on or fishing in the Big Piney River from a boat.

c. Access trails will be closed to restrict vehicle access from 1 January thru 30 June.

N-3. Riparian (River and Streams) Zone, Water Quality and Biological Concerns. Riparian zones are the most biologically diverse areas on the installation, providing habitat for many animals and plants. Most of the known wetlands on Fort Leonard Wood are located along major streams and should not be disturbed or encroached upon. This zone also provides important habitat for the federally endangered Bald Eagle and two endangered bats. Management and training activities are designed to maintain water quality and minimize development and soil disturbance on floodplains:

a. Any digging, filling, draining, or alterations of wetlands is prohibited without appropriate state and federal permits. Wetland resources are located primarily in the stream zone. However, uplands wetlands (i.e., wet sinkholes, and seeps) do exist and should not be altered in any way.

b. Bivouac activity is permitted on case by case basis with DPW Natural Resource Branch approval and coordination with Range Control.

c. Terephthalic Acid (TPA) smoke pots and grenades may not be deployed within 120 m of the Big Piney River or Roubidoux Creek from sunset to sunrise during the period 15 March to 31 October.

d. Streams should be crossed only at designated ford sites. All travel by wheeled/tracked vehicles in streambeds is prohibited.

e. Tracked and wheeled vehicles use will be on gravel roads only. No tracked/wheeled vehicle use on unimproved roads, firebreaks or cross terrain maneuvers.

f. Use POL products and other hazardous materials with care and report spills immediately.

g. Minimize development activity impacts on floodplains in order to control erosion and sediment displacement.

h. Unless specified elsewhere in this regulation, digging activities, which cause soil disturbance or vegetation removal must be approved by DPW Natural Resources Branch.

N-4. Landfills (Active and Inactive). Training activities in these areas, and especially activities involving digging, must be coordinated with DPW Environmental Branch (596-0882).

N-5. Training Area Guideline (TAG) Site. Training activities in these areas that cause soil disturbance or vegetation removal are prohibited without prior coordination with DPW Natural Resources Branch.

N-6. Former U.S Forest Service Lands transferred to FLW in 2001. Authorized training activities included designated bivouacs, foot land navigation, road marches and vehicle convoys on improved roads (gravel roads only). Activities not authorized in this area include:

- a. Use of pyrotechnics or gas.
- b. Off-road vehicle travel on unimproved roads, firebreaks or vehicle cross terrain maneuvers.
- c. Bivouac activities outside of designated TAs (Designated TAs are 240S, 240N, 241, 242A, 242B, 249A and 249B)

N-7. Any earth disturbing activities.

Glossary

Section I Abbreviations and Acronyms

AA&E

Arms, ammunition, and explosives

AEC

Army Environmental Center

AGL

above ground level

AIT

Advanced Individual Training

ALS

Ammunition Logistics Section

AMC

Army Material Command

AT

annual training

AR

Army regulation

ARSO

Assistant range safety officer

ASP

Ammunition Supply Point

ATTN

attention

ATV

all-terrain vehicle

BASOPS

base operations

BIDS

biological integrated detection system

BG

bacillus globigii

BRM

basic rifle marksmanship

CALFEX

combined Arms Live-fire Exercise

CATEX

combined arms training exercise

CBRN

chemical, biological, radiological, and nuclear

CCMCK

close combat mission capability kit

CCP

casualty collection point

CDTF

chemical defense training facility

CLFR

Convoy live-fire range

CG

commanding general

cm

centimeter

CM

chemical

COB

civilian on the battlefield

COND-RES

conditional reservation

CP

command post

CS

chloroacetophenone sulfur

CTC

combat training company

CTMC

consolidated troop medical clinic

CVC

combat vehicle crewman

D&C

drill and ceremonies

DA

Department of the Army

DAITM
Department of the Army Investigation Team for Malfunctions

DES
demolition effects simulators

DOD
Department of Defense

DODIC
Department of Defense identification code

DOL
Directorate of Logistics

DPTMS
Directorate of Plans, Training, Mobilization and Security

DPW
Directorate of Public Works

DTG
date/time group

DZ
drop zone

DZSO
drop zone safety officer

EENR
environmental, energy, and natural resources

ENGR
engineer

EOD
explosive ordnance disposal

EPW
Enemy Prisoner of War

EST
engagement skills trainer

FAA
Federal Aviation Administration

FDC
fire direction center

FLA
front line ambulance

FLW
Fort Leonard Wood

FM
field manual

FORSCOM
Forces Command

FT
feet

FTX
field training exercise

GLWACH
General Leonard Wood Army Community Hospital

GWOT
global war on terrorism

HAHO
high altitude high opening

HC
hexachloroethane

HMMWV
high mobility multi-wheeled vehicle

HW
hazardous waste

IBA
individual body armor

IET
initial entry training

IED
improvised explosive device

ITAM
Integrated Training Area Management Program

ITRO
Interservice Training Review Organization

kg
kilogram

LAO
Logistics Assistance Office

Lbs
pounds

LBV
load bearing vest

LRSO

laser range safety officer

LMR

land mobile radio

LSDZ

laser surface danger zone

MANSCEN

United States Army Maneuver Support Center of Excellence

MDI

modern demolition initiators

MDNR

Missouri Department of Natural Resources

MDoT

Maneuver Support Center Directorate of Training

Med

medical

MEDDAC

medical department activity

MEDEVAC

medical evacuation

MET-D

meteorological data

METL

mission essential task list

MILES

multiple integrated laser engagement system

MMR

military munitions rule

MOPP

mission oriented protective posture

MOUT

military operations on urban terrain

MP

military police

MPH

miles per hour

MSD

minimum safe distance

MSL

mean sea level

MSO

MANSCEN Safety Office

MTOC

Motor Transportation Operators Course

NCOA

Noncommissioned Officer Academy

NCOIC

noncommissioned officer in charge

NEC

Network Enterprise Center

NG

national guard

NSN

national stock number

NOE

nap of the earth

NOTAM

notice to airmen

OIC

officer in charge

OPFOR

opposing force

OSUT

one station unit training

PAO

Public Affairs Office

PECS

physical endurance combat skills

PFT

physical fitness training

PM

provost marshal

POC

point of contact

POI

program of instruction

POL
petroleum, oils and lubricants

POV
privately owned vehicle

POW
privately owned weapon

PSP
power support platform

PT
physical training

QASAS
quality assurance specialist, ammunition surveillance

RCNI
Range Control number identifier

RCO
range control officer

RCRA
Resource Conservation and Recovery Act

Reg
regulation

RFMSS
Range Facility Management Support System

ROTC
Reserve Officer Training Corps

RSO
range safety officer

SAP
satellite accumulation point

SCO
smoke control officer

SDO
staff duty officer

SDZ
surface danger zone

SFO
senior fire officer

SGS
Secretary of the General Staff

SJA
Staff Judge Advocate

SOP
standing operating procedure

TA
training area

TACOM
Tactical Army Command

TB
technical bulletin

TC
training circular

TFW
tactical fighter wing

TM
technical manual

TNT
trinitrotoluene

TOT
time on target

TPA
terephthalic acid

TRADOC
Training and Doctrine Command

TSB
training support battalion

TSC
training support center

TSP
training support package

TTB
tactical training base

UIC
unit identification code

USAES
United States Army Engineer School

USACBRNS
United States Army Chemical, Biological, Radiological, and Nuclear School

USAMPS

United States Army Military Police School

UXO

unexploded ordnance

VIC

visual information center

VT

variable trim

VFR

visual flight rule

WBG

wet bulb globe temperature

WP

white phosphorous

Section II**Terms****Ammunition and explosives**

Includes (but is not necessarily limited to) all items of ammunition; propellants, liquid and solid; high and low explosives; guided missiles; warheads; devices; pyrotechnics; chemical agents; and components and substances associated therewith, presenting real or potential hazards to life and property.

Ammunition and explosives area

An area specifically designated and set aside from other portions of an installation for the development, manufacture, testing, maintenance, storage, or handling of ammunition and explosives.

Assistant Range Safety Officer

A qualified commissioned or warrant officer, noncommissioned officer (SSG or higher), or civilian GS-5 or higher designated by the OIC to assist the RSO in carrying out the safety responsibilities for the range activities.

Barricade

An intervening barrier, natural or artificial, of such type, size, and construction as to limit in a prescribed manner the effect of an explosion on nearby buildings or exposure.

Blast impulse

The product of the overpressure from the blast wave of an explosion and the time during which it acts at a given point (that is, the area under

the positive phase of the overpressure-time curve).

Blast overpressure

The pressure, exceeding the ambient pressure, manifested in the shock wave of an explosion.

Bloodland Range Training Complex

All ranges and training areas on Fort Leonard Wood outside the cantonment area.

Bloodland Troop Trail

A paved trail running north and south, parallel to Iowa Ave. Closed to wheeled vehicles, except trail vehicles for foot marches.

Center of impact

Center of the dispersion pattern of impact bursts. From the point of view of range only, it is the range center; from the point of view of deflection, the deflection center.

Chemical agent

A substance that is intended for military use with lethal or incapacitating effects upon man through its chemical properties. Excluded from chemical agents for purposes of this Standard are riot control agents, chemical herbicides, smoke- and flame-producing items, and individual dissociated components of chemical agent ammunition.

Clearances

a. Surface clearance. A range clearance where the surface area is searched visually and dud/UXO and other munition contamination are removed and disposed of properly. Surface-cleared ranges are restricted to activities that require no ground breaking and limited access.

b. Shallow clearance. A range clearance where the area is systematically swept with standard service mine detectors and all ferrous cased dud/UXOs on the surface and down to a depth of 20-24 inches should be located, removed, and disposed of properly. The use of shallow cleared areas is restricted to activities causing only shallow surface disturbance, such as agriculture.

c. Moderate depth clearance. A range clearance, following surface and shallow clearance, to a depth of five feet, using a detector system more sensitive than the service mine detector. All items located are dug up and disposed of properly. Moderate depth clearance

is required when an area is to undergo development.

d. Deep clearance. A range clearance that is usually only required at "point" locations (i.e., where deep underground utilities or the foundations of a large building are to be placed). The area is first cleared by use of mine detectors and then in 5-foot layers to the necessary depth.

Combined arms live-fire exercise (CALFEX)

A combat exercise in which an Army/Marine Corps combined-arms team, in combat formation, conducts a coordinated combat firing and maneuver practice in executing the assault, seizure, and defense of appropriate objectives. Tactical air support may be included.

Contaminated area

Any area where there is known or suspected unexploded munitions regardless of type or the means by which they got there.

Cookoff

A functioning of any or all of the explosive components due to high temperatures within the weapon.

Demolitions effects simulation

Des charges are explosives which use detonating cord, blasting caps, MDI, cardboard sand and chalk to simulate explosives

Detonation

A violent chemical reaction within a chemical compound or mechanical mixture evolving heat and pressure. A detonation is a reaction which proceeds through the reacted material toward the unreacted material at a supersonic velocity. The result of the chemical reaction is exertion of extremely high pressure on the surrounding medium forming a propagating shock wave that originally is of supersonic velocity. A detonation, when the material is located on or near the surface of the ground, is characterized normally by a crater.

Direct fire

Fire delivered on a target when the piece is layed by sighting directly on the target, using the gun sighting equipment.

Downwind hazard area

The area beyond the impact point that may be affected by a riot control chemical agent or by smoke due to downwind drift caused by wind direction and speed.

Dry code

Acknowledgement from Range Control that the training event is over.

Dud/UXO

Ammunition which has failed to function as designed after firing. As a result, it is in a hazardous and unpredictable condition. This does not include misfires.

Dud/UXO area

Areas known to contain unexploded live ammunition.

Explosion

A chemical reaction of any chemical compound or mechanical mixture that, when initiated, undergoes a very rapid combustion or decomposition releasing large volumes of highly heated gases that exert pressure on the surrounding medium. Also, a mechanical reaction in which failure of the container causes the sudden release of pressure from within a pressure vessel, for example, pressure rupture of a steam boiler. Depending on the rate of energy release, an explosion can be categorized as a deflagation, a detonation, or pressure rupture.

Firing lane

The area within which an aircraft or vehicle-mounted weapon is fired. It consists of a start firing line, cease-firing-disarm line, and left and right limits of fire.

Firing line

The line from which weapons are fired and forward of which no one is permitted during firing except as cited in this regulation.

Firing position

The point or location at which a weapon other than demolitions is placed for firing. (For demolitions, the firing position is the point or location at which the firing crew will be located during demolition operations).

Hangfire

A delay in functioning.

High-angle fire

Fire delivered at elevations greater than the elevation producing maximum range; fire, the range of which decreases as the angle of elevation is increased. Mortars deliver high-angle fire.

Low-angle fire

Fire delivered at angles of elevation equal to or below that corresponding to the maximum range of the gun and ammunition.

Malfunction

The failure of a weapon or ammunition to function IAW the intent of its design.

Meteorological-data (MET-D) event

For units which are required to comply with the Fort Leonard Wood Air Compliance Permit: A scheduled training event that requires favorable meteorological data collected by Range Control in order to execute training in compliance with the FLW Air Permit. MET-D events require an overlay, a scheduled Training Area and a Range Control-issued wet code to begin the event.

Misfire.

A complete failure to fire, not necessarily hazardous, but, since it cannot readily be distinguished from a delay in functioning or hangfire, must be handled as worst case IAW procedures for the weapons system.

Occupation code.

Approval from Range Control to occupy a training area. (A wet code is required to begin training.)

Officer in charge (OIC).

The officer or NCO in charge of troops (or of the training of troops in a school situation) conducting firing on or using range facilities and having responsibility for the operation of the firing range.

Overhead fire

Fire that is delivered over the heads of unprotected friendly troops occupying Area D. Troops wearing kevlar helmets, "flak" jackets, and protective masks are considered unprotected. It does not apply to artillery crews occupying Area E due to approved tactical firing formations.

Public traffic route

Any public street, road, highway, navigable stream, or passenger railroad (includes roads on a military reservation that are used routinely by the general public for through traffic).

Range

Any area on the post designated and habitually used for the firing of weapons with live ammunition, weapon training for a special purpose, or use of demolitions.

RCO

A commissioned officer or civilian who supervises and enforces installation range safety and coordinates range use, maintenance, modification, and installation of ranges and training facilities IAW this regulation and the policies of the commander.

Range Safety Officer (RSO)

A qualified commissioned or warrant officer, or noncommissioned (E6 or higher) officer, who is the direct representative of the officer in charge of firing. The RSO is responsible to the OIC for insuring the adequacy of safety when firing is being conducted and for final determination that, before firing, settings placed on in-direct fire weapons and ammunition represent data within prescribed safety limits.

Responsible Unit

Unit responsible for ensuring training facility is safe for operation. Submits work orders for organizational maintenance. Responsibility does not imply ownership. RCO is final approval authority for training outside cantonment area.

Roadblocks

A permanent or temporary barrier to foot and vehicular traffic beyond which personnel are forbidden to pass without the prior approval of Range Control or the officer in charge of the activity for which the roadblock is established. A roadblock may be a wire barrier, gate, or a sign.

Roadguard.

A roadguard is an occupied location to restrict access to a given area. Usually roadguards are used to stop or redirect vehicular traffic during periods when weapons are firing over or across main roads and the firing would endanger passengers in vehicles traveling those roads. Roadguards must establish and maintain communication with the OIC of the training in progress for which they are a part.

Scheduling Activity

The organization directly responsible for maintaining, scheduling, reporting use and training conflict resolution.

Senior Commander

Commandants, Garrison Commander

Safety radius

The distance from a weapon considered safe for personnel. It is also the minimum distance that troops will be kept away from a misfire, dud/UXO, or any potential explosion hazard and

the distance required to move from a potential cookoff that cannot be cleared from the weapon.

Smoke Control Officer (SCO)

A range safety certified commissioned, warrant, or noncommissioned officer in the rank of staff sergeant or above or a qualified civilian instructor. The SCO must be knowledgeable of and exercise the health and safety precautions that are associated with hexachloroethane (HC) and fog oil smoke. SCO is responsible for command and control of all aspects of the training and must be physically present in the training area.

Surface Danger Zone

That segment of the range area endangered by a particular type of weapon firing and consists of the following areas:

a. Target area. The point or location to which the weapon is to be fired. (For demolitions, the target area is the point or location at which the demolition charge is emplaced).

b. Impact area. The primary danger area for indirect fire weapons that are established for the impact of all rounds. When applied to direct fire weapons, it is the area located between established range limits. The impact area is within the approved surface danger zone.

c. Ricochet area. The area between the impact area and Area A that parallels the line of fire. It is provided to contain ricochet projectiles.

d. Area A. The area (secondary danger area) that parallels the impact area laterally. It is provided to contain fragments from items exploding or ricocheting on the right or left edge of the impact area.

e. Area B. The area (secondary danger area) on the downrange side of the impact area and Area A. It is designed to contain fragments from items exploding on the far edge of the impact area.

f. Area C. The area (secondary danger area) on the up range side of the impact area and parallel to Area B. It is designed to contain fragments from items exploding at the near edge of the impact area (also referred to as the short limit of the target area).

g. Area D. The area between Area C and Area E. It is a safe area for troop occupation for training purposes.

h. Area E. The area between Area D and the firing position. It is endangered by muzzle debris, overpressure, and injurious noise levels. Area E may be occupied only by weapon crews firing from an approved tactical configuration (circular, box, star, etc.).

Tactical roadblock

Temporary barriers, block craters, etc., used in tactical training. Tactical roadblocks will be constructed in a manner to permit passage of emergency traffic and be removed upon completion of exercise.

Training area

A particular portion of the Fort Leonard Wood reservation identified by a number in which training activities are conducted.

Training exercise

A term used to denote a certain type of activity on a specific piece of terrain. It includes range firing, demonstrations, and field training exercises, testing of material and other special field activities. It may include live ammunition, blanks, demolitions, pyrotechnics, simulators, and chemical ammunition.

Training facilities

Committee/storage buildings, portable metal buildings, bleachers, latrines, range towers, warming tent frames, mess tables, rifle racks, firing lanes/lines, target devices/targets, lane markers, and other authorized items not considered training aids.

Troop limits

That portion of a range or exercise area beyond which personnel and vehicles will not go except upon specific authorization by Range Control. A troop limits area will not be occupied when it falls within the surface danger area of another range or problem area unless advance written coordination is effected between the units concerned and Range Control.

User maintenance

Maintenance performed on a day-to-day basis by using units/activities on ranges, training areas and related facilities which requires no alteration to the range or facilities.

Waiver

Written authorization which specifically permits deviation from the mandatory requirements of applicable regulations for a specified time, not to exceed one year from date of issuance.