UNITED STATES MARINE CORPS
Marine Corps Base, Camp Pendleton

RANGE AND TRAINING REGULATIONS

(BO P3500.1M)

Range Operations Division
Operations and Training Department
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UNITED STATES MARINE CORPS
MARINE CORPS BASE
BOX 555015
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BO P3500.1M
O&TROD
4 Sep 2003

BASE ORDER P3500.1M

From: Commanding General
To: Distribution List

Subj: RANGE AND TRAINING REGULATIONS

Encl: (1) Locator Sheet

Reports Required: List, page v

1. Situation. The Commanding General is republishing information, instructions, and procedures governing the use of ranges, training areas, and airspace operated and controlled by Marine Corps Base, Camp Pendleton, California.

2. Cancellation. BO P3500.1L and BO P3500.3C.

3. Mission. To ensure all agencies and units operating within Camp Pendleton ranges, ground and water areas, and airspace under the control of the Commanding General, Marine Corps Base, Camp Pendleton adhere to these regulations.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. Final result desired is personnel operating within Camp Pendleton ranges, ground and water areas, and airspace operate in a safe manner, preserving life, equipment, and natural resources.

(2) Concept of Operations. This Manual will be distributed as directed and all agencies shall review and incorporate procedures from this most current version.

b. Subordinate Element Missions. The Marine Corps Base Range Working Group will conduct an annual review of this Manual.

c. Coordinating Instructions

(1) This Manual contains substantial revision and should be completely reviewed.

(2) In the event these instructions conflict with those issued by higher authority, the orders of the higher authority shall take precedence. Notify the Commanding General (Attn: Assistant Chief of Staff, Operations and Training) of any conflict or question of interpretation.

(3) Commanders of organizations utilizing the ranges of Camp Pendleton are encouraged to submit recommendations concerning improvements or changes to the Commanding General (Attn: Assistant Chief of Staff, Operations and Training).

5. Administration and Logistics. Directives issued by this headquarters are published and distributed electronically via email at SMB PENDLETON Directives Control Point. Hard copy versions may be obtained through the Directives Control Point at the Base Adjutant's Office.

6. Command and Signal

a. Signal. This Manual is effective the date signed.

b. Command. This Manual applies to all commands, organizations, units, and activities authorized use of the ranges, training areas, and airspace controlled by the Commanding General, Marine Corps Base, Camp Pendleton.

L. H. FARMER
Chief of Staff

DISTRIBUTION: A-3 plus AC/S, Ops&Trng (148); CO, SOI (15); WACO (1) B-2 plus CG, 1stMarDiv (100); CG, I MEF (100); CO, ACU-5 (2)

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LOCATOR SHEET

Subj: RANGE AND TRAINING REGULATIONS

Location: _____
(indicate location(s) of the copy(ies) of this Manual)

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RANGE AND TRAINING REGULATIONS

RECORD OF CHANGES

Log completed change action(s) as indicated.

CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	SIGNATURE OF PERSON INCORPORATING CHANGE

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REPORTS REQUIRED

REPORT TITLE	REPORT CONTROL SYMBOL	SUBMIT TO	PARAGRAPHS
AMMUNITION MALFUNCTION	MCBCP-8025-1	BASE ORDNANCE OFFICER	7003
LASER RANGE FIRING LOG	EXEMPT	LONGRIFLE	8003
FAC-CAS BRIEF SHEET	EXEMPT	LONGRIFLE	4008

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LIST OF APPLICABLE REFERENCES

DIRECTIVE NO.	SUBJECT
DAFM 21-48	Planning and Conducting CBR and Nuclear Defense Training
WgO 3125.2A	Standing Operating Procedures for Air Support
MCO 1510.87B	Individual Training Standards for Marine Corps Special Skills, Volume 1
DivO 1540.10A	Moving Target Tank Training
BO 3125.1C	Standing Operating Procedures for Air Support
BO P3500.2	Standing Operating Procedures for Live-Fire and Maneuver Exercises
MCO 3500.27A	Operational Risk Management (ORM)
BO 3502.1B	Training Areas, Range and Training Facilities Development Program
MCO P3570.1B	Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat
BO 3574.1J w/Ch 1	Standing Operating Procedures for Marksmanship Training with Individual Small Arms
MCO 3574.2J	Entry Level and Sustainment Level Marksmanship Training with the M16A2 Service Rifle and M9 Service Pistol
BO P3700.1	Administrative Landing Zones (LZs), Confined Area Landing Sites (CALSITES) and Simulated Decks Study (Short Title: LZ Study)
MCO 4340.1A w/Ch1	Reporting of Missing, Lost, Stolen or Recovered (MLSR) Government Property

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DIRECTIVE NO.	SUBJECT
MCO P4400.150E	Consumer Supply Manual
MCWP 3-1	Ground Combat Operations
MCRP 3-11.4A	Helicopter Insertion/Extraction
FM 5-25	Electrical Firing Systems
BO P5000.2J	Base Regulations
MCO 5090.2A	Environmental Compliance and Protection Manual
BO 5090.2	National Environmental Policy Compliance Act
MCO 5102.1A	Marine Corps Ground Mishap Investigation and Reporting Manual
MCO 5104.1B	Navy Laser Hazards Control Program
OPNAVINST 5530.13B	Department of the Navy Physical Security Instruction for Sensitive Conventional Arms, Ammunition, and Explosives (AA&E)
BO 5740.1F	Incident Reporting
COMELEVENINST 5880.1D	Marine Collisions or Casualties; Report of
DivO P8000.1D	Standard Operating Procedures for Class V(W)
BO P8000.2B	Arms, Ammunition, and Explosives SOP
BO P8000.3	Ordnance Material Standard Operating Procedures (Short Title: ORD SOP)
MCO P8020.10A	Ammunition and Explosive Safety Policies, Programs, Requirements, and Procedures
MCO 8025.1D	Ammunition and Explosive Safe Policies, Programs, Requirements, and Procedures for Class V Material

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DIRECTIVE NO.	SUBJECT
NAVMC 11381	Expenditure Report
Code of Federal Regulations	Title 33, Navigation and Navigable Waters
JAG Manual	Chapter XII
Map V795S Edition 2-NIMA;1:50,000; NAD 83/WGS 84	Camp Pendleton Military Installation Map
FACSFACSDINST 3120.1A	Amphibious Assault Helo Ops/Bombing and Strafing Regs/Amphibious Assault Area/ Amphibious Vehicle Training Area
FAAH 7110.65	Federal Aviation Administration (FAA) Handbook - Air Traffic Controller
FAAH 7400.2	FAA Handbook - Procedures for Handling Airspace Matters
FAAH 7610.4	FAA Handbook - Special Military Operations

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CHAPTER ONE

GENERAL

Overview

This chapter provides a general overview of responsibilities, safety, required reporting, medical evacuation procedures, wild fire procedures, and information regarding operations at Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

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CHAPTER ONE

GENERAL

1000. PURPOSE AND SCOPE

1. General This Manual prescribes the regulations and general precautions to be taken in the firing or other use of live ammunition and explosives, the use of training areas, airspace, seaspace, landing and drop zones and other range and training facilities at Marine Corps Base (MCB), Camp Pendleton, California.

2. Purpose The primary purpose of this Manual is to ensure a safe and realistic training environment. Nothing contained in these regulations will be construed as permitting live-fire or other training activities that endanger life or property.

3. LFAM Refer to BO P3500.2 for specific instructions and policies concerning Live-Fire and Maneuver (LFAM) training.

4. Warning Failure to comply with these regulations may subject the offender to administrative action or disciplinary action under the Uniform Code of Military Justice.

1001. UNIT COMMANDER

1. General Ensure compliance with this Manual, directives in the MCO 3570 series, applicable TMs, field manuals (FMs), and Marine Corps Warfighting Publications (MCWPs), installation range guidance, and applicable SOPs for safe training and firing for each weapon system within the command.

2. Briefing Ensure all personnel within the command are briefed on installation range procedures and safety requirements including required personal protective equipment.

3. OIC and RSO Designation

Designate an OIC and RSO for training events per the provisions listed in figure 1-1. The RSO shall have no additional duties during the firing/training exercise.

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4. OIC and RSO Requirements

Ensure OICs and RSOs meet the requirements listed in directives in the MCO 3570 series, and highlighted as follows.

a. Must be competent; and have been properly instructed in the performance of their duties, as well as having satisfactorily completed the Camp Pendleton Range Safety Certification Program.

b. Must be knowledgeable in the weapon systems for which they are held responsible, and in safe ammunition accountability, handling, and use procedures.

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5. ORM

a. Develop Operational Risk Management (ORM) procedures for all phases of training event(s).

b. Review risk assessments for all training events. An ORM Worksheet is provided in appendix I of this Manual.

1002. OFFICER-IN-CHARGE (OIC) OF TRAINING

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1. Duties

a. The OIC is responsible and accountable for the conduct of the activity, and adherence to governing regulations and guidance. He/she must be able to fully influence the conduct of the event. The OIC will coordinate with units using adjacent ranges or facilities to ensure safe conduct of training and will ensure that all required communications have been established and are maintained with LONGRIFLE.

b. The OIC will appoint and instruct range guards and other safety personnel as required.

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2. Safety Responsibilities

The OIC shall have a detailed Operational Risk Management (ORM) worksheet signed by the unit commander that covers all phases of training to be conducted in his/her possession at all times while training. The OIC shall be physically present at the training site.

a. The OIC shall have a valid Range Safety Certification Course Card, and shall be knowledgeable in the weapon systems for which he/she is held responsible.

b. The OIC shall ensure all personnel wear the appropriate personal protective equipment to include helmets, flak jackets, and hearing protection during all live-fire

events. Helmets and flak jackets are not required when conducting annual known distance (KD) marksmanship training to include KD battlesight zeroing. Sniper training is also excluded from wearing helmets and flak jackets when conducting training which does not require wearing helmets and flak jackets per the MCO 3570 series. All military and civilian agencies conducting law enforcement-type training are permitted to wear their equivalent protective equipment in lieu of helmets and flak jackets.

c. The OIC shall brief the RSO on the duties to be performed in support of the trianing event, and clearly establish the requirement for the RSO to brief the OIC on the safety of the facility/unit, and the readiness to commence live-fire operations prior to the start of firing.

d. The OIC will ensure that the RSO is familiar with the weapon(s) or weapon system(s) being used.

e. The OIC will ensure that the RSO provides for an emergency vehicle and corpsman for all ranges, training areas, beaches and training facilities. Report the following information to LONGRIFLE by radio (primary) or telephone (secondary).

(1) Training area/range being used (grid if possible)

(2) Unit designation

(3) Time in/expected length of stay

(4) Time out

(5) Number of personnel

(6) Type of ordnance

(7) Type of training

(8) Name and rank of OIC and RSO

f. In the event of a MEDEVAC, the OIC or an appointed representative will suspend fire, and will:

(1) Ensure first aid is rendered.

(2) Contact LONGRIFLE and report the location, nature of the accident, and assistance required.

(3) Refer to paragraph 1009 for additional MEDEVAC information.

g. The OIC shall ensure the requirements in chapter 2 of this Manual have been met.

1003. RANGE SAFETY OFFICER

1. General

The RSO assists in maintaining surveillance of firing and safety within the entire surface and vertical hazard space of the assigned range; he/she shall be physically present at the training site. The RSO is a supervisory position. The RSO shall not personally participate in training. THE RSO WILL NOT BE ASSIGNED OTHER DUTIES NOR FIRE A WEAPON, and will be the last to leave the range following completion of firing and clean-up, ensuring that the range is clear of all personnel and equipment. The RSO will ensure that all trash and brass are removed from the range after completion of training.

2. Training

a, Personnel assigned the duty of a RSO will first attend the Range Safety Certification Course, held every Friday at 0800 for live-fire events and 1300 for non live-fire events, in Bldg. 2399, MCAS, Camp Pendleton. Further information can be obtained by contacting the Range Control Officer at (760) 725-0355. Camp Pendleton RSO certifications are valid for two (2) years.

b. Steel Reactive Target (SRT) and Special Effects Small Arms Marking System (SESAMS) RSO training shall be part of the Range Safety Certification Course provided every Friday, or as requested to the RCO.

3. Forward Air Controllers

All FACs/FACs(A) shall attend the Camp Pendleton FAC/FAC(A) Class prior to conducting CAS operations here. The FAC/FAC(A) Class is held every Friday at 1300 at the Range Operations Division in Bldg. 2399. FAC/FAC(A) certification cards, issued upon completion of the class, will remain in effect for 2 years. An experienced Camp Pendleton FAC shall supervise any first-time FACs controlling aircraft at Camp Pendleton. Unit briefs may also be scheduled by contacting the Airspace Manager at (760) 725-8183.

4. Laser Systems Safety Officer (LSSO)

All Laser Systems Safety Officers (LSSOs) shall complete the Camp Pendleton LSSO Class prior to supervising the conduct of laser operations. Classes are held every Friday at 1330 in Bldg. 2399. LSSO classes may also be scheduled through the Base LSSO at DSN 365-0355; or (760) 725-0355. Camp Pendleton LSSO certification is valid for two years.

5. RSO Duties

a. The RSO is responsible for the enforcement of applicable safety regulations contained in this Manual, directives in the MCO 3570 series, and other applicable field, technical, and ordnance publications.

b. The RSO is also responsible for ammunition accountability. The RSO will have a copy of the applicable portions of this Manual in his possession at all times. RSOs are responsible for personnel shakedown and police call.

(1) The RSO shall inventory and sign for ammunition and explosives on the NAVMC 11381 Expenditure Report. Refer to paragraph 7001.4 in chapter 7 of this Manual.

(2) RSOs are further responsible for ammunition and explosives malfunction reports. Refer to paragraph 7003 in chapter 7 of this Manual.

c. The RSO shall maintain communication with LONGRIFLE at all times. When the range is firing and communication is lost, the RSO will order a cease-fire until communication is reestablished.

d. RSOs shall be responsible for the check-in/check-out process for all ranges and training areas as outlined in paragraph 6002 of this Manual.

e. The RSO/Drop Zone Safety Officer (DZSO)/Drop Zone Safety Team Leader (DZSTL) for drop zones shall be a certified jumpmaster per MCWP 3-1, and must be present during drop operations.

f. The RSO for rappelling/HRST shall have a qualified, school-trained rappel/ HRST master present at all times during rappel/HRST operations.

g. The RSO for assault climbing events shall have a certified assault climber present at all times during training.

h. The RSO for laser operations shall have a certified Camp Pendleton LSSO. The RSO may serve as both if qualified as outlined in paragraph 8002 in chapter 8 of this Manual.

i. RSOs of Explosive Ordnance Disposal (EOD) Range 401 may check out that range by telephone with LONGRIFLE. The requesting unit shall coordinate all scheduling of R-401 with the Base EOD Team. The estimated height/frag pattern (in feet) shall be provided to LONGRIFLE upon checking out Range 401. Frag patterns exceeding 1,000' AGL shall be coordinated five (5) working days in advance with LONGRIFLE.

j. RSOs are required for units conducting training in Camp Pendleton training areas and beaches (refer to figure 1-1 on page 1-17).

k. A detailed RSO Checklist is provided in appendix I to assist the RSO. Please note this checklist is a guide, and while detailed, is not all encompassing.

1004. SAFETY

1. Safety

a. Safety is the responsibility of every individual, at all times, and is a key factor in successful training. Concerns for safety, however, should never be limited to the training event itself, but should always include associated activities as well; including convoy movement to and from training, maintenance activities, bivouac operations, etc.

b. Any individual who observes an unsafe condition shall report this immediately to the chain of command. A training event or any other activity may be halted until the unsafe condition has been corrected. Anyone has the option to call "cease-fire" over their respective LONGRIFLE frequency. The greatest danger to life and limb is associated with live-fire; therefore, range restrictions for various weapons/ ammunition are listed in paragraph 1005 of this chapter. These are in addition to other safety requirements listed in this Manual.

c. Where conflicts occur with safety instructions contained in Field and Technical Manuals, the provisions of directives in the MCO 3570 series govern.

2. ORM

Operational Risk Management (ORM) shall be employed during all facets of training activities. An ORM Worksheet is provided in appendix I of this Manual.

1005. RANGE RESTRICTIONS

1. General

a. Firing or bombing will be conducted on authorized ranges and LFAM areas only. This does not prohibit the controlled use of blank ammunition or noisemakers (small, controlled demolition charges of ¼ pound of TNT or equivalent) in accordance with this Manual.

b. The use of chemical ammunition will be in strict compliance with paragraph 7008 in chapter 7 of this Manual. The use of riot agents (CS) and other obscuration materials shall be in strict compliance with paragraph 7009 and appendix F of this Manual.

c. Personnel not specifically scheduled to be on ranges or training areas are not authorized.

2. POVs and Privately Owned Weapons

a. Privately owned vehicles (POVs) are prohibited on all live-fire ranges, Artillery Firing Areas (AFAs), Mortar Firing Areas (MFAs), and training areas with the exception of the following rifle and pistol ranges: 102, 103, 116, 213, 214, the 314 Series Ranges, and the Edson Range Complex. Parking of POVs on access roads to live-firing ranges, AFAs, MFAs, and training areas is also prohibited, without written authorization from the Range Control Officer. Prior to being issued a POV pass, personnel shall submit a command letter (company-level) to the RCO justifying the need to utilize a POV in support of training. POVs may be authorized at Range 401 at the discretion of the Base EOD OIC/NCOIC. Parking of POVs at the Southern Impact Area Control (SIAC) is limited to Range Control personnel. During authorized hunting and fishing periods, the Range Control Officer may authorize hunter POV parking along main roads in training areas.

b. Privately owned weapons are not authorized on ranges or training areas without special permission. Submit requests to the Range Control Officer two weeks in advance.

c. Carrying military weapons to and from any range in POVs is not authorized without organizational commander's approval.

3. Civilian Observers Civilians are not permitted at live-fire training events. Unit-sponsored functions, which include civilian participation, may be requested through the Commanding General (Assistant Chief of Staff, Operations and Training).

4. Physical Training Unit PT or recreational activities in training areas shall be scheduled via the Range Scheduling Office. This includes individual PT.

5. Alcohol Alcohol is not allowed on ranges or in training areas.

1006. WAIVERS TO REGULATIONS

Requests for waivers to the provisions contained in this Manual should be addressed to the Commanding General, MCB, Camp Pendleton (Attn: Assistant Chief of Staff, Operations and Training) no less than thirty (30) working days prior to the planned event. It is recommended that waiver requests be coordinated with the Range Control Officer prior to request submission. The requirements for waivers, briefs, surface danger zone diagrams (SDZs), and airspace requests are provided in figure 1-2 on page 1-19.

1007. ACCIDENT REPORTING

When a training accident occurs on a range or in a training area, a report will immediately be made to LONGRIFLE by telephone or radio. The Assistant Chief of Staff, Operations and Training (in the case of Base organizations) or the Assistant Chief of Staff, G-3, I MEF (via unit chains of command) will immediately be notified by the unit commander of all training accidents (refer to BO 5740.1F). When ordnance material is involved, the accident will also be reported to the Base or Division Ordnance Officer, as appropriate.

1008. AIRCRAFT ACCIDENTS

a. Notify LONGRIFLE in the event of any actual aircraft accident on Camp Pendleton ranges or training facilities.

b. The following information shall be reported, if available.

(1) Location

(2) Type of aircraft

(3) Personnel involved

(4) Aircraft armament

(5) Name, grade, organization, and present location of the caller

c. If the crash occurs in an impact area, units or personnel involved in emergency rescue operations must ensure live firing in that area has ceased before entering the impact area, and that an EOD Technician is physically present with the rescue party.

d. LONGRIFLE shall call "cease firing" on all ranges that affect the crash site. Clearance will then be given for the rescue party to enter the impact area with the EOD Technician.

e. Firing will not resume until the rescue has been completed and all personnel and equipment have been accounted for.

1009. MEDICAL EVACUATION (MEDEVAC) PROCEDURES

1. General

a. LONGRIFLE has ultimate MEDEVAC initiation responsibilities for all accidents occurring at Camp Pendleton ranges and training facilities. It is critical in order to ensure a timely response to training accidents, that the incident details, victim injuries, and assets necessary to best address victim injuries are clearly relayed to LONGRIFLE. The following information pertains to MEDEVAC responses.

(1) The Camp Pendleton Naval Hospital is not trauma-capable.

(2) The Camp Pendleton Fire Department must be on-scene for the arrival of any civilian air ambulance to ensure the victim(s) is prepared for transport and the landing zone is identified and marked in accordance with civilian air ambulance expectations.

(3) Civilian air ambulance companies advertise a 15 to 20-minute response time, but may be longer if their local assets are already committed.

(4) A victim should not be transported via military aircraft (helo) if he/she cannot stand the vibration or jarring associated with military aircraft transport. It may be better to await a civilian air ambulance and the fire department to adequately stabilize the victim for civilian air ambulance transport.

(5) Extractions requiring airborne support may be delayed for up to one hour due to the non-availability of local airborne extraction assets.

(6) There is not a military MEDEVAC aircraft on standby at Camp Pendleton.

b. Competent medical personnel or the senior Marine on location shall determine the extent of a medical emergency. Sound judgment will always be paramount in any successful response to an emergency.

c. In most circumstances, evacuation by vehicle will be the most effective means of transportation. Good judgement will always be the paramount factor in determining which mode of transportation to use.

d. Red smoke is designated as the alternate signal for any emergency. Therefore, red smoke will not be used unless a bona fide emergency exists. Any unit/aircraft sighting red smoke should check-fire and immediately contact LONGRIFLE.

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2. Categories

There are three categories of MEDEVACs. The MEDEVAC category shall be relayed to LONGRIFLE.

a. Emergency/Urgent (life threatening). Requires immediate response, typically by civilian air ambulance. This category also includes an injury degrading to an emergency (life threatening) status if not transported in a timely manner.

b. Priority (non-life threatening). Evacuation may be accomplished by air or ground.

c. Routine (minor injuries). Transport is accomplished via vehicle.

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3. MEDEVAC Controlling Agency

a. LONGRIFLE will remain the principal controlling agency during an actual MEDEVAC emergency. If a radio is the only means of communication, contact LONGRIFLE on FM 30.35/49.00. If a radio is not available, contact LONGRIFLE at (760) 725-4604/3974. If a telephone or radio is not available, use RED SMOKE/ RED FLARE with caution.

b. DURING A MEDEVAC, ALL UNITS ON BASE RANGE CONTROL SAFETY NETS SHALL STAY CLEAR OF THE NETS UNTIL THE MEDEVAC HAS BEEN COMPLETED, UNLESS ANOTHER UNIT REQUIRES MEDEVAC SUPPORT.

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4. Training Accident Reports

Training accident reports will include the information listed in figure 1-3 on page 1-21. Unless deemed otherwise by competent authority, names and social security numbers of injured personnel should not be relayed over the radio. Range Inspectors may be used to relay or gather sensitive accident and/or medical information.

1010. FIRE DANGER RATING (FDR)

1. General

In order to reduce the danger from wildland fires while also accomplishing maximum training during the dry season, the Commanding General, MCB, Camp Pendleton publishes Fire Danger Ratings. Fire Danger Ratings are applicable to all organizations and individuals at Camp Pendleton, whether in a training or off-duty status, and while using ranges, training areas, or impact areas.

2. Fire Danger Ratings

Fire Danger Ratings (FDRs) are defined in figure 1-4 on page 1-23.

3. Dissemination

a. The Fire Danger Ratings are determined and disseminated by the Base Fire Department.

b. When the Fire Danger Rating reaches EXTREME, a notice reenforcing the FDR will be sent by the Assistant Chief of Staff, Operations and Training (Base Command Duty Officer during non-duty hours) to all units at Camp Pendleton.

4. Action

a. RSOs will allow firing or training to commence only after ascertaining the Fire Danger Rating in effect and adopting the appropriate fire prevention measures.

b. LONGRIFLE will notify RSOs of FDR changes as they occur.

c. In the event of a wildland fire on any range, impact, or training area, the RSOs will immediately notify LONGRIFLE by the most expeditious means possible stating the exact location and extent of the fire. LONGRIFLE will then instruct the RSOs as to what action to take prior to the arrival of the Fire Department. The RSO should remain in a safe area with his unit subject to the orders of the Base Fire Chief. Due to the possibility of duds, under no circumstances will anyone enter an impact area to fight fires.

d. The Range Control Officer will monitor all range and training area fires as they occur, and is authorized to assist the Base Fire Chief to safeguard government property and personnel. This will include the control of firing and the removal of units from training areas threatened by fire. Maximum effort will be made not to interfere with scheduled training. However, safety considerations shall take precedence.

e. Fires will not be started on any range or in any training area except when authorized by the Assistant Chief of Staff, Operations and Training. Cutting of trees and brush for such fires is prohibited per paragraph 2001.1 in chapter 2 of this Manual. Fires will be carefully extinguished prior to leaving the area. FIRES WILL NOT BE PERMITTED WHEN THE FIRE DANGER RATING IS **VERY HIGH** OR **EXTREME**.

f. Burning of powder may be conducted as described in appendices D and E.

1011. PROCEDURES FOR DEALING WITH FIRES

1. General

Personnel training on Camp Pendleton will not generally engage in firefighting and under no circumstances will personnel attempt to fight a fire in an impact area. Upon discovering a fire in a training area, the senior person present will determine whether personnel present can extinguish the fire. It is important to remember; however, that firefighting is, at best, a very dangerous activity. Firefighting can be deadly, especially without proper training. In making this determination, the following facts should be considered with the greatest importance placed on safety of personnel:

a. Size and type of fire

b. Speed at which the fire is spreading

c. Probability of injury to those personnel who will attempt to extinguish the fire

d. Probability of damage to government property

e. Equipment available to combat the fire

2. Discovering a Fire

Upon discovering a fire, the senior person present should take the following steps.

a. Inform LONGRIFLE of the fire size and location; provide cause and type of fire (e.g., wildland fire, vehicle fire, fuel fire, etc.) if possible. If unable to contact LONGRIFLE, inform the Base Fire Department by the most expeditious manner at (760) 725-3333 or 911.

b. Evacuate all personnel and equipment to safety as long as the removal of equipment does not endanger personnel.

c. Remain in the area with his/her unit in a safe area, subject to orders of the Fire Department.

1012. FIRE PREVENTION PLAN

1. General

Most wildland fires result from careless acts rather than being the result of normal training activities. All reasonable means available must be taken to prevent such fires, and to reduce damage when they do occur. All personnel must be aware of the dangers of fire at Camp Pendleton, and train in a manner that minimizes fires.

2. Fire Prevention Plan

Wildland fires remain the most destructive (and costly) threats to Camp Pendleton training resources. In past years more money has been spent on fire prevention, firefighting, and post-fire restoration at Camp Pendleton than was obligated for range improvements. In an attempt to continue to control these escalating costs without seriously degrading realistic training, the following Base Fire Prevention Plan is in effect.

a. As required, the Camp Pendleton Fire Department will conduct controlled burns in dud-producing impact areas or firing ranges that have a high fire potential. This will allow the use of all normally authorized ordnance in those dud-producing impact areas.

b. Flame, heat-producing devices, pyrotechnics, or training activities in the perimeter training areas defined as Bravo I and II, Charlie, Delta, Echo, Foxtrot, Golf, Hotel, Juliett, Lima, and November, that could cause a fire are PROHIBITED when the FDR is VERY HIGH or EXTREME (unless approved by Range Control).

c. Blanks are not authorized in the perimeter training areas during Fire Danger Ratings of VERY HIGH or EXTREME unless approved by Range Control.

d. No ordnance of any kind, flame/heat-producing devices including blanks, or training activities that could cause a fire, are permitted in any training areas when the FDR is EXTREME.

e. All other training in non dud-producing impact areas will be in strict compliance with the Fire Danger Rating.

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3. Fire Danger Rating Updates

Fire Danger Rating updates may be received by contacting LONGRIFLE.

1013. CONTROLLED BURNS

The Base Fire Chief will conduct controlled burning. Requests for controlled burning on ranges and in training areas will be submitted to the Base Fire Chief who

will coordinate burning with the Assistant Chief of Staff, Operations and Training and the Assistant Chief of Staff, Environmental Security.

1014. PERMITTED FIRING TIMES

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1. 0600-2400

All weapons/ordnance are permitted.

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2. 2400-0600 All weapons/ordnance: Submit a written request via the Director, Range Operations Division to the Commanding General (Assistant Chief of Staff, Operations and Training) with justification at least five (5) working days in advance or as required in figure 1-2 on page 1-19 to meet airspace timeline submission requirements.

1015. CAMP PENDLETON MILITARY INSTALLATION MAP

You may order the Camp Pendleton 1:50,000 Military Installation Map directly from the Defense Logistics Agency. The NSN is 7643014836697, and the reference number is V795SCPPENDLMIM (select current edition).

1016. GRID COORDINATES

Unless otherwise described, all grid coordinates used in this Manual correspond to the Camp Pendleton Military Installation Map; V795S; 1:50,000; NAD 83/WGS 84.

1017. MAGNETIC HEADINGS/DIRECTIONS

Unless otherwise stated, all headings/directions used in this Manual are magnetic.

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Officer-in-Charge (OIC)/ Range Safety Officer (RSO) Appointment Requirements

EVENT	OIC 1			RSO 1		
	OFF	WO	NCO	OFF	WO	NCO
MOUT/MAC Operations	Refer to Appendix C - Annex III					
Smoke/Chemical Agents 2	X	X	E-6	X	X	E-6
Sub caliber training devices; practice hand grenades; laser devices; firing devices; simulators and trip flares; small arms; and machine guns	X	X	E-6	X	X	E-5
Field Artillery 3	X	X	E-7	X	X	E-6
Combined arms live-fire exercises using outside fire support, troop, battery, squad, platoon, company; or battalion and larger 4	X	X	E-7	X	X	E-6
Aerial gunnery & air defense weapons; flame-throwers; practice and live grenades, grenade launchers, and grenade machine guns; live mines and demolitions; tank & fighting vehicle cannons; and recoilless rifles	X	X	E-7	X	X	E-6
Mortars	X	X	E-6	X	X	E-6
Direct-Fire Antitank Rockets and Missiles	X	X	E-7	X	X	E-6
Live-fire exercises using organic weapons, squad through company, battery, and troops	X	X	E-7	X	X	E-6
Paradrops 5 & 6	X	X	X	X	X	E-4
Rappelling/HRST 6 & 7	X	X	X	X	X	E-5
Training Area/Beach Operations without Munitions 6	X	X	X	X	X	E-4
Training Area/Beach Operations with Munitions	X	X	E-6	X	X	E-5
Helicopter Support Team (HST) Operations 6	X	X	X	X	X	E-4
EOD Operations			E-5			E-5
Special Effects Small Arms Marking System (SESAMS) 8	X	X	E-7	X	X	E-6
Steel Reactive Targets (SRT) 9	X	X	E-7	X	X	E-6

1. Civilians in the grade of GS-07 or above may act as OIC; and GS-05 or above or equivalent for RSO. Designated civilians for non military organizations (i.e., gun clubs) shall complete an approved National Rifle Association pistol/rifle course or equivalent (as determined by the RCO) prior to attending the Camp Pendleton Range Safety Certification Course.
2. The OIC and RSO shall be nuclear, biological, and chemical (NBC) qualified when conducting NBC training.

Figure 1-1

(Notes continued on next page)

(Notes continued)

3. Use of E-7s as OICs is authorized only when approved by the installation commander.
4. The OIC shall be a field grade officer for battalion or larger CALFEXs and LFAMs.
5. Must be a certified jumpmaster per MCWP 3-1.
6. Must attend the Range Safety Non Live-Fire Certification Course or the Range Safety Certification Course.
7. Must be a qualified HRST Master.
8. Specific RSO cerrtification is required when training with Special Effects Small Arms Marking System (SESAMS) as outlined in TECOM Safety of Use Memorandum (SOUM) 1-02. OIC/RSO grade requirements may not be reduced.
9. Specific RSO cerrtification is required when training with Steel Reactive Targets (SRT) as outlined in TECOM Safety of Use Memorandum (SOUM) 2-02.

Figure 1-1

WAIVER, BRIEF, SDZ DIAGRAM, AND AIRSPACE REQUIREMENTS

WAIVERS	
Thirty (30) working days prior to event with all endorsements should enable approvals seven (7) working days prior to training evolutions	
BRIEFS	
LFAMs	Sixty (60) days prior to training evolution, with all SDZs/Concept of Operations/ signed ORM (face to face with RCO)
MFAs	Thirty (30) days prior to training evolution with all SDZs (if applicable)/Concept of Operations/signed ORM (face to face with RCO)
R-131	Forty-eight (48) working hours prior to training evolution (brief RCO for use of SIMS)
R-208C	Fourteen (14) days prior to training evolution, with all SDZs/Concept of Operations/signed ORM (face to face with RCO)
R-314C	Fourteen (14) days prior to training evolution, with all SDZs/Concept of Operations/signed ORM (face to face with RCO)
R-408	Fourteen (14) days prior to training evolution, with all SDZs/Concept of Operations/signed ORM (face to face with RCO)
R-409A	Fourteen (14) days prior to training evolution, with all SDZs/Concept of Operations/signed ORM (face to face with RCO)
R-800	Fourteen (14) days prior to training evolution, with all SDZs/Concept of Operations/signed ORM (face to face with RCO)
SDZs	
Required for all indirect fire weapons	
Ten (10) working days prior to the training evolution (unless in conjunction with a previously mentioned range/event)	
AIRSPACE REQUESTS	
R-2503A/B	Five (5) working days prior to activation of airspace between the hours of 2400 and 0600
R-2503C	Twenty (20) working days prior to activation of airspace
San Onofre High/Low MOAs	Thirty-five (35) working days prior to activation of airspace
CFA #4	Thirty-five (35) working days prior to activation of airspace
Area Alpha	Twenty (20) working days prior to activation of airspace

Figure 1-2

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TRAINING ACCIDENT REPORT SUMMARY DESCRIPTION OF EVENT			
WHAT & HOW HAPPENED		WHEN	
		WHERE	
PERSON(s) MISSING			
NAME	GRADE & SVC. BRANCH	SSN	DOB
PERSON(s) INJURED			
NAME	GRADE & SVC. BRANCH	SSN	DOB
PARENT COMMAND	BLOOD TYPE		
CRITICAL/SERIOUS/OR MINOR INJURY (if determined)			
DESCRIPTION OF INJURY (expressed in lay terminology)			
TREATMENT & EVACUATION SEQUENCE			
PERSON(s) KILLED			
NAME	GRADE & SVC. BRANCH	SSN	DOB
PARENT COMMAND	FACTORS WHICH MAY GENERATE PUBLIC INTEREST (if any)		

Figure 1-3

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FIRE DANGER RATINGS

FIRE DANGER RATING (HAZARD)	CAUTION TO BE EXERCISED	NECESSARY PRECAUTIONS
0 - 30 (LOW)	Use normal caution.	Any type of ammunition may be used with care. Smoking is permitted. This is the highest allowable FDR for LFAM training without a waiver.
31 - 40 (MODERATE)	Use normal caution. Fires will start easily.	Any type of ammunition may be used with care. Smoking is permitted.
41 - 60 (HIGH)	Use extra caution. Fires will start very easily.	The beginning of the high danger period. Any type of ammunition may be used, with care, on ranges and within impact areas. Recommend the use of pyrotechnics, demolitions, and heat or flame-producing devices within training areas be limited as much as possible to cleared areas or areas previously burned for that purpose. Smoking is permitted only in cleared areas or firebreaks. Note paragraph 1012.2 concerning restrictions in the perimeter training areas.
61 - 80 (VERY HIGH)	Use extreme caution. Fires are very hard to control.	Firing will be permitted at all times on all ranges unless restricted by LONGRIFLE. Minimal use of pyrotechnics, demolition, and heat or flame-producing devices (including blanks and smoke grenades) is allowed within training areas; however, use is restricted to cleared or previously burned areas only. Smoking will be permitted only in cleared areas or on firebreaks. Note paragraph 1012.2 concerning restrictions in the perimeter training areas.
81 & Higher (EXTREME)	Flash condition. This is the highest class of fire danger. Fires started are practically impossible to extinguish and usually continue until danger rating conditions improve or burn themselves out. The utmost caution with fire-producing agents and devices must be exercised at all times.	The firing of high explosives, pyrotechnics, incendiaries, or other ammunition likely to cause fires is prohibited unless specifically authorized by LONGRIFLE. **The use of any type of training/live ordnance (to include blanks), heat or flame-producing devices (heaters, welders, stoves, or open fires) in training areas is strictly prohibited unless authorized by LONGRIFLE. No off-road activities by vehicles (HMMWVs, etc.) are permitted without authorization from LONGRIFLE.** Firing units will exercise maximum attention to the observation of range fans and other precautions to prevent fires from starting. Smoking shall not be permitted under any circumstances.

Figure 1-4

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CHAPTER TWO

ENVIRONMENTAL PROCEDURES

Overview

This chapter provides a description of the environmental policies and procedures to be observed at Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

Topic	See Page
2000. General	2-3
2001. Environmental Constraints Applicable to all Training Activities	2-3
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2003. Police of Ranges and Training Areas	2-5
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CHAPTER TWO

ENVIRONMENTAL PROCEDURES

2000. GENERAL

The ranges and training areas of Camp Pendleton are heavily used. Camp Pendleton is also the home of many endangered species, wetlands, and sensitive habitats, which are protected by federal laws strictly enforced by local regulatory agencies. To successfully achieve all training objectives while complying with environmental laws and regulations, it is essential to consider environmental concerns while planning training operations and exercises. Proper planning will preserve all training facilities for future generations of Marines; therefore, it is essential that training units adhere to the provisions in this chapter. All users of ranges and training areas are responsible for knowing and adhering to applicable environmental laws and regulations, including, but not limited to, the current Fire Danger Rating and restrictions associated with the environmentally sensitive areas identified on both the Camp Pendleton Military Installation Map and the most current MCB Environmental Constraints Map. The MCB Environmental Operations Map is a Geospatial Information System (GIS) Map, and may be obtained through the Assistant Chief of Staff, Environmental Security. Questions concerning applicable environmental regulations may also be referred to the Assistant Chief of Staff, Environmental Security [National Environmental Protection Act Branch (NEPA Branch) at (760) 725-9759/9763].

2001. ENVIRONMENTAL CONSTRAINTS APPLICABLE TO ALL TRAINING ACTIVITIES

1. Prohibited Activities

The following activities <u>are prohibited</u> on all ranges and training areas aboard Camp Pendleton:

a. Burying, dumping, abandoning, or disposing of solid waste (e.g., trash, rubbish, or garbage), except in approved containers (i.e., “dumpsters”) or at established landfills.

b. Burying, dumping, abandoning, or disposing of any type of unused military munitions.

c. Unlawfully disposing hazardous waste, including unlawfully releasing (e.g., venting, draining, or spilling) oil, fuel, and all other hazardous substances from vehicles, equipment, storage tanks, or containers into the air, ground, or water.

d. Removing or intentionally destroying threatened or endangered plants, trees, brush, cactus, or any other vegetation (refer to the MCB Environmental Operations Map). Cutting or removing tree limbs or large portions of any other plant is also prohibited. Limit camouflage material to previously felled vegetation.

e. Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving cutting/removing/trimming of brush, trees, cactus, or any other type of vegetation that may be considered threatened or endangered as indicated by the Environmental Operations Map; and prior to any activity involving soil excavation, grading, filling, or digging fighting positions in or adjacent to protected habitat areas as indicated by the Environmental Operations Map.

f. Killing, injuring, or harassing wildlife and livestock. Killing poisonous snakes and other wildlife in self-defense is not prohibited. Most snakebites on the Base have resulted from untrained individuals trying to handle snakes. Contact the Base Game Warden for snake removal.

g. Removing (i.e., stealing), intentionally destroying, or intentionally disturbing archaeological, Native American, and/or historical materials, artifacts, buildings, and/or sites.

***2.* Earthwork**

Impact berms contain lead, a toxic metal and potential hazardous waste. Consult with the Assistant Chief of Staff, Environmental Security, before beginning earthwork on or near impact berms.

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3. Violations

Violations of these provisions may result in disciplinary action under the Uniform Code of Military Justice, or prosecution in state or federal court. Violation of these provisions may also result in potential adverse impacts to future training opportunities aboard the Base.

2002. AREAS PROHIBITED TO TRAINING

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1. Prohibited Areas

Prohibited land areas are listed below.

a. Cantonment areas except those facilities specifically designated for training, (e.g., obstacle courses, rappel towers, gas chambers, etc.)

b. Designated historical/archeological sites

c. Las Pulgas Ammunition Supply Point (ASP)

d. Landfills

e. Range 401 (EOD Range), except for authorized EOD training

f. MASS-3 Area

g. Marine Memorial Golf Course

h. Installation Restoration and National Priority List (NPL) environmental clean-up areas

i. Any area where training land restoration and erosion control work is ongoing (usually, but not exclusively, coastal bluffs and terraces). These areas will be marked with appropriate warning signs and fences.

j. All training areas, ranges, and field training facilities are off-limits to units and personnel unless the training area, range, or field training facility has been properly scheduled; or specifically permitted by LONGRIFLE.

k. Training in the vicinity of rivers, creeks, and natural drainage areas may require special consideration; therefore, it is subject to the provisions of paragraph 2007 in this chapter. Provisions contained in the most current Environmental Operations Map may also apply.

l. Avoid, to the maximum extent possible, parking vehicles or heavy equipment under the canopies of trees. Do not dig fighting holes under the canopies of trees. These activities damage the root systems, eventually killing the trees.

m. Off-road vehicular traffic during periods of peak soil moisture conditions frequently results in severe gullying and training land degradation. This leads to decreased training opportunities and hazardous conditions that create safety concerns. Whenever possible, vehicular traffic should remain on designated roads following significant rainfall.

n. The Cocklebur Sensitive Area, consisting of non-beach lands west of the I-5 Freeway from the beach access road immediately north of MCTSSA to French Creek Lagoon, excluding the LCAC Facility (598 790 to 605 795 to 595 808 to 595 805 to beginning) is off-limits.

o. Areas marked with signs, which say, “Off Limits for Environmental Reasons,” “California Least Tern Nesting Site,” or “Wetlands” are off-limits to training units.

2. Other Restrictions

Operational restrictions to comply with environmental laws and regulations, other than identified above, shall be imposed on training occurring within environmentally sensitive areas identified on the Camp Pendleton Military Installation Map and the MCB Environmental Operations Map. Specific operational restrictions for sensitive areas are delineated in paragraph 2007 in this chapter.

2003. POLICE OF RANGES AND TRAINING AREAS

1. General

Police of ranges and training areas is the responsibility of the using unit. It is the responsibility of the OIC/RSO to ensure ranges, training facilities, and training areas

used by their units have been properly policed. All solid waste brought to ranges, training facilities, and training areas; including cardboard, wrapping materials, food waste, communication wire, expended brass, and ammunition containers, shall be removed from those areas and recycled or disposed in approved containers (i.e., "dumpsters") or at established landfills. No unit will depart their training location until that area is in a proper state of police. Exercise units shall dedicate a minimum of 24 hours to range, training facility, and training area policing prior to the departure of any exercise unit. An exercise representative, and a Camp Pendleton Range Inspector, prior to the departure of exercise participants, shall conduct a post exercise inspection.

2. Dumpsters

Dumpsters are not provided at ranges or training areas. If dumpsters are required, units shall coordinate with the MCB Facilities Maintenance Department (FMD). Major exercises may also coordinate delivery of dumpsters with FMD. Users shall also coordinate the planned location of dumpsters with the Range Scheduling Office prior to placement. This ensures the dumpsters will be clear of surface danger zones. Dumpsters shall be removed upon completion of training.

3. Hazardous Material

Hazardous materials (e.g., paint, POLs, etc.) used while training shall be stored in approved, closed, leak-proof containers. All hazardous materials shall be clearly marked, identifying the contents of the container. All hazardous material spills shall be reported immediately to LONGRIFLE, who will immediately notify the Fire Department and the Assistant Chief of Staff, Environmental Security (HAZMAT). Units should use available resources to prevent and contain spills, at or near the source of the spill, and submit required formal spill reports to the Assistant Chief of Staff, Environmental Security. Hazardous waste shall be removed daily from ranges and training areas by the using unit.

2004. FIELD HEADS, URINALS, AND WASTEWATER

1. General

Any organization assigned to a range and/or training area shall properly police and clean heads and urinals in their assigned area. Trash (e.g., ration containers, cans, etc.) will not be disposed of in any head, urinal, or chemical toilet.

2. Chemical Heads

Platoon size or larger units, and stationary units, shall use chemical heads. Chemical heads may be coordinated through Base Property [(760) 725-4532]. Users shall also coordinate the planned location of heads via the Range Scheduling Office prior to placement. This ensures chemical heads will be clear of surface danger zones. As a last resort, squad size or smaller units maneuvering alone may use properly constructed straddle-trenches or cat holes to dispose of solid human waste. However, they shall not be constructed/dug in or adjacent to watercourses. For safety reasons,

before using urinals and/or chemical heads, check them for poisonous insects and other hazards.

3. Wastewater Wastewater from temporary showers (greywater) may be discharged to land if a local permit is obtained through the Assistant Chief of Staff, Environmental Security. Provisions shall be made to ensure that all discharged greywater percolates at the discharge site; and does not flow to surface waters or dry watercourses. Greywater discharge from new permanent facilities shall be permitted through the Assistant Chief of Staff, Environmental Security. All greywater disposal shall comply with Preventive Medicine Regulations and Standards for military field operations.

4. Messing Spoils Messing spoils shall not be discarded into surface waters or the ground. All messing spoils shall be disposed as wet garbage at appropriate disposal sites. Liquid messing wastewater shall be collected and transported for disposal to a sanitary sewer. Disposal of liquid messing wastewater in the field is not authorized, unless a permit is obtained from the Assistant Chief of Staff, Environmental Security; and approved by Preventive Medicine.

2005. FIELD DRINKING WATER SUPPLY

1. General All connections to the water system should be attached in such a manner as to prevent cross-connections and back siphoning from a contaminated source to the potable distribution system. Prevent water hoses at vehicle filling sites from contacting any source of contamination, including the vehicle, ground, tools, and equipment.

2. Pumping Units should obtain approval from the Assistant Chief of Staff, Facilities to pump water from any lake, pond, stream, river, well, storage area, sitting irrigation pumps, and well drilling equipment. Water drawn from the Base distribution system for further transport and use as potable water should be protected from accidental contamination. All hoses or valves marked “potable” shall be kept scrupulously clean at all times.

3. Reports Report all instances of water pipe breaks, valve and pipe leaks, and other system failures to the Assistant Chief of Staff, Facilities [Emergency Maintenance Branch at (760) 725-4683/4368].

2006. OPERATION OF VEHICLES

a. Whenever possible, vehicles will use secondary [dirt or decomposed granite (DG)] roads within training areas. The speed limit is 25 mph for all areas, unless otherwise posted.

b. To the maximum extent possible, administrative vehicle traffic should use existing roads and paths to or within the established camp, command post, or bivouac site.

c. Vehicles operating tactically, in support of a training objective, may transit terrain as dictated by the scenario, providing they do not damage threatened or endangered species habitat, or archaeological sites. Vehicles operating in the vicinity of creeks or rivers should use existing roads, trails, and stream crossings. Refer to paragraph 2007 in this chapter for specific environmental restrictions in these areas.

d. Unit commanders are requested to use prudent judgment in the scheduling and conduct of training and exercises that might result in heavy vehicular traffic over recently burned terrain.

e. No off-road activities by vehicles (HMMWVs, etc.) will be permitted when the Fire Danger Rating (FDR) is EXTREME, without permission from LONGRIFLE prior to entering the training area or range.

2007. ENVIRONMENTAL CONSIDERATIONS AND RESTRICTIONS

1. General

To comply with federal, state, and local laws for the protection of the environment, special care must be taken when conducting training in sensitive environmental areas. When planning training events, refer to BO 5090.2 (NEPA), the Camp Pendleton Military Installation Map and the most current MCB Environmental Operations Map to determine locations of sensitive areas, and use the guidance found in this chapter to determine applicable restrictions in those areas. For training events larger than a Marine Expeditionary Unit (MEU) in size, or when operational requirements conflict with the following guidance, exercise commanders must obtain approval from the Assistant Chief of Staff, Environmental Security.

2. Environmental Training

Training for unit S-3 and S-4 officers/SNCOs interested in specific environmental training focused on operational planning and execution (i.e., Environmental Operations Map) is provided by the Assistant Chief of Staff, Environmental Security. Additional information and course schedule are provided in BBul 5090, or by contacting the Environmental Training Branch at (760) 725-7308/7309.

3. Environmental Documentation

Provided MEU and smaller size units use the training areas and ranges for the purposes specifically outlined in this Manual, and strictly adhere to the environmental restrictions associated with each range, submission of environmental documentation is not required. This includes training at rappel towers, gas chambers, and training tanks. Exercise commanders shall coordinate with the Assistant Chief of Staff,

Environmental Security to determine the level of environmental documentation required for exercises larger than a MEU in size, and when environmental restrictions in this Manual conflict with training requirements. The following is the coordination lead time recommended for those actions requiring formal environmental documentation from the Assistant Chief of Staff, Environmental Security:

a. Company size	60 days
b. Battalion size	90 days
c. Regiment size	120 days
d. Larger than regiment	150 days

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4. Wetlands

Wetlands are found throughout Camp Pendleton, typically in valley bottoms, and are characterized by soil types, hydrology, and specific vegetation. Their distribution is not limited to "wet" areas. Activities in wetlands involving soil disturbance and/or fill may require a permit, and impacts to wetlands supporting threatened or endangered species will require special consultation and approval. Vehicles operating in these areas are authorized year round and should remain on existing roads and creek crossings. Vehicle operations in the vicinity of wetlands are authorized year round on existing roads, trails, and creek crossings. Troop movement on foot is authorized year round on existing roads, trails, and crossings. Foot traffic off of existing roads, trails, and crossings is authorized between 1 September and 14 March. Off-road vehicular traffic, excavations, and/or fill occurring in wetlands must be reviewed by the Assistant Chief of Staff, Environmental Security, and receive appropriate permits prior to conducting the action. Excavations, and/or fill occurring in wetlands must be reviewed by the Assistant Chief of Staff, Environmental Security, and receive appropriate permits prior to conducting the action.

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5. Vernal Pools

Vernal pools are wetlands, usually holding water for only one to four months during late winter and spring, and are known to occur in several training areas on Camp Pendleton. The highest densities of vernal pools are found in the Bravo Two, Oscar One, Oscar Two, Tango, Uniform, and Victor Training Areas; and White Beach. Many of these pools contain rare and federally endangered plant and animal species. When operating within the vicinity of vernal pools:

a. Foot traffic is authorized year round. Digging, including construction of fighting positions is prohibited in vernal pools.

b. Vehicle/equipment operations near known vernal pool areas should be kept on existing roads, year round (especially in the winter). Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving soil excavation, filling, or grading.

c. Bivouac/Command Post/Field support (e.g., showers, messing, fueling, water purification, etc.) activities should be kept to at least 50 meters from identified vernal pools.

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6. Endangered Species

a. The endangered California Least Tern nests on Blue and White Beaches between 1 March and 15 September. This bird uses coastal lagoons, mud/salt flats, beaches, dunes, ocean, and tide line for nesting, foraging, and resting. Training activities can disrupt nesting, frighten adult birds, cause nest abandonment, and separate chicks from their parents.

b. The threatened Western Snowy Plover nests on Blue and White Beaches between 1 March and 15 September. They may be present on any Camp Pendleton beach throughout the year. This bird uses coastal lagoons, mud/salt flats, beaches, dunes, ocean, and tide line for nesting, foraging, and resting. Training activities can disrupt nesting, frighten adult birds, cause nest abandonment, and separate chicks from their parents.

c. The Light-footed Clapper Rail is a secretive marsh bird. It has been found in the Santa Margarita Estuary, Las Flores Marsh, and Cocklebur Canyon Lagoon. This bird was last documented nesting at the Santa Margarita Estuary in 1988, but some are still occasionally found using the coastal marshes of the Base.

d. Vehicles must stay on existing roads and trails in the vicinity of coastal marshes and lagoons from 1 March to 15 September. Foot traffic is prohibited in all coastal marshes from 1 March to 15 September, and prohibited all year in the Santa Margarita Estuary (portions of Beach Section G or Blue Beach) and the mouth of Cocklebur Canyon (Beach Section F).

e. The endangered Tidewater Goby is a small fish living in the shallow water of coastal lagoons and estuaries on Camp Pendleton. These small fish are most abundant in lagoons where fresh water flowing downstream meets the salt water from the Pacific Ocean. All coastal estuaries and lagoons aboard Camp Pendleton provide habitat for this species, including those on Red, Blue, and Green Beaches; and Beach Sections D and F. Activities disturbing the waters and vegetation of coastal lagoons/ estuaries, or causing sediment to be transported into these lagoons will affect the Tidewater Goby. Any vehicular traffic within or across a lagoon/estuary can be harmful due to the very limited area of suitable Goby habitat within most lagoons and estuaries. Even small POL leaks from vehicles can contaminate water enough to adversely impact the Gobies.

f. Vehicle operation and foot traffic in the vicinity of coastal marshes, estuaries, and lagoons are authorized year round on existing roads, trails, and established crossings. Off-road vehicular traffic or foot traffic, excavations, and/or fill activities needing to occur in coastal marshes, estuaries, and lagoons must be reviewed by the Assistant Chief of Staff, Environmental Security, and receive appropriate permits and approvals prior to conducting the action.

g. The endangered Southern Steelhead Trout is an extremely rare fish found in San Mateo Creek. Ocean-going steelhead can grow to 24" before returning upstream to spawn during the winter rainy periods. Spawning and rearing occurs in stream pools in the Delta Training Area and further upstream (off the Base). Southern Steelhead Trout may be affected during critical times in its lifecycle by activities adversely altering the estuary, rearing pools, or flowing stream waters of San Mateo Creek.

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7. Estuarine/ Beach Endangered Species Management Zones

To protect the California Least Tern, Western Snowy Plover, Light-footed Clapper-rail, and Tidewater Goby, the restrictions listed below apply when operating within the following areas: all coastal lagoons and estuaries; marshes and salt flats associated with French Creek, San Onofre Creek, San Mateo Creek watersheds; and the Santa Margarita Endangered Species Management Zone, defined as the beach area extending from the south end of White Beach (594 797) to the southern end of the Santa Margarita River Estuary, delineated by the dirt access road running seaward at the southern edge of the estuary (620 760), encompassing the Cocklebur Canyon outlet and the Santa Margarita River Estuary, extending inland to Stuart Mesa Bridge.

a. Obtain authorization from the Assistant Chief of Staff, Environmental Security before entering any lagoon or estuary, marsh, mud/salt flat, or posted nesting area. Bivouacking and digging of fighting positions are prohibited in the vicinity of the Estuarine/Beach Endangered Species Management Zones during the period of 1 March to 15 September.

b. Between 1 March and 15 September, all activities involving smoke, pyrotechnics, loud noises, blowing sand, and large groupings of personnel (14 or more) shall remain at least 300 meters away from fenced or posted nesting areas. All other activities shall be kept at least five meters from these areas.

c. Foot traffic involving less than 14 personnel shall be kept as far away as possible, and approach shall be no closer than five meters to posted nesting areas between 1 March and 15 September. Unit hikes shall remain on the hard packed sand, as close to the ocean water edge as possible. When passing posted nesting areas, minimize all noise.

d. Vehicle and equipment operations in the management zones shall be kept to a minimum between 1 March and 15 September. All vehicles shall travel on hard packed sand as much as possible, and shall not approach posted nesting areas or lagoons closer than five meters on Blue and White Beaches, and Beach Section F. Speeds shall not exceed 25 mph. Tracked vehicles shall travel as close to the water (upper few inches of waves) as possible, year round, in the Santa Margarita Endangered Species Management Zone. Vehicle operations, inside fenced areas on the edge of the bluff between Aliso and French Creeks (White Beach), are not authorized between 1 March and 15 September.

e. Engineering operations, outside of approved landing exercise support, shall be coordinated with the Assistant Chief of Staff, Environmental Security prior to the

initiation of activities. Generally, earth-moving activity at beaches is authorized only for areas of unvegetated sand at least 300 meters from posted nesting areas, unless specifically requested and approved by the Assistant Chief of Staff, Environmental Security.

f. Boat operations are not authorized in lagoons and estuaries. Landing Craft Air Cushions (LCACs) shall not enter the management zones between 1 March and 15 September, except when entering or exiting seaward; and on return, should exit the ocean heading directly up to the facility access ramp. Small boats may be permitted in the Santa Margarita Estuary between 16 September and 1 March, with prior approval from the Assistant Chief of Staff, Environmental Security.

g. To the maximum extent possible, vehicles and troops accessing the beach at White Beach during the period of 1 March and 15 September shall follow a route along the base of the northerly bluff to maintain the maximum distance from the tern colony.

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8. Other Endangered Species

a. The Least Bell's Vireo is a small, inconspicuous endangered bird living in low, dense growths of willows, brush, and weeds along the drainages on Camp Pendleton between March and September. The vireo is known to nest in the vicinity of the Santa Margarita river and in creek/river bottom areas in the following training areas: Alpha Two, Alpha Three, Bravo Three, Golf, Hotel, India, Juliett, Lima, November, Oscar One, and Oscar Two, and the Santa Margarita River basin.

b. The Southwestern Willow Flycatcher is a small, inconspicuous endangered bird living in taller trees, willows, brush, and weeds along the drainage's on Camp Pendleton between March and September. The flycatcher is known to nest in creek/ river bottom areas in the following training areas: Alpha Two, Alpha Three, Bravo Three, Golf, Hotel, India, Juliett, Lima, November Oscar One, and Oscar Two, and the Santa Margarita River basin.

c. The endangered Arroyo Southwestern Toad is found in and around stream and river bottoms. This toad has been found along the Santa Margarita River; the DeLuz, Roblar, San Onofre, San Mateo, Cristianitos, and Talega Creeks; and within the Alpha One, Alpha Two, Alpha Three, Bravo One, Bravo Two, Bravo Three, Charlie, Delta, Golf, Foxtrot, Hotel, India, Kilo Two, Oscar One, Yankee Training Areas; and the Quebec and Whiskey Impact Areas. The adults breed and deposit their eggs in shallow pools adjacent to streams or in slow moving portions of the streams between February and June. Adult toads have been found up to one kilometer from streams in many different habitats. Toads are active at night, from the beginning of the late winter rains until late July. They may be found at night on roads and trails near streams, especially during wet weather in late winter and early spring.

d. For the conservation of the Least Bell's Vireo, Southwestern Willow Flycatcher, and the Arroyo Southwestern Toad, the following measures shall be taken for training activities in creek/river bottom (riparian) habitat areas.

(1) Extreme caution beyond that required by the Fire Danger Rating (FDR) is necessary when using pyrotechnics; and when conducting other activities likely to cause a fire.

(2) Foot traffic is authorized year round on existing roads, trails, and creek crossings. Foot traffic in creek bottom/riparian areas is authorized between 1 September and 14 March. Consult with the Assistant Chief of Staff, Environmental Security prior to cutting/removing vegetation.

(3) Vehicles operating in the vicinity of creeks, rivers or drainages should use existing roads, trails, and established creek/river crossings. Vehicle traffic on roads in arroyo toad habitat between 15 March and 31 August should be minimized to the maximum extent practical.

(4) Consult with the Assistant Chief of Staff, Environmental Security prior to bivouacking, cutting/removing vegetation, trenching, grading, filling, or conducting engineering operations in or adjacent to creek/river bottom areas.

(5) Dust produced in or adjacent to creeks and rivers shall be minimized to the maximum extent practical.

---

9. California Gnat-catcher

Threatened California Gnatcatchers live in open to dense coastal sage brush areas. These small songbirds are year round residents of Camp Pendleton. They are known to inhabit the Alpha Two, Bravo Two, Bravo Three, India, Juliett, Kilo Two, Lima, Mike, November, Oscar One, Oscar Two, Papa One, Papa Two, Romeo Two, Romeo Three, Tango, and Uniform Training Areas. Fires and other activities such as crushing or removing brush negatively affect these birds and their habitat. Activities involving loud noises, smoke, and concentrations of personnel disrupt their behavior, particularly during the breeding season between 1 February and 15 August. For the conservation of this threatened species, the following measures should be followed for training activities in identified occupied coastal sage brush areas:

a. Extreme caution beyond that required by the FDR is necessary when using pyrotechnics and when conducting other activities likely to cause a fire.

b. Foot traffic between 1 February and 15 August should be kept to existing roads, trails, and established training facilities to the maximum extent practical. Foot traffic may be authorized in California Gnatcatcher habitat areas between 16 August and 31 January; however, care must be exercised to avoid crushing or otherwise destroying brush vegetation.

c. Vehicles may leave existing roads between 1 August and 31 January, FDR permitting, and provided brush vegetation is not crushed or removed.

d. Bivouac/command and post/field support activities (e.g., showers, messing, fueling, water purification, etc.) shall be kept at least 50 meters from California Gnatcatcher habitat areas, year round.

---

10. Pacific Pocket Mouse

Endangered Pacific Pocket Mice live in very open to relatively dense brush areas within three miles of the coast. They have been found in the Oscar One Training Area, immediately east of the San Onofre II Housing Area, and State Park leased lands north of Cristianitos Road. These rodents spend the day in burrows and come out at night to feed on seeds. Nighttime aerial illumination can increase their susceptibility to predators between 15 March and 15 September, when they are most active above ground. Activities that could crush the rodents in their burrows, dig them up, or bury them shall not be permitted at sites they occupy. Soil compaction caused by vehicle operations off existing roads and trails degrades their habitat by preventing them from digging their burrows. Soil compaction occurs most easily between December and June, when soil is moist. For the conservation of this endangered rodent, units training in habitat areas should follow the following measures:

a. Foot traffic is authorized, year round; however, digging, including construction of fighting positions, should be avoided.

b. Vehicle/equipment operations near known habitat should be kept on existing roads, year round. Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving soil excavation, filling, or grading.

c. Bivouac/command and post/field support activities (e.g., showers, messing, fueling, water purification, etc.) shall be kept at least 50 meters from Pacific Pocket Mouse habitat areas, year round.

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11. Stephens' Kangaroo Rat

The endangered Stephens' Kangaroo Rat lives in relatively open (non-brush), weedy areas. They live in areas that frequently burn. This rodent is known to inhabit the Bravo One, Golf, India, Juliett, Kilo Two Training Areas; and the X-Ray, Whiskey, and Zulu Impact Areas. These rodents spend the day in shallow burrows and come out at night to feed on weed seeds. Activities that could crush the rodents in their burrows, dig them up, or bury them, should not be permitted at occupied sites. Soil compaction caused by vehicle operations off existing roads and trails degrades their habitat by preventing them from digging their burrows. Soil compaction occurs most easily between December and June, when soil is moist. For the conservation of this endangered rat, the following measures should be followed by units training in habitat areas.

a. Foot traffic is authorized year round; however, digging, including construction of fighting positions, should be minimized.

b. Vehicle/equipment operations near known habitat should be kept on existing roads, year round. Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving soil excavation, filling, or grading.

c. Bivouac/command and post/field support activities (e.g., showers, messing, fueling, water purification, etc.) should be kept at least 50 meters from the Stephens' Kangaroo Rat habitat areas, year round.

---

12. Rare Plant Species

Rare and federally listed plant sites are found throughout Camp Pendleton, and are carefully noted on the Environmental Operations Map. For the protection of identified sites, the measures listed below should be followed by units training in the areas.

a. Foot traffic is authorized, year round; however, digging, including construction of fighting positions, should be avoided at locations of rare plants.

b. Vehicle/equipment operations near known habitat should be kept on existing roads, year round. Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving soil excavation, filling, grading, off-road vehicular operations, or vegetation cutting/removal.

c. Bivouac/command and post/field support activities (e.g., showers, messing, fueling, water purification, etc.) should be kept at least 50 meters from identified rare plant sites. No cutting or trimming of rare plants is allowed without consultation with the Assistant Chief of Staff, Environmental Security.

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13. Archaeological and Cultural Resources

Archaeological sites are located throughout Camp Pendleton. Archaeological sites are the physical remains of the lives and activities of the people who lived in the prehistoric or historic past, and may include artifacts such as stone (arrowheads, projectile points), human bone materials, pottery, and other physical remains of life. Some sites are visible on the soil surface; others are visible only after some level of ground disturbance has occurred. Since all sites and their contents are protected under law, approval must be obtained from the Assistant Chief of Staff, Environmental Security prior to any activity adversely impacting archaeological sites. The Base will have surveyed and documented locations of all visible archaeological sites by the year 2003. Until then, refer to the MCB Environmental Operations Map. For the protection of known and unknown archaeological sites, the following measures should be taken.

a. Foot traffic is authorized, year round. Digging, including construction of fighting positions is prohibited at known archaeological sites.

b. Vehicle/equipment operations should be kept on existing roads through known archaeological sites, year round. Contact the Assistant Chief of Staff, Environmental Security prior to conducting activities involving mechanical soil excavation, filling, or grading in the vicinity of known archaeological sites.

c. Bivouac/command and post/field support activities (e.g., showers, messing, fueling, water purification, etc.) should be kept at least 50 meters from identified archaeological sites.

d. When conducting operations away from known archaeological sites, units should avoid disturbing any sites where archaeological materials are discovered on the ground or below soil surfaces.

(1) Notify the Assistant Chief of Staff, Environmental Security as soon as possible (with the exact grid coordinates, if possible, and site description).

(2) Materials should not be removed from the area.

e. If human bone material (to include fragments) is discovered during any operation, the area must immediately be evacuated, leaving the remains intact. Notify LONGRIFLE as soon as possible.

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14. Endangered Species Summary

Figure 2-1, located on pages 2-17, provides a summary of endangered species/ protected habitat locations.

ENDANGERED SPECIES SUMMARY

Sensitive Environmental and Natural Resources in Training Areas										
Beach	**Least Bell's Vireo**	**Arroyo Southwestern Toad**	**Stephens' Kangaroo Rat**	**California Gnatcatcher**	**Least Tern/ Western Snowy Plover**	**Pacific Pocket Mouse**	**Rare Plant Sites**	**Light-footed Clapper Rail**	**Vernal Pools**	**Southwestern Willow Flycatcher**
Sect. A	B						B			
Sect. B							B		B	
Sect. C	B						B		B	
Sect. D							B		C	
Sect. E					C		B		C	
Sect. F				C	B			B	B	
Sect. G					C		B			
Sect. H					C					
Alpha 1	C	B								
Alpha 2	C	B		C			C			B
Alpha 3	C	B								B
Bravo 1		B		C			C		B	
Bravo 2		B		C			C		B	
Bravo 3	C	B		C						
Charlie		B					C			
Delta		B							C	
Echo							C			
Foxtrot							C			
India	C	B	C				B			B
Golf	C	B	C				C			
Kilo 1			C				B		B	
Kilo 2		B	C	C			B		B	
Juliett	B		C	C			B			
Lima	A			C			B			B
Mike	B			C			B			
November	C			C			C		C	
Oscar 1	C	B		C		B	C		C	
Oscar 2	C			C			B		C	B
Papa 1	B			C			B			
Papa 2				C			B			
Papa 3							B			
Romeo 1										
Romeo 2				C			B			
Romeo 3				C			C			
Tango				C						
Uniform				C			B		B	
Victor							B		C	

A: Camp Pendleton Military Installation Map
B: Environmental Operations Map
C: Both A and B

Figure 2-1

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CHAPTER THREE

SCHEDULING PROCEDURES

Overview

This chapter provides details regarding the policies and procedures to be used when submitting range, training area, training facility, airspace, and sea space scheduling requests at Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

Topic	See Page
3000. General	3-3
3001. Scheduling Priorities	3-3
3002. Training Area Requests (TAR)	3-4
3003. Rifle and Pistol Known Distance (KD) Range Requests	3-6
3004. Airspace and Aviation Ranges/Facilities Scheduling Requests	3-6
3005. Contractor Operation and Maintenance of Training Systems Ranges	3-7
3006. Automated Target and Simulator Support	3-8
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3-1 Scheduling Precedence	3-9

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CHAPTER THREE

SCHEDULING PROCEDURES

3000. GENERAL

1. General

The Range Scheduling Office is the scheduling agency for all Camp Pendleton ranges, training areas, training facilities, airspace, and sea space. To schedule, the Range Control Scheduling Office must receive a Training Activity Request (TAR) or Range Facility Management Support System (RFMSS) data entry (as outlined in figure 3-1 on page 3-9) prior to the planned activity. The TAR may be submitted by FAX to (760) 725-4090, delivered to the Range Scheduling Office (Bldg. 2399), by e-mail attachment (RANGESCHEDULING@pendleton. usmc.mil), or via Naval message. The Camp Pendleton TAR is provided in appendix I of this Manual.

2. Canceling

Once ground ranges, training facilities, airspace, and/or sea space have been scheduled, it is the responsibility of the unit scheduled to use the facility to conduct its training during the allotted time period. Should there be a requirement to modify a scheduled range time, or a need to cancel the range request, the unit shall notify the Range Scheduling Office.

3001. SCHEDULING PRIORITIES

1. Precedence

Range and training facilities will be assigned to requesting units in the precedence outlined in figure 3-1 on page 3-9.

2. "Priority Use" for Zulu Impact Area

To increase training efficiency, a "Priority Use" scheduling system for the Zulu Impact Area has been implemented at Camp Pendleton. "Priority Use" establishes priorities for range and airspace utilization for that particular day as follows.

a. Air Priority Days. Aviation operations have priority use of the Zulu Impact Area on Wednesdays and Thursdays during the first three weeks of the month. Ground units desiring to conduct Close Air Support (CAS) operations should schedule the event on Air Priority days. Parachute operations with patterns over flying the Zulu Impact Area will be afforded priority on air priority days only.

b. Ground Priority Days. Ground operations have "Priority Use" of the Zulu Impact Area on Monday, Tuesday, Friday, Saturday, and Sunday during the first three weeks of the month. During the last week of the month, ground operations have

priority during the entire week. Rotary-wing operations driven by ambient light requirements will also be considered on a case-by-case basis during the last week of the month.

3. "Priority Use " for Whiskey Impact Area

"Priority Use" establishes priorities for range and airspace utilization for firing into the Whiskey Impact Area on that particular day as follows.

a. Air Priority Use. Monday through Friday, 1400 - 1700 and 2000 - 2300.

b. Ground Priority Use. Monday through Friday, 0600 - 1400, 1700 - 2000, 2300 - 2400; and all day on Saturday and Sunday.

4. Coordination

It is the responsibility of non-priority units desiring to use the Whiskey and/or Zulu Impact Areas to coordinate use with priority units.

5. "Priority Use" Period

"Priority Use" will not be honored if scheduling requests are received within seven (7) working days of the planned event.

6. Exceptions to "Priority Use"

For key events (e.g., MCCREs, VIP Demos, FIREXs), when access to the Whiskey and/or Zulu Impact Areas is not accommodated by Priority Use as described in paragraphs 3001.2 and 3001.3, units may coordinate with the Director, Range Operations Division for access to impact areas for the number of consecutive days required to successfully accomplish required training.

3002. TRAINING AREA REQUESTS (TAR)

1. Scheduling

a. Requests submitted to the Range Scheduling Office, using the methods described in paragraph 3000.1 in this chapter, will use the format in appendix I of this Manual when submitting a TAR.

b. Units desiring to occupy a range which is already scheduled by another unit (co-use) shall obtain permission from the using unit.

(1) The unit requesting permission for co-use shall contact the using unit.

(2) The using unit shall contact the Range Scheduling Office by e-mail (RANGESCHEDULING@pendleton.usmc.mil), FAX, or hard copy to confirm permission has been granted.

2. Beaches

Requests for use of the State Beach (north, center, and south), Green Beach, and leased areas will be submitted in the same manner described above, thirty (30) days prior to the planned event. Approval will be on a case-by-case basis. Units must receive approval from the Assistant Chief of Staff, Marine Corps Community Services (AC/S, MCCS) for the use of these beaches prior to submitting a request to the Range Scheduling Office. You may contact the San Onofre Recreation Beach Office at (760) 725-7422/7935 or the Del Mar Recreation Beach Office at (760) 725-2134/2313.

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3. Surface Danger Zone (SDZ) Diagram Overlays

For indirect-fire techniques requiring a SDZ diagram, the overlay shall be submitted to the Range Control Officer at least ten (10) days prior to firing. All SDZs shall be constructed using the 1:50,000 Camp Pendleton Military Installation Map. The SDZ diagram will be constructed per MCO 3570 series, and shall include the information listed below.

a. Unit

b. Date of training

c. Firing point grid

d. Azimuth of fire

e. Charge

f. Grid azimuth of safety limits

g. Minimum and maximum range

h. Probable error in range/deflection

i. Maximum ordinates (expressed in feet MSL)

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4. Waivers

An appropriate waiver request and any required overlays shall accompany any training not covered by this Manual. Waiver requests shall be submitted to the Range Scheduling Office thirty (30) days prior to the planned event per paragraph 1006 of this Manual.

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5. Hikes

Units requesting training areas for hikes shall submit an overlay of the proposed route to the Range Scheduling Office when submitting the request.

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6. Environ-mental

Any environmental considerations and requirements associated with the requested training shall be initiated, prior to submitting a training request, by contacting the Assistant Chief of Staff, Environmental Security [National Environmental Protection Act Branch (NEPA Branch) at (760) 725-9759/9763.

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7. Port-a-johns Units must request additional port-a-john support for any training areas/beaches from the Base Property Office at (760) 725-1979.

3003. RIFLE AND PISTOL KNOWN DISTANCE (KD) RANGE REQUESTS

1. Requests Requests for rifle and pistol KD ranges shall be submitted to the OIC, Marksmanship Training Branch at (760) 725-3436. Upon approval, requests will be consolidated and forwarded to the Range Scheduling Office on a monthly basis by the OIC, Marksmanship Training Branch.

2. KD Scheduling Conference An annual Marksmanship Training Scheduling Conference is held during the April/May time frame to coordinate rifle and pistol range scheduling for the next fiscal year. A Basegram is published stating the location, date, and time of the conference.

3004. AIRSPACE AND AVIATION RANGES/FACILITIES SCHEDULING REQUESTS

1. General Specifics concerning Camp Pendleton Special Use Airspace (SUA) and aviation training activities, ranges, and facilities are provided in chapter 4 of this Manual. TARs supporting all aviation training activities must be submitted to the Base Range Scheduling Office as described in paragraph 3001.1 in this chapter. Scheduling requests involving fixed-wing CAS/SIMCAS must specify the appropriate IP, type mark/mark facility, type of ordnance, and restricted airspace.

2. Overlays Scheduling requests or TARs shall be accompanied by overlays corresponding to the 1:50,000 Camp Pendleton Military Installation Map and depicting flight routes and altitudes of participating aircraft under the following circumstances.

a. CAS/SIMCAS not using IP and the ingress/egress routes described in paragraph 4008 in chapter 4 of this Manual

b. Flights in support of LAAD training

c. UAV operations

d. Any other aviation training as identified by the Range Scheduling Office

The overlays depicting flight routes/altitudes of participating aircraft shall be submitted no later than five (5) working days prior to the event.

3005. CONTRACTOR OPERATION AND MAINTENANCE OF TRAINING SYSTEM RANGES

1. General

The USMC Contractor Operation and Maintenance of Training Systems (COMTS) Program supports certain ranges aboard Camp Pendleton. This program places civilian contractors under contract to operate and maintain live-fire ranges. The Commander, Marine Corps Systems Command (ComMarCorSysCom) is responsible for funding COMTS contracts. ComMarCorSysCom has authorized the Naval Air Warfare Center Training Systems Division (NAWCTSD) to enter into contracts with civilian contractors to provide COMTS support at Marine Corps installations. At the time of publication of this Manual, Ranges 210G, 215A, 218A, 223B and 409A are COMTS-supported ranges. As new ranges are built or modified, they may be covered under the COMTS umbrella.

2. Scheduling

Units desiring to train on COMTS ranges will schedule their training as described in paragraph 3002 in this chapter. After a unit's scheduling request is approved, the unit shall contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4446 AT LEAST FOURTEEN (14) WORKING DAYS PRIOR to the planned training to coordinate their scenarios and arrange contractor time for training scenario development. The Range Control Officer is the final approval authority on all COMTS range training scenarios (not the contractor). The ASB will reconfirm support requirements with the unit a minimum of two (2) working days prior to the unit actually using the range. The range contractor will provide range operators for the number of hours requested on the TAR, up to a total of eighteen (18) hours per day per range. Units shall list the times they desire to go hot and cold in the start and stop boxes of the TAR respectively, and annotate range occupation times in the comment section of the TAR. Requests to extend training time on a COMTS range, received by the Range Scheduling Office, less than 48 hours prior to actual range usage cannot be approved due to contractural limitations.

3. Questions

Questions regarding the scheduling and training of COMTS ranges shall be referred to the Range Scheduling Office. Questions and comments related to COMTS contractor performance shall be referred to the OIC, Automated Support Branch (ASB) at (760) 725-5105.

3006. AUTOMATED TARGET AND SIMULATOR SUPPORT

1. General

Units desiring automated target and simulator support on non-COMTS ranges shall contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4446 after the requested training dates have been approved. Coordination for training scenarios must be AT LEAST FOURTEEN (14) WORKING DAYS PRIOR to the training event. The ASB will reconfirm support requirements with the scheduled unit a minimum of two (2) working days prior to the planned training event.

2. Portable Infantry Target System (PITS) Targets

The ASB will provide operator support for units desiring to use PITS targets and artillery, or machine gun noise simulators after the unit has properly requested its requirements through the Range Scheduling Office. PITS operators are not normally provided to units who have already been issued PITS targets through a Combat Visual Information Center (CVIC) supply account. However, the ASB can provide PITS operator support to these units if their operator requirements exceed their internal capability to provide PITS operators. Additionally, for these units, the ASB can provide PITS operator instruction through a civilian contractor at the unit's request. Requests for PITS operator instruction may be coordinated directly with the NCOIC, ASB at (760) 725-4446. The placement of all PITS targets will be pre-approved by the Range Control Officer.

SCHEDULING PRECEDENCE

PRECEDENCE	UNIT	REMARKS	SCHEDULING WINDOW
1	USMC Formal Schools	MOS-Producing	180 Days
2	MEU or higher level exercises (including USMCR)	ADCON/OPCON units will schedule via higher headquarters, who will consolidate and submit to Range Scheduling	180 Days
3	Resident FMF (including USMCR)/Division Schools/Base Commands		90 Days
4	Non-resident FMF (includes USMCR)/Navy Commands		90 Days
5	Other DoD/Reserve/National Guard		60 Days
6	Civilian Law Enforcement/Recreati on/ Hobbyists		30 Days

Figure 3-1

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CHAPTER FOUR

AIRSPACE AND AVIATION OPERATIONS

Overview

This chapter provides details regarding Camp Pendleton's airspace, and the conduct of aviation operations.

In This Chapter

The following topics are covered in this chapter.

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CHAPTER FOUR

AIRSPACE AND AVIATION OPERATIONS

4000. GENERAL

1. General

a. This chapter describes airspace and aviation facilities at Marine Corps Base, Camp Pendleton. This chapter also addresses Marine Corps Air Station, Camp Pendleton; and Camp Pendleton Special Use Airspace (SUA). Also covered are Helicopter Landing Zones (LZs), Confined Area Landing Sites (CALSITEs), Terrain Flight (TERF) routes, Drop Zones (DZs), and the Helicopter Outlying Landing Field (HOLF).

b. The instructions in this chapter are based upon current Department of Defense (DoD), Department of the Navy (DON), and Federal Aviation Administration (FAA) policies and regulations.

c. Nothing in these instructions shall prevent the exercise of sound judgment to preserve lives and property, or to ensure the safety of personnel.

2. Air Safety Briefs

Air safety briefs are available for all aviation activities operating within Camp Pendleton Special Use Airspace (SUA). All aircrew who have not previously attended an Air Range Safety Brief for operations at Camp Pendleton shall attend a brief prior to operating here. Squadrons returning from six-month deployments shall have an Air Range Safety Brief prior to resuming operations within Camp Pendleton SUA. Contact the Airspace Manager [DSN 365-8183, commercial (760) 725-8183, FAX (760) 725-4090] to schedule an Air Range Safety Brief.

4001. SPECIAL USE AIRSPACE (SUA)

1. General

Restricted Area R-2503 has been authorized and established by the FAA to support hazardous training activities at Camp Pendleton. Marine Corps Base, Camp Pendleton has been designated as the using agency for this restricted area. Camp Pendleton maintains sole approval and scheduling authority for all users and activities to include ground, sea, and aviation operations taking place within this airspace.

2. R-2503A, R-2503B, R-2503C

R-2503 is subdivided into R-2503A, R-2503B, and R-2503C. R-2503A overlies Camp Pendleton's coastal area and extends offshore one nautical mile from the surface to 2,000' MSL. Its eastern boundary coincides with the western boundary of R-2503B. R-2503B is the airspace from the surface to 15,000' MSL, and overlies

Camp Pendleton's impact areas. R-2503C overlies the northern two-thirds of R-2503B from 15,000' MSL to 27,000' MSL. R-2503C is an "on-call" section of R-2503 for use by artillery units during high angle, high altitude firing only. The FAA Controlling Agency for R-2503 is Los Angeles Air Route Traffic Control Center (LA ARTCC) located at Palmdale, California. Camp Pendleton restricted airspace is depicted in figure 4-1 on page 4-39.

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3. Hours

The authorized hours of operation for R-2503A and R-2503B are 0600 - 2400 (local) daily, seven (7) working days per week, and other times by NOTAM (Notice to Airmen). Units desiring to conduct hazardous training activities from 2400 - 0600 must notify the Camp Pendleton Range Scheduling Office at least five (5) working days in advance to extend training operations past 2400 (local time). R-2503C is an "on-call" portion of R-2503 activated via NOTAM. In order to activate R-2503C, requests must be submitted to the Range Scheduling Office at least twenty (20) working days in advance.

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4. San Onofre High/Low MOAs, Area Alpha

a. Camp Pendleton has access to additional airspace to facilitate aviation operations during amphibious assault exercises.

b. The San Onofre Low MOA overlies R-2503A from 2,000 to, but not including, 4,000' MSL, extending three (3) NM offshore. The San Onofre High MOA overlies the San Onofre Low MOA from the I-5 Freeway east to the R-2503A/R-2503B boundary from 4,000 to, but not including, 8,000' MSL. Please refer to figures 4-2 on pages 4-40 to 4-42**.** Exercise planners shall notify the Range Scheduling Office thirty-five (35) days in advance of extended MOA activation dates.

c. Area Alpha is a special military operations area established via a letter of agreement with the FAA in support of large-scale amphibious assault exercises. Area Alpha is a surface to 2,000-foot MSL "corridor" connecting a portion of W-291 and R-2503A established for fixed-wing operations. Area Alpha affords fixed-wing exercise participants a low altitude speed waiver. Activation of the area does not preclude other civilian or military participants from transiting through it. Exercise planners shall notify the Range Scheduling Office twenty (20) days in advance of planned Area Alpha activation dates. Area Alpha is depicted in figures 4-2 on page 4-43.

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5. Controlled Firing Area # 4 (CFA #4)

Camp Pendleton has access to additional airspace to facilitate artillery live-fire from our coastal area (e.g., AFAs 14, 15, 16). CFA #4 overlies a portion of R-2503A from 2,000' MSL to 10,000' MSL. In order to activate CFA #4, requests must be submitted to the Range Scheduling Office at least thirty-five (35) working days in advance.

4002. FEDERAL AIRWAY STRUCTURE

a. Camp Pendleton's restricted airspace and training ranges are surrounded by highly congested airspace recognized by the FAA as the busiest and most complex in the country. Numerous Federal Airways surround Camp Pendleton, but are most predominant on the western border of the SUA. (Please refer to FLIP/L-3.)

b. The high volume of civil aviation traffic in the area creates a high potential for mid air collision. Military users of Camp Pendleton SUA should be extremely cautious and vigilant when operating in the vicinity of the federal airway structures surrounding the Base.

c. Unintentional intrusions by civil aircraft into Camp Pendleton SUA take place routinely. Due to these intrusions, and the high volume of traffic, both civil and military in the area, Camp Pendleton has been designated by the FAA as having a high potential for mid air collision. Unauthorized civil aircraft observed within Camp Pendleton's restricted airspace shall be reported to LONGRIFLE.

4003. NO OVER FLIGHT AREAS

1. San Onofre Nuclear Generating Station

The San Onofre Nuclear Generating Station (SONGS) is located at grid coordinate 482 925; latitude 33 22' 10"N, longitude 117 33' 20"W. All aircraft shall avoid flight within one (1) nautical mile of, and below 2,000 feet over SONGS.

2. Endangered Species Nesting Areas

Least Tern/Snowy Plover Nesting Areas. During the period from 1 March through 15 September, certain airspace within R-2503A is off-limits to all aircraft to protect the nesting and feeding habitat of endangered bird species. This off-limits airspace has been identified as surface - 300' AGL and 300 meters laterally from the following areas.

a. Beach Section G. Margarita or Blue Beach, inland to the I-5 Freeway, and from the bluffs north of the Santa Margarita River to the bluffs south of the river near the 21 Area.

b. Beach Section E. Aliso or White Beach, inland to the I-5 Freeway, between the bluffs enclosing the posted nesting area at 587 809.

c. Riparian Areas. During the period of 15 March through 15 September, aircraft will not fly below 300 feet over riverbeds and streams, other than established landing sites and TERF routes.

d. Estuaries/Lagoons. During the period of 15 March through 15 September, aircraft will not fly below 300 ft. AGL over river mouths.

3. Other Areas A minimum altitude of 500' AGL shall be maintained when flying over personnel, housing areas, camps, including San Onofre State Beach, Capistrano TRW Complex, MCB Golf Course, Range 401 (669 802), Naval Hospital (695 891), and Ammunition Supply Point (596 917).

4004. MARINE CORPS AIR STATION (MCAS), CAMP PENDLETON

1. General

a. MCAS, Camp Pendleton is under the command of the Commander, Marine Corps Air Bases, Western Area (COMCABWEST). Requests for use of this air station for any reason must be coordinated and approved by the Commanding Officer, MCAS, Camp Pendleton.

b. MCAS, Camp Pendleton facilities, aircraft, personnel, support capabilities, and hours of operation are listed in current FLIP Planning and enroute IFR Supplement Publications and StaO 3710.1.

2. MCAS, Camp Pendleton Airspace

a. Marine Corps Base, Camp Pendleton has, by Letter of Agreement, delegated certain airspace to MCAS, Camp Pendleton for its operation and control (refer to figures 4-3 on pages 4-44 to 4-46). The MCAS Air Traffic Control Facility controls operations within this delegated airspace when the air station is open. When the air station is closed, this airspace reverts back to the control of Camp Pendleton Range Control (LONGRIFLE) or the FAA, as appropriate.

b. Airspace has been delegated to MCAS, Camp Pendleton for their operational control.

(1) MCAS Class D Airspace. Airspace extending from the surface to 2,600' MSL extending from the airport reference point to the MCAS, Camp Pendleton (NFG) VORTAC 010R at 4NM arc clockwise to the NFG 227R at 4 NM direct to NFG 240R at 2.6 NM arc clockwise to NFG 335R at 2.6 NM direct to NFG 010R at 4 NM.

(2) MCAS Class E Airspace. Airspace extending from the surface up to and including 2,600 feet extending from the 010R at 4NM direct to 018R at 6.9NM direct to 050R at 4NM arc northwest to the 010R.

c. When the air station is open, all aircraft operating within these areas must contact the MCAS Air Traffic Control Tower for clearance.

3. Arrival and Departure Routes

The MCAS, Camp Pendleton VFR arrival/departure points listed below have been established within Camp Pendleton SUA.

a. VFR Runway (Rwy) 21 Departure Routes

(1) VORTAC Departure Route. Proceed direct to MASS-3. Pass south of MASS-3, proceed to Stuart Mesa Housing. Pass south of the housing complex and proceed to OCN VORTAC at or below 800' MSL. Report OCN VORTAC clear.

(2) Intersection Departure Route. Depart from right downwind to Basilone Road. Turn left and fly along west side of Basilone Road to the Basilone/Roblar intersection. Report the intersection clear. Aircraft shall transit outbound the intersection at 800' MSL.

(3) Pt. Canyon Departure Route. Depart from right downwind direct to Pt. Canyon (Margarita/DeLuz Rivers). Report Pt. Canyon clear. Aircraft shall transit outbound Pt. Canyon at 800' MSL.

b. VFR Rwy 21 Arrival Routes

(1) LCAC Arrival Route. Report the LCAC Facility inbound at or above 1000' MSL, proceed to MASS-3. Pass south of Edson Range and north of MASS-3 to enter a right downwind for Rwy 21.

(2) Intersection Arrival Route. Report the Basilone/Roblar intersection inbound, fly along the east side of Basilone Road to enter a right base for Rwy 21. Aircraft shall transit inbound the intersection at 1,000' MSL.

(3) Pt. Canyon Arrival Route. Report Pt. Canyon inbound and proceed to Lake O'Neill passing to the north of O'Neill Base Housing. From Lake O'Neill make straight in to Rwy 21. Aircraft shall transit inbound Pt. Canyon at 1,200' MSL.

(4) North Initial Arrival Route. Report the North Initial inbound. Proceed direct to Lake O'Neill and make straight in to Rwy 21.

c. VFR Rwy 3 Departure Routes

(1) VORTAC Departure Route. Depart via the right downwind direct MASS-3. Pass south of MASS-3, proceed direct to Stuart Mesa Housing. Pass south of the housing complex and proceed to OCN VORTAC at or below 800' MSL. Report OCN VORTAC clear.

(2) Intersection Departure Route. After departure, proceed direct Basilone Road. Turn left and fly along east side of Basilone Road to the Basilone/Roblar intersection. Report the intersection clear. Aircraft shall transit outbound the intersection at 800' MSL.

(3) North Initial Departure Route. Depart direct Lake O'Neill to North Initial. Report North Initial clear.

(4) Pt. Canyon Departure Route. Depart from right downwind direct to Pt. Canyon (Magarita/Deluz Rivers). Report Pt. Canyon clear. Aircraft shall transit outbound Pt. Canyon at 800' MSL.

d. VFR Rwy 3 Arrival Routes

(1) LCAC Arrival Route. Remain 1 NM offshore until turning inbound to the LCAC Facility to avoid VORTAC departures. Report the LCAC Facility inbound at or above 1000' MSL, and proceed to MASS-3. Pass south of Edson Range and north of MASS-3, make straight in to Rwy 3.

(2) Intersection Arrival Route. Report the Basilone/Roblar intersection inbound, fly along the west side of Basilone Road to enter a left downwind for Rwy 3. Aircraft shall transit inbound the intersection at 1,000' MSL.

(3) Pt. Canyon Arrival Route. Report Pt. Canyon inbound, pass to the west of hospital for a left downwind entry to Rwy 3. Aircraft shall transit inbound Pt. Canyon at 1,200' MSL.

e. SVFR Arrival and Departure Routes. weather minimums for SVFR routes are listed below.

ROUTE	CEILING/VISIBILITY
LCAC Arrival Rte	800-1
VORTAC Departure Rte	800-1
Intersection Arrival/Departure Rte	800-1
Pt. Canyon Arrival/Departure Rte	800-1
North Initial Arrival Rte	500-1
Pattern	500-1

f. Arrival Routes

(1) LCAC Arrival Route. Arriving aircraft remain one (1) mile offshore until turning inbound for the LCAC Facility. Fly north of the LCAC Facility and contact tower prior to crossing the I-5 Freeway for SVFR clearance into Class D Surface Area. With clearance, fly south of Edson Range to MASS-3. (Rwy 3 - make straight in. Rwy 21 - enter right downwind.) Aircraft not in receipt of a SVFR clearance will remain outside of Class D surface area to the northwest of the LCAC Facility, until a clearance is received.

(2) Intersection Arrival Route. Report the Basilone/Roblar intersection for SVFR clearance into Class D Surface Area. With clearance, fly over Basilone Road for pattern entry. (Rwy 3 - enter a left downwind. Rwy 21 - enter right base).

(3) North Initial Arrival Route. Report North Initial for SVFR clearance into Class D Surface Area. With clearance, proceed direct Lake O'Neill. (Rwy 3 - enter a left downwind. Rwy 21 - make straight in).

g. Departure Routes

(1) VORTAC Departure Route. Pass south of MASS-3 direct to Stuart Mesa Housing. Pass south of the housing complex and proceed to OCN VORTAC. Report leaving Class D Surface Area.

(2) Intersection Departure Route. Proceed direct to Basilone Road. Turn left to Basilone /Roblar intersection. Report the intersection clear.

(3) Pt. Canyon Departure Route. Proceed to Pt. Canyon remain west of the hospital. Report Pt. Canyon clear.

4. Temporary Alternate Landing Area

The Temporary Alternate Landing Area (TALA), established in the Ysidora Basin (657 797) for helicopter operations only, is active only when MCAS, Camp Pendleton is open. Use of the TALA shall be minimized between 0600 and 1100 during the endangered Least Bell's Vireo Nesting season (15 March to 15 September).

4005. LOCAL FLYING NOTICES

1. General

A Local Flying Notice is used to notify all local military aviation units and users of Camp Pendleton SUA about the presence of any high volume or unusual aviation activities in this airspace. Local Flying Notices are published via message. They are disseminated for unusual or non-routine training evolutions requiring extra vigilance or precautions by all Camp Pendleton airspace users.

2. Dissemination

Local Flying Notices will be disseminated a minimum of 48 hours in advance of the particular activity or event that is being advertised. Any unit desiring to conduct high volume or unusual training activities within Camp Pendleton airspace shall schedule the airspace (and required ranges) as early as possible prior to the desired training period.

4006. AIRSPACE AND AVIATION FACILITY SCHEDULING

1. General

All users of Camp Pendleton airspace and training ranges, including inland training areas, amphibious beach training areas and aviation training facilities, must schedule

the training area in advance. Scheduling requests for the use of any of these areas or other Base training facilities, including aviation training facilities, will be submitted to the Range Scheduling Office per the provisions contained in paragraph 3002 in chapter 3 of this Manual.

2. Cancellation Once ground ranges, training facilities, airspace, and/or sea space have been scheduled, it is the responsibility of the unit scheduled to use the facility to conduct its training during the allotted time period. Should there be a requirement to modify a scheduled range time, or a need to cancel a range request, the unit shall notify the Range Scheduling Office at the earliest opportunity.

3. Close Air Support Requests Close Air Support (CAS) scheduling requests shall include type/number of aircraft, ordnance, impact area, IP, mark type, and mark facility (e.g., MP, AFA, etc.).

4007. AIRSPACE CONTROL PROCEDURES

1. General All aircraft operating within Camp Pendleton Special Use Airspace (SUA) shall check in and out with Range Control (LONGRIFLE) prior to entry/departure of the airspace. Aircraft must maintain communication with LONGRIFLE at all times while operating within Camp Pendleton airspace. Alternate discrete range safety frequencies may be requested and will be assigned to support individual training activities on an as available basis. (NOTE: Due to the mountainous terrain within Camp Pendleton, some low altitude communication blind spots exist in areas around the Base. Therefore, aircraft may have to climb to obtain positive communication with LONGRIFLE). Aircraft checking in with LONGRIFLE shall provide callsign, location, unit, number and type aircraft, planned activity, and ordnance (if applicable).

2. Check-In/Out Once an aircraft has checked in with LONGRIFLE, and received clearance to enter, the aircraft/flights that will be working with another controlling agency [e.g., Tactical Air Control Party (TACP), Air Liaison Officer (ALO), etc.] to conduct CAS, Simulated CAS (SIMCAS), or paradrop operations will be switched to the appropriate controlling frequency. All aircraft shall check out with LONGRIFLE when departing airspace. Aircraft checking out shall provide callsign, ordnance expended (if applicable), and departure direction/instructions.

3. Traffic Advisories All aircraft operating in Camp Pendleton airspace shall remain alert to LONGRIFLE advisory calls. LONGRIFLE will provide traffic advisories to the maximum extent possible for the presence of other aircraft, the location of hot impact areas, or any other appropriate situational awareness advisories. All aircraft cleared into Camp

Pendleton airspace must remain in Visual Meteorological Conditions (VMC). All aircraft must exercise extreme vigilance for unauthorized intrusions by civil aircraft. All aircraft must also be vigilant in their employment of VFR "see and avoid" criteria to ensure avoidance of other aircraft operating in Camp Pendleton SUA.

4. Airspace Control

Formal schools training activities receive priority for use of Camp Pendleton Special Use Airspace. Consequently, Camp Pendleton is unable to support exclusive use of our airspace. LONGRIFLE will therefore function as the primary airspace control agency during exercises, serving in a "host nation" capacity. Portions of Camp Pendleton airspace may be delegated to exercise control agencies, provided sufficient advance coordination is accomplished. Area Alpha, San Onofre High/Low MOAs, and CFA #4 represent additional airspace adjacent to R-2503A/B/C that can be activated in support of exercises at Camp Pendleton. Refer to paragraph 4001 in this chapter for activation requirements.

5. Radio Frequencies

LONGRIFLE utilizes three (3) UHF, one (1) VHF, and two (2) FM frequencies for control of operations within Camp Pendleton airspace. These frequencies are listed below.

a. UHF - 301.9 (primary)/255.2/249.9

b. VHF - 123.2

c. FM - 49.00/30.35

4008. CLOSE AIR SUPPORT (CAS) OPERATIONS

1. General

No dropping of live or inert ordnance shall be allowed unless under the direct positive control of a Tactical Air Control Party (TACP) or a rotary-wing Forward Air Controller Airborne [FAC (A)], the target has been positively identified, and marked. Positive two-way communication must be established and maintained between the aircraft, the TACP/ FAC (A), and LONGRIFLE prior to conducting any CAS operations. In the event of communication failure, a red flare (or single red smoke grenade) fired from the TACP location will indicate "NO CAS ORDNANCE DROPS." Operations will be suspended until air-ground communication can be reestablished.

2. FAC (A)

Only rotary-wing FAC (A) operations are authorized at Camp Pendleton.

3. Designated Rotary CAS Operations

Designated rotary CAS positions for simultaneous rotary-wing CAS during periods of live ground-fire into the Zulu Impact Area are Ranges 227, 407, and 407A only.

Aircraft shall fire between each range's firing line and the Zulu Impact Area boundaries as defined in appendix B of this Manual.

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4. Ordnance

CAS operations at Camp Pendleton are limited to strafing, air-to-ground rockets, and bombing. No live ordnance exceeding 500 pounds (MK82 series) may be dropped within Camp Pendleton impact areas without prior approval of the Assistant Chief of Staff, Operations and Training. Maximum ordnance authorized per each aircraft pass on the target is four bombs (up to 500 pounds each), using one-half-second or greater intervals between each bomb, ensuring all bombs and their effects impact within the aviation ordnance impact area. (Please note "No Fire Areas" within the aviation ordnance delivery impact area described in appendix B of this Manual.)

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5. Weather Minimums

Weather minimums required for fixed-wing CAS operations within Camp Pendleton Restricted Airspace are a 3,500 foot ceiling, and visibility three (3) NM or greater. Rotary-wing CAS weather minimums are a 1,000 foot ceiling, and positive visual identification of the target and surrounding impact area.

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6. No Over Flight Areas

CAS/SIMCAS aircraft shall avoid over flying the Naval Hospital (695 891), the Ammunition Supply Point (596 917), SONGS (482 925), all family housing areas, and environmentally sensitive areas per paragraph 4003 in this chapter. Aircraft with live ordnance should also avoid, to the maximum extent possible, the over flight of cantonment areas or large groups of assembled personnel.

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7. Safety Training

All FACs/FACs(A) shall attend the Camp Pendleton FAC/FAC(A) Class prior to conducting CAS operations here. The FAC/FAC(A) Class is held every Friday at 1300 at the Range Operations Division in Bldg. 2399. FAC/FAC(A) certification cards, issued upon completion of the class, will remain in effect for 2 years. An experienced Camp Pendleton FAC shall supervise any first-time FACs controlling aircraft at Camp Pendleton. Unit briefs may also be scheduled by contacting the Airspace Manager at (760) 725-8183.

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8. Target Marking

All targets shall be marked by laser, mortar, artillery, or helicopter, prior to conducting CAS operations. If laser marking is used, CAS aircraft shall not over fly TACP/ laser designator location. "Talk ons" are not authorized.

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9. Fixed-Wing Clearing Hot

FACs shall not call "cleared hot" until the FAC has the aircraft in sight, and the fixed-wing CAS aircraft has reported wings level and entered the aviation ordnance delivery impact area. The impact area for CAS missions is the defined area within the blue dashed line depicted on the Camp Pendleton Military Installation Map (as described in appendix B of this Manual). Traffic barriers painted white and orange are in place in the Zulu Impact Area to mark this area.

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10. Headings CAS operations may be conducted in both the Whiskey and Zulu Impact Areas. Fixed-wing CAS operations may be conducted in the Zulu Impact Area only, unless otherwise approved by LONGRIFLE. Rotary-wing aircraft shall remain within the confines of Camp Pendleton Special Use Airspace at all times while conducting CAS operations. Within the Whiskey Impact Area (R-220), aircraft are authorized to release ordnance on a heading of 080-180 degrees only. In the Zulu Impact Area (R-440), aircraft are authorized to release ordnance on a heading of 305-030 degrees only. All ordnance and its effects must fall within the aviation ordnance delivery impact area (blue-dotted line on the Camp Pendleton Military Installation Map).

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11. SIMCAS/ CAS Routes Figure 4-4 on page 4-47 depicts standard fixed-wing flight tracks and approach routes to the impact areas for SIMCAS/CAS missions. Fixed-wing aircraft utilizing these typical routes shall avoid over flight of cantonment areas at less than 1,500' AGL for noise abatement purposes. Fixed-wing aircraft shall operate no lower than 1,000 feet at all times (or higher as assigned by LONGRIFLE) unless within the assigned impact area.

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12. SPINS FACs/TACPs shall provide LONGRIFLE with a copy of event Special Pilot Instructions (SPINS) no later than the day prior to conducting SIMCAS/CAS operations at Camp Pendleton.

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13. Briefing The controlling FAC/TACP shall conduct a "hot brief" with LONGRIFLE via telephone [(760) 725-4604/3974] or radio (frequencies: UHF 301.9, 249.9, 255.2; VHF 123.2; FM 30.35, or 49.00) no less than one (1) hour prior to the scheduled SIMCAS/CAS mission to provide LONGRIFLE with an overview of the planned SIMCAS/CAS. This overview of planned mission requirements shall contain the aircraft time on station, ordnance to be dropped, method of marking the targets, number and type of aircraft to be used, aircraft callsign, ground unit supported, TACP/FAC(A) callsign, and any other pertinent information. The FAC shall also be notified of the occupancy status of adjacent ranges during the "hot brief" from LONGRIFLE.

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14. Procedures a. Following check-in with LONGRIFLE, fixed-wing aircraft arriving for SIMCAS/CAS operations within Camp Pendleton Restricted Airspace will normally be directed to hold over the Case Springs area at an assigned altitude. LONGRIFLE will retain SIMCAS/CAS aircraft in holding over Case Springs until the FAC/TACP is ready to accept control of the aircraft, and all conflicting ground range operations have been put in a check-fire status. Rotary-wing aircraft requesting access to impact areas shall hold outside impact areas until LONGRIFLE and the FAC/FAC(A) authorize entry.

b. The controller shall provide a mandatory Range Safety Brief (to include authorized ordnance drop headings) to all aircraft in the flight prior to commencing the first run-in to the target. Once all ground range activity and the necessary airspace blocks have been deconflicted, LONGRIFLE will then pass control of SIMCAS/CAS

aircraft to the appropriate controller. In addition, the TACP/FAC shall provide information on authorized ingress and egress routes, friendly troop locations, prohibited over flight areas, or any other special instructions prior to beginning the SIMCAS/CAS operation. Finally, the FAC/TACP will provide the standard 9-line/ 6-line CAS Brief to all aircraft in the flight prior to commencement of the first run-in to the target. All fixed-wing aircraft must make at least one cold (no drop) pass on the target prior to clearance for an actual drop of either live or inert ordnance. Rotary-wing aircraft shall conduct a sweep of the impact area prior to conducting live-fire.

c. All fixed-wing aircraft shall return to IP at assigned altitude prior to conducting follow-on runs. No fixed-wing reattacks are authorized without prior approval from LONGRIFLE.

d. The TACP controlling the SIMCAS/CAS aircraft will act as the Fire Support Coordinator for all ground firing units involved in the SIMCAS/CAS mission. Using a Forward Observer (FO), the TACP will ensure that ground units provide supporting fire only when aircraft are safely out of the impact area or when the aircraft has reached an altitude that is above the maximum ordinate of the ground weapon fired.

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15. Routes for Zulu Impact Area

Listed below are the routes of flight authorized for SIMCAS/CAS operations in the Zulu Impact Area.

a. Within R-2503B. Depart holding at IP Case Springs (609 012) and proceed west as as-signed, then turn northwest toward San Mateo Canyon, then east-southeast to the Zulu Impact Area. Aircraft shall remain at or above assigned altitude until passing the ridgeline between the Whiskey and Zulu Impact Areas. Aircraft shall remain within R-2503B throughout the route into Zulu. After pulling off target, aircraft should make a climbing left-hand turn over Horno Ridge and follow Roblar Road back to the Case Springs holding point. Aircraft shall climb to assigned altitude prior to passing the ridgeline between the Zulu and Whiskey Impact Areas. It is important to note when flying this SIMCAS/CAS route that V-23 abuts the southern boundary of R-2503B. Recent reconfiguration of Camp Pendleton Restricted Airspace resulted in the re-duction of the east side of V-23 from 4NM to 3NM. Consequently, spill-outs to the west of R-2503B at 4,000 feet and above at co-altitude with an IFR aircraft on the centerline of V-23 will in all likelihood result in a Pilot Deviation Report being generated by the FAA.

b. Within R-2503A. Ingress to the Zulu Impact Area may be made via four authorized routings through R-2503A. These routes shall be scheduled, coordinated, and approved in advance with the Range Scheduling Office. The authorized routings are as follows.

(1) Via Jardine/Talega/San Mateo Canyons using IP SONGS *(a point on the coast one mile south of SONGS at 480 919). Aircraft must pass IP SONGS at 2,000' MSL (refer to paragraph 4003 in this chapter). Aircraft ingressing or egressing via Jardine/Talega/San Mateo Canyons shall exit or enter one (1) NM south of the power plant.

(2) Via Horno Canyon using IP Horno (536 879)

(3) Via Las Pulgas Canyon using IP Bridge (567 845)

(4) Via Aliso Canyon using IP Aliso (593 812) - rotary wing only

c. Aircraft utilizing R-2503A airspace for ingress to Zulu Impact Area must remain within the designated airspace boundaries for this restricted area. Aircraft shall maintain an altitude between 1,000 and 2,000' MSL until crossing into R-2503B airspace, unless otherwise coordinated with LONGRIFLE. Exit from the target area may be made by egressing through a different canyon than the one used for ingress. Flights through any of the above listed canyons must be planned to ensure cantonment areas, administrative LZs, or ground training ranges are not over flown. Flights using the Aliso Canyon route must also be coordinated in advance with MCAS, Camp Pendleton, as this route lies within the air station's Class D airspace. Aircraft utilizing Talega/San Mateo/Jardine Canyon/IP SONGS shall avoid flight within one NM and below 2,000' MSL of SONGS. Aircraft shall not arm prior to entering impact areas.

d. Any change to the standard SIMCAS/CAS routes may be made only after advance coordination is made, and approval obtained from the Director, Range Operations Division. An overlay tailored to the Camp Pendleton Military Installation Map shall be delivered to the Director, Range Operations Division a minimum of five (5) working days prior to the planned training depicting the requested non-standard SIMCAS/CAS operation areas.

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16. Routes for Whiskey Impact Area

Listed below are the routes of flight authorized for rotary-wing SIMCAS/CAS operations in the Whiskey Impact Area. SIMCAS/CAS aircraft shall remain north of the 96 grid line when notified by LONGRIFLE of live-fire activities at the 210-series ranges.

a. Within R-2503B. Use IP Case Springs (609 012) as the IP for Whiskey Impact Area within R-2503B. Proceed to Range 220. When working SIMCAS/CAS missions in the Whiskey Impact Area, aircraft shall avoid over flight of the Zulu Impact Area unless pre-approved by LONGRIFLE. SIMCAS/CAS aircraft shall remain north of the 96 grid line when notified by LONGRIFLE of live-fire activities at the 210 series ranges.

b. Within R-2503A. Ingress to the Whiskey Impact Area through R-2503A airspace shall use established ingress and egress routes discussed in paragraph 4008.15.b in this chapter. The standard SIMCAS/CAS routes listed above may be modified when necessary to meet specific training scenarios. Change to the standard CAS routes may be made only after advanced coordination is made and approval obtained from the Director, Range Operations Division. An overlay tailored to the Camp Pendleton Military Installation Map shall be delivered to the Director, Range Operations Division a minimum of five (5) working days prior to the planned training depicting the requested non-standard SIMCAS/CAS operation areas.

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17. FAC (A) Firing Areas

Designated firing areas are available for FAC (A) marking activities if FAC (A) aircraft do not desire to fire from within the Zulu Aviation Ordnance Delivery Impact Area. These firing areas are Ranges 227, 407, and 407A and are available through the Range Scheduling Office. FAC (A) aircraft shall not enter these ranges without authorization from LONGRIFLE. FAC (A) aircraft shall also make a visual sweep of areas adjacent to these ranges to verify areas are clear of personnel and equipment.

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18. FAC(A) Lasing

Rotary-wing FAC (A) standoff lasing in support of CAS is authorized from OP A, and Ranges 227 and 407 only. Lasing shall be accomplished from the aircraft in a hover only. Lasing operations may be conducted from only one location at a time.

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19. Communication and Safety

Two-way radio communication must be established and maintained between the FAC(A) aircraft and the CAS/SIMCAS aircraft, the ground unit with which the operation is being conducted, and with LONGRIFLE. When air assets are using the Zulu Impact Area, LONGRIFLE will instruct ground units, on or near the range, to monitor the TAD net in use.

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20. Rotary-Wing Firing

Rotary-wing Close Air Support operations will be conducted to ensure that all ordnance and their effects are contained within designated aviation ordnance impact areas as described in appendix B of this Manual. (Please note "No Fire Areas" within the aviation ordnance delivery impact area described in appendix B.) The direction of fire shall comply with headings depicted on the Camp Pendleton Military Installation Map, and discussed in paragraph 4008.10. in this chapter.

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21. Road Guards

Ground units working with rotary-wing FAC (A) aircraft in training operations shall ensure no vehicular traffic enters into surface danger zone areas existing between firing sites and the Zulu Impact Area. Ground units are responsible for placing road guards at the intersection of Roblar and Basilone Roads, and on Roblar Road at R-408 to prevent inadvertent intrusions.

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22. SIMCAS

Any type aircraft, on any range or training area within Camp Pendleton, may conduct SIMCAS operations. Any delivery technique simulating live ordnance attacks for any type ordnance may be used during SIMCAS training operations. Units desiring SIMCAS support using routings/areas not described in the standard CAS routes above shall submit an overlay of intended SIMCAS routings to LONGRIFLE no later than seven (7) working days prior to the planned event. All SIMCAS aircraft shall be cleared with the report, "continue dry."

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23. SIMCAS Weather Minimums

Weather minimums required for fixed-wing SIMCAS operations are identical to those required for CAS operations – a 3,500 foot ceiling and three (3) mile visibility. Weather minimums required for rotary-wing SIMCAS operations are a 1,000 foot ceiling and positive identification of the target and surrounding impact area.

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24. Procedures All command and control procedures, including control by the TACP [or rotary-wing FAC(A)] and FAC/FAC(A) certification, as well as the requirement to establish and maintain two-way radio communication, are applicable to SIMCAS operations in the same manner as they are for CAS missions. The TACP/FAC(A) shall maintain two-way radio communication with the SIMCAS aircraft at all times, and shall also maintain two-way radio communication with LONGRIFLE at all times.

25. Communication In the event of a communication failure, a single red smoke grenade fired from the TACP location will indicate "NO SIMULATED AIR STRIKE," and will be used to suspend the operation until air-ground communication can be reestablished.

4009. HELICOPTER OPERATIONS

1. General Helicopters shall not over fly or land within any designated impact area without approval by LONGRIFLE, except in the case of an actual emergency. In cases of bona-fide emergencies, pilots are expected to exercise sound judgment and advise LONGRIFLE of their intentions at the earliest opportunity.

2. Prohibitions Helicopters are prohibited from operating and/or landing within 100 meters of any range, firing line, artillery position, or mortar position when firing is in progress, or whenever troops or ammunition occupy the position. Coordination should be made with LONGRIFLE by helicopters transporting VIPs who wish to land within or near ranges or AFAs/mortar positions. LONGRIFLE will, in turn, coordinate with the unit's Range Safety Officer (RSO) to accommodate the helicopter's landing request as quickly as possible.

3. Altitudes Unless otherwise specified in chapter 2 of this Manual, or paragraph 4003 in this chapter, helicopters operating outside established TERF routes shall maintain an altitude at or above 200' AGL. Helicopters traveling with "high birds" may fly at or above 100' AGL. All flights conducting TERF route operations shall have a "high bird."

4. Weather Minimums Weather minimums required for helicopter aircraft operations (except rotary-wing CAS) within Camp Pendleton's Restricted Airspace are as follows.

a. Ceiling. 500 feet or greater

b. Visibility. One (1) nautical mile (NM) or greater

c. Clouds. Remain clear of clouds

5. MEDEVAC Any helicopter engaged in an actual MEDEVAC mission shall immediately contact LONGRIFLE giving its callsign, and stating, "This is an actual MEDEVAC mission." LONGRIFLE will immediately place all applicable ranges, artillery firing areas, or mortar positions in a check-fire status and allow the helicopter to proceed via the most direct route to the scene. This suspension of operations will remain in effect until the MEDEVAC aircraft commander informs LONGRIFLE that the MEDEVAC mission is completed and the aircraft is clear of all ranges and impact areas.

6. External Operations Helicopters shall not conduct external operations, to include SPIE rigging, across the I-5 Freeway without authorization from the Assistant Chief of Staff, Operations and Training. Helicopters conducting external operations over Base public roads shall coordinate operations, in advance, with the Base Airspace Manager at (760) 725-8183.

7. Cold Sky Targets Cold Sky targets have been placed in non-impact areas throughout the Camp Pendleton Range Complex. Life-size Cold Sky target silhouettes of threat vehicles with No Power Thermal targeting material (NPT or Cold Sky) affixed have been placed on the targets in areas where vehicle hot spots would be present (engine packs, road wheels, engine exhaust, etc.). Viewing the target using an aircraft FLIR will show an inverse image of what a pilot would expect to see when viewing an actual vehicle with hot spots. In the FLIR image, a pilot would see sharply contrasted cold spots, hence the name Cold Sky, simulating those hot spots. Cold Sky targets are currently in place in the areas listed below.

AREA	GRID	TYPE/RUN-IN
Case Spring	6149 0223 6136 0239	BMP Flank w/2km at 350 Mag BMP Flank w/2km at 050 Mag
DeLuz TERF	7164 9531 6978 9646	BMD Front w/2km at 030 Mag BMD Front w/2km at 345 Mag
Pulgas TERF	5783 9207 5798 9223	T-72 Flank w/2km at 035 Mag ZSU Front w/1km at 010 Mag
Talega Canyon	5414 0638	ZSU Front w/2km at 033 Mag

4010. HELICOPTER TRANSIT ROUTES

1. General Unless otherwise coordinated with LONGRIFLE, helicopters not engaged in specific training activities shall transit using the routes listed below. Grid coordinates based

on the Camp Pendleton Military Installation Map are provided for each point. Helicopter transit routes are depicted in figure 4-5 on page 4-48.

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2. Offshore

a. Recommended altitude. At or below 500' MSL (right side right of way)

b. Route of flight. One (1) NM offshore

c. Checkpoints. (Abeam) State Beach 439 932

Power Plant 469 912

CALSITE 20 519 862

OCN VORTAC 589 772

d. Aircraft transiting the beach, unable to transit via the Offshore Route, shall be directed to transit the coast or I-5 Freeway at/or above 1,500' AGL whenever beach aviation facilities are in use.

(1) Call LONGRIFLE for transit to beach training facilities, deviations from route, etc. Landing lights should be on.

(2) All fixed-wing feet wet operations will be conducted between 1000 and 2000' MSL, unless otherwise coordinated with LONGRIFLE.

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3. Basilone Route

a. Recommended altitude. At or below 500' AGL (right side right of way)

b. Route of flight. Follow Basilone Road from the LORAN Station to the intersection of Basilone and Roblar Roads. Due to the large number of ranges located along Basilone Road, remain as close to the road as possible.

c. Checkpoints. LORAN Site 449 952

Ammo Supply Point 604 917

Basilone/Roblar Roads 662 902

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4. Case Springs Route

a. Recommended altitude. At or below 500' AGL (right side right of way)

b. Route of flight. Follow Talega Canyon power lines to Pt. Devil (540 038), turn right to parallel power lines, proceed southeast to CALSITE 10, direct to CALSITE 8, direct to CALSITE 5.

c. Checkpoints.	LZ 64	472 015
	Devil	539 040
	CALSITE 10	594 019
	CALSITE 8	632 987
	CALSITE 5	724 967

4011. NIGHT VISION GOGGLE (NVG) OPERATIONS

1. General Aircraft operating within Camp Pendleton airspace on night vision devices shall be lighted as described below.

2. Single Aircraft Operations Anti-collision lights shall be on; navigation lights shall be on at the highest intensity consistent with NVG compatibility.

3. Multiple Aircraft Operations All aircraft in the flight shall have navigation, anti-collision, formation and blade tip lights on at intensity levels in keeping with safe flight. Aircraft in the flight, except the last aircraft, may turn off the anti-collision light if deemed in the best interests of safety by the pilot in command/flight leader. Separation between the lead aircraft and last aircraft in the flight shall not exceed 1 NM.

4. See and Avoid The requirement to "see and avoid" shall take priority over NVG tactical training. Modification, taping, and/or cat eyeing of external lighting are not authorized.

5. NITEX Designated nights each month are set aside to conduct MAG-39 and MAG-16 NVG block training. MCAS, Camp Pendleton is "NOTAM'd" open during scheduled training periods to participating aircraft only.

4012. HELICOPTER TERRAIN FLIGHT (TERF) ROUTES

1. General Camp Pendleton airspace includes several TERF routes for helicopter low altitude navigation and pilot training proficiency. Helicopters conducting TERF route operations shall have a "high bird."

2. Scheduling TERF routes must be scheduled through the Range Scheduling Office prior to their use. Upon completion of TERF operations, flight leaders shall contact LONGRIFLE and report, "mission complete" prior to departing Camp Pendleton Restricted Airspace. When a non-scheduled aircraft checks in to use a TERF route, LONGRIFLE will advise the aircraft it must relinquish the route when the scheduled unit checks in.

NOTE: Use of the MIKE TERF route requires coordination and approval from MCAS, Camp Pendleton's Air Traffic Control Tower when the air station is open. This route lies within the air station's delegated airspace. Contact the MCAS, Camp Pendleton Tower on 382.2, 340.2 UHF or 128.775 VHF for clearance onto the MIKE TERF route.

3. TERF Routes The following list of available TERF routes on Camp Pendleton are depicted on the Camp Pendleton Military Installation Map.

TERF ROUTES	
DeLuz Canyon	Devil's Canyon
Case Springs	212 Tow
Pulgas (Bugs)	Mike

4. Caution The Case Springs and DeLuz TERF routes appear continuous on the Camp Pendleton Military Installation Map. When both TERF routes are in use, aircraft operating on the Case Springs TERF route shall transit no further east than CALSITE 7. Aircraft on the DeLuz TERF route shall transit no farther west than the eastern boundary of Range 409A.

5. Altitudes Aircraft requesting transit of a TERF route in use must transit the area at or above 500' AGL, unless otherwise instructed by LONGRIFLE.

4013. HELICOPTER OUTLYING LANDING FIELD (HOLF) OPERATIONS

1. General The Camp Pendleton HOLF is located in San Mateo Canyon, in the vicinity of 504 994/OCN R360/13.0 DME. The HOLF provides one 3,000-foot grass runway (Rwy 22L/04R) and one 3,000-foot concrete runway (Rwy 22R/04L). The HOLF field elevation is approximately 350' MSL. The HOLF is uncontrolled and unlit.

2. Scheduling

3rd MAW aircraft shall have priority use of the HOLF. 3rd MAW/MAG-39 shall provide a monthly HOLF operations plan to the Range Scheduling Office no later than the 10th day of the previous month. Individual squadrons may also submit scheduling requests for the HOLF per procedures outlined in paragraph 3002 in chapter 3 of this Manual. The HOLF schedule will be finalized by the Range Scheduling Office per the priorities established in this Manual. HOLF operations will not be authorized unless the HOLF has been scheduled

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3. General Operations

The HOLF can support right and left patterns at both parallel runways as follows.

a. Rwy 22L/R

(1) Single runway operations. Aircraft operating Rwy 22L or Rwy 22R may fly a left or right pattern. The first aircraft arriving in the pattern shall establish pattern direction. Aircraft flying left patterns shall remain north of the riverbed to remain clear of live-fire operations in the Quebec Impact Area when the Quebec Impact Area is active. No more than three (3) aircraft may operate at one runway at the same time. Aircraft shall operate at or below 1,400' MSL (1,000' AGL), unless otherwise instructed by or coordinated with LONGRIFLE. Nominal pattern altitude will normally be 800' MSL when operating on Rwy 22L and 1,000'MSL when operating on Rwy 22R.

(2) Parallel runway operations. When operations are in progress at both right and left runways, aircraft at Rwy 22L shall fly a left pattern, and aircraft at Rwy 22R shall fly a right pattern. Rwy 22L aircraft shall fly north of the riverbed to remain clear of live-fire operations in the Quebec Impact Area when the Quebec Impact Area is active. No more than three (3) aircraft may operate at a time, for a maximum of six (6) aircraft (3 at Rwy 22L; 3 at Rwy 22R) operating at the HOLF at one time. Aircraft shall operate at or below 1,400' MSL, unless otherwise instructed by or coordinated with LONGRIFLE. Nominal pattern altitude will normally be 800' MSL when operating on Rwy 22L, and 1,000' MSL when operating on Rwy 22R.

(3) Runway change procedures. When prevailing conditions (wind, moon, etc.) require a runway change, the following procedures will be affected.

(a) All aircraft will land on the runway or depart the HOLF operating area.

(b) All aircraft will transmit, "Ready for runway change."

(c) The aircraft closest to the new departure threshold will call for take off on the new runway. As an example, when a change from runway 22 left to runway 04 right has occurred: "Atlas 06, take off (new) runway 04 right."

(4) Procedures for transitioning from one parallel runway to another parallel runway. Aircraft wishing to transition from one parallel to the other runway may do so if they are the only aircraft in the pattern. Aircraft desiring to transition from one parallel runway to the other while other aircraft are operating at the HOLF shall depart the pattern and reenter via established reporting points (52 Area Crossroads/Pt. Yankee).

(5) Departure procedures. Aircraft departing the HOLF shall broadcast intentions and ensure they give way to pattern aircraft as they effect transition to the designated departure point (52 Area Crossroads/Pt. Yankee).

b. Rwy 04R/L

(1) Single runway operations. Aircraft operating Rwy 04L or Rwy 04R shall fly a left or right pattern. The first aircraft arriving in the pattern shall establish pattern direction. Aircraft flying right patterns shall remain north of the riverbed to remain clear of live-fire operations in the Quebec Impact Area when the Quebec Impact Area is active. No more than three (3) aircraft may operate at one runway at the same time. Aircraft shall operate at or below 1,400' MSL (1,000' AGL), unless otherwise instructed by or coordinated with LONGRIFLE. Nominal pattern altitude will normally be 800' MSL when operating on Rwy 04R and 1,000' MSL when operating on Rwy 04L.

(2) Parallel runway operations. When operations are in progress at both right and left runways, aircraft at Rwy 04R shall fly a right pattern and aircraft at Rwy 04L shall fly a left pattern. Rwy 04R aircraft shall fly north of the riverbed to remain clear of live-fire operations in the Quebec Impact Area when the Quebec Impact Area is active. No more than three (3) aircraft may operate at a time for a maximum of six (6) aircraft (3 at Rwy 04L; 3 at Rwy 04R) operating at the HOLF at one time. Aircraft shall operate at or below 1,400' MSL, unless otherwise instructed by or coordinated with LONGRIFLE. Nominal pattern altitude will normally be 800' MSL when operating on Rwy 04R and 1,000' MSL when operating on Rwy 04L.

(3) Runway change procedures. When prevailing conditions (wind, moon, etc.) require a runway change, the following procedures will be affected:

(a) All aircraft will land on the runway or depart the HOLF operating area.

(b) All aircraft will report, "Ready for runway change."

(c) The aircraft closest to the new departure threshold will call for take off on the new runway. As an example, when a change from runway 04 left to runway 22 right has occurred: "Atlas 06, take off (new) runway 22 right."

(4) Procedures for transitioning from one parallel runway to another parallel runway. Aircraft wishing to transition from one parallel to the other runway may do so if they are the only aircraft in the pattern. Aircraft desiring to transition from one parallel runway to the other while other aircraft are operating at the HOLF shall depart the pattern and reenter via established reporting points (52 Area Crossroads/ Pt. Yankee).

(5) Departure procedures. Aircraft departing the HOLF shall broadcast intentions and ensure they give way to pattern aircraft as they effect transition to the designated departure point (52 Area Crossroads/Pt. Yankee). Aircraft departing from Rwy 04L at night for 52 Area will transit downwind, south of Camp San Mateo, and clear of the pattern before turning toward 52 Area Crossroads.

4. Night Operations

Night operations are authorized at the HOLF. Patterns shall be flown as described above; however, no more than two (2) aircraft may operate at one runway at a time between sunset and sunrise. No more than four (4) aircraft may operate at HOLF parallel runways (2 at Rwy 22L/04R; 2 at Rwy 22R/04L) at a time. Night Vision Goggle (NVG) operations at the HOLF are authorized. However, simultaneous night aided and unaided operations are not authorized. Aided operations will have priority use. Aircraft shall be lighted per paragraph 4011 in this chapter.

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5. HOLF Transitions

HOLF transitions have been developed to facilitate transit from established transit routes (Offshore, Basilone, and Case Springs as described in paragraph 4010 in this chapter and figure 4-5 on page 4-48) to the HOLF. The following transitions, as described below and depicted in figure 4-6 on page 4-49, shall be flown by all aircraft transiting to the HOLF.

a. Ocean HOLF Transition. Transit from the Offshore Route to a point on the shoreline one (1) NM south of the San Onofre Nuclear Generating Station (vicinity of 495 915), north to Basilone Road, east along Basilone Road to San Mateo Road (52 Area Crossroads), and north along San Mateo Road to the HOLF. Aircraft shall transit from 52 Area Crossroads, which is the established communication switch point to HOLF common (249.9), inbound to the HOLF at 1,400' MSL. Aircraft departing the HOLF shall depart at or below 900' MSL via 52 Area Crossroads.

Caution: Cross R-207A at or above 1,000' AGL.

b. Basilone HOLF Transition. Transit from the Basilone Route to LZ 53 (vicinity of 559 932), west to San Mateo Road (52 Area Crossroads), and north along San Mateo Road to HOLF. Aircraft shall transit from 52 Area Crossroads, which is the established communication switch point to HOLF common, inbound to the HOLF at 1,400' MSL. Aircraft departing the HOLF shall depart at or below 900 ft MSL via 52 Area Crossroads.

Caution: Cross R-207A at or above 1,000' AGL.

c. Case Springs HOLF Transition. Transit from the Case Springs Route to Pt. Yankee at the intersection of the Charlie, Delta, and Yankee Training Areas (vicinity of 557 035), then southwest via San Mateo Canyon to HOLF. Aircraft shall transit from Pt. Yankee, which is the established communication switch point to HOLF common (249.9). After crossing Pt. Yankee, transit at 1,400' MSL inbound to the HOLF. Aircraft departing the HOLF shall depart at or below 900' MSL via Pt. Yankee.

NOTE: Unless otherwise instructed by LONGRIFLE, aircraft shall fly right side right-of-way while flying the HOLF transitions (i.e., left to left aircraft pass).

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6. Communications Procedures

Aircraft shall employ the following communication procedures when operating at the HOLF.

a. Aircraft shall report the following points to LONGRIFLE for communication switch to HOLF common frequency of UHF 249.9.

(1) 52 Area Crossroads is defined as the intersection of Basilone Road and San Mateo Road (vicinity of 508 955).

(2) Pt. Yankee is located at 557 035.

b. HOLF pattern position calls shall be made as required, dependent upon the numbers, types, and operations being conducted. However, a mandatory call shall be made on HOLF common under the conditions listed below.

(1) When entering from an entry point, report position and intentions. For example, "HOLF traffic, Atlas 06, at 52 Area Crossroads inbound for HOLF Rwy 22L."

(2) When departing the HOLF for an exit point, report intentions and direction of departure. For example, "HOLF traffic, Atlas 06 is departing via the Rwy 22L downwind for Pt. Yankee."

(3) When abeam for landing, report abeam and intended runway. For example, "Atlas 06 is abeam for an autorotation to Rwy 22L."

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7. Concurrent HOLF/HLZ/ CALSITE/ TERF Route Operations

When simultaneous operations are in progress at the HOLF and the HLZ, the following deconfliction procedures will be effected.

a. Runway 22 L/R. Aircraft flying a right pattern shall remain clear of, and give way to aircraft operating at the HLZ.

b. Runway 04R/L. Simultaneous RWY 04R/L and HLZ operations are not authorized.

c. HLZ. Aircraft shall monitor HOLF common (UHF 249.9) when HOLF operations are in progress. HOLF and HLZ position calls shall be made as required. Expect HLZ aircraft to fly a northwest pattern to remain within Base boundaries. Non-participating aircraft are restricted from operating at CALSITES 13 and 14, LZs 62 and 63, DZ San Mateo, and in the Bravo One and Two Training Areas, unless scheduled through LONGRIFLE.

d. Night simultaneous HLZ/HOLF operations are not authorized.

e. LONGRIFLE will inform HOLF traffic when the Case Springs TERF Route is in use.

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8. Aircraft Transit Routes

Helicopters transiting or operating in the vicinity of the HOLF, when HOLF operations are in progress, shall transit via Talega Canyon, or remain at or above 1,900' MSL when transiting San Mateo Canyon. LONGRIFLE will provide advisories to HOLF aircraft for all conflicting traffic.

9. Concurrent HOLF/ Fixed-wing Operations

HOLF helicopter operations will be restricted to, at or below 1,400' MSL when fixed-wing aircraft are operating in the vicinity of San Mateo Canyon. Fixed-wing aircraft will operate at or above 2,500' MSL. HOLF operations are not authorized when the IP Bridge fixed-wing CAS route is in effect.

10. Weather Minimums

The following weather minimums are in effect during HOLF operations. Using these guidelines, aircraft commanders will determine acceptable weather.

a. Day/unaided. 800/2

b. Simultaneous operations at HOLF and HLZ. 800/2

c. Night/Aided. 1000/3

11. Visual Reference Points

For visual reference, the points listed below may be used to help determine weather conditions.

a. The lighted Northern Area Impact Control (NAIC) Tower at 513 975 is one (1) mile from the HOLF.

b. The 62 Area is two (2) miles from the HOLF.

c. The power lines in San Mateo Creek, grid 4696, are three (3) miles from the HOLF.

4014. HELICOPTER LANDING ZONES

1. Administrative Landing Zones

Each cantonment and major command area on Camp Pendleton will maintain a standard administrative helicopter Landing Zone (LZ) for use by MEDEVAC, VIPs, command, or routine administrative flights. Specific LZ descriptions and instructions can be found in BO P3700.1. Please note that certain LZs can support UH-1 operations only.

2. Administrative Landing Zone Marking

Each LZ shall be marked by an equilateral segmented triangle with 58" sides, and the letter "H" which will point to magnetic north. The area number will be centered on or below the base. The triangle, letter "H", and numbers shall be composed of white painted concrete or of white paint on permanent concrete, asphalt, or grass surface at least 100 feet in diameter, if possible.

3. Administrative Landing Zone Maintenance Area commanders are responsible for the marking and maintenance of helicopter LZs in their areas. Special attention should be directed toward keeping the concrete painted white, the numbers clearly visible, and the surrounding vegetation well trimmed.

4. Obstructions Tall poles, wires, or other elevated obstructions will not be erected in the vicinity of Camp Pendleton's helicopter LZs without prior approval of the Camp Pendleton Air-space Manager at (760) 725-8183. LZs should also be kept clear of tents, vehicles, or other objects easily moved or damaged by rotor wash.

5. Restrictions Helicopters are authorized to land in training areas, as required, to support tactical operations and exercises; however, the using unit shall comply with the restrictions depicted on the Camp Pendleton Military Installation Map, and per chapters 1 and 2 of this Manual.

6. Landing Zones The routine use of any Camp Pendleton helicopter LZ shall be scheduled in advance through the Range Scheduling Office, just as any other range or training asset. Listed below are the current helicopter LZs located on Camp Pendleton. Camp Pendleton LZs are depicted on the Camp Pendleton Military Installation Map.

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LANDING ZONE	LOCATION	DESCRIPTION
LZ-1 VIP	710 855	Northwest corner of 11 Area Parade Field adjacent to MCB HQ (Bldg. 1160); limited to UH-1 VIP flights only; unmarked
LZ-11	710 853	East side of 11 Area Parade Field adjacent to 1st MarDiv HQ (Bldg. 1133); unmarked
LZ-12	705 864	Knoll east of Bldg. 1244 adjacent to tennis court; limited to UH-1 only; unmarked
LZ-14	715 863	Located near Bldg. 1491 in front of 1st FSSG HQ; limited to UH-1 only
LZ-16	700 847	H&S (MCB) Motor Pool parking lot, south of the 13 Area BOQ (Bldg. 1341); unit requesting use shall coordinate with PMO and provide security to ensure the area is clear of POVs prior to operations

(Continued on next page)

LANDING ZONE	LOCATION	DESCRIPTION
LZ-17 VIP	721 839	North of San Luis Rey VIP Quarters; limited to VIP use only
LZ-21	623 767	North end of football field; over flight below 300' AGL of Least Tern/Snowy Plover nesting area (north of football field) is prohibited during nesting season, 1 March - 15 September; unmarked. Helicopter landings shall be minimized to the maximum extent possible during the period of 1 March to 15 September.
LZ-22	678 839	Northeast side of Bldg. 22172; across from chapel
LZ-27	697 893	East side of Naval Hospital
LZ-31	605 806	Blacktop in front of Edson Range Receiving Barracks; west of Alpha Range
LZ-33	654 857	Camp Margarita Football Field; east side of Bldg. 33458
LZ-41	590 832	South of football field; next to Stuart Mesa Road
LZ-43	620 896	¼ mile northeast of gas station on east side of Las Pulgas Road; limited to UH-1s only
LZ-52	519 950	Lower parade grounds, west side of Basilone RD; unmarked
LZ-53	554 938	Blacktop ¼ mile north of "E" Club
LZ-62	485 985	Eastern-most parade deck
HLZ Heavy Lift Pad	487 998	Hilltop adjacent to San Mateo Water Tank, lighted pad (with windsock), LHA (lighted) and LPD markings, marked external weight return areas. Keys to open building to operate lights are maintained by MAG-16 and MAG-39 Operations. The master keys are maintained at Range Operations, MCB, Camp Pendleton. After completion of training, lights shall be switched off and the building door secured. NOTE: Aircraft shall return weights to the designated external weight area.

(Continued on next page)

LANDING ZONE	LOCATION	DESCRIPTION
LZ-63	469 992	Located near gas station; unmarked
LZ-64	472 015	North side of hardtop road; near Camp Talega main entrance
LZ Red Beach	563 845	Beach area between LHA Pad and VSTOL Pad #1; unmarked
LZ Viewpoint	5454867	Concrete pad in vicinity of Horno Canyon; west of I-5 Freeway

4015. CONFINED AREA LANDING SITES (CALSITES)

1. General Camp Pendleton maintains a variety of CALSITES for helicopter pilot training and landing practice. Units exercising in the vicinity of any CALSITE will ensure sites are not disturbed, no obstruction is left in the area, and no foxholes or other entrenchments are constructed at these locations. Pilots are requested to report CALSITE maintenance conditions to LONGRIFLE.

2. Reference Specific descriptions and CALSITE depictions are provided in BO P3700.1.

3. Scheduling Helicopter use of CALSITES shall be scheduled in advance with the Range Scheduling Office, and will be strictly controlled by LONGRIFLE. Clearance will be granted by LONGRIFLE to use available CALSITES. Helicopters flying frag missions in support of ground units will be cleared to contact their supported unit after initial call-up and check-in with LONGRIFLE. Upon completion of mission frag requirements (or pilot landing practice) at CALSITE locations, the helicopter flight leader shall report, “mission complete” to LONGRIFLE (prior to departing Camp Pendleton Restricted Airspace).

4. Location Camp Pendleton CALSITE locations and descriptions are provided below.

SITE	COORDINATES	LAT/LONG
1	644 811	33 16’01”N; 117 22’51”W
2	676 814	33 16’09”N; 117 20’45”W

(Continued on next page)

SITE	COORDINATES	LAT/LONG
3	697 929	33 22’25”N; 117 19’24”W
4	698 926	33 22’15”N; 117 19’21”W
5	725 967	33 24’15”N; 117 17’24”W
6	closed	Closed
7	664 980	33 25’09”N; 117 21’34”W
8	634 988	33 25’39”N; 117 23’39”W
9	608 009	33 26’40”N; 117 25’13”W
10	596 018	33 27’11”N;117 26’01”W
11	577 035	33 25’15”N; 117 25’25”W
12	544 071	33 30’03”N; 117 29’21”W
13	495 003	33 26’19”N; 117 32’27”W
14	486 999	33 25’15”N; 117 33’04”W
15	477 996	33 25’58”N; 117 33’40”W
16	486 967	33 24’25”N; 117 33’03”W
17	521 928	33 22’20”N; 117 30’49”W
18	571 904	33 21’00”N; 117 27’34”W
19	582 887	33 20’00”N; 117 26’48”W
20	534 880	33 19’43”N; 117 29’54”W
21	574 827	33 16’51”N; 117 27’16”W
22	557 864	33 18’52”N; 117 28’25”W
23	580 841	33 17’39”N 117 26’57”W

4016. AV8-VERTICAL SHORT TAKEOFF AND LANDING (VSTOL) SITES

1. General Camp Pendleton AV-8/VSTOL pads for VSTOL operations are listed below. Both are constructed of AM-2 matting. BO P3700.1 provides specific descriptions and depictions.

SITE	COORDINATES	LAT/LONG
AV-8 VSTOL Pad 1	572 835	33 17’20”W; 117 27’30”N
AV-8 VSTOL Pad 2	601 821	33 16’30”W; 117 25’50”N

2. Scheduling Training operations on these VSTOL pads by either AV-8 Harriers or rotary wing aircraft shall be scheduled in advance with the Range Scheduling Office.

3. Patterns AV-8 patterns associated with operations at these sites are depicted in figure 4-7 on page 4-50.

4017. AV-8 ROAD OPERATIONS

A designated section of old Highway 101 is available for AV-8 and helicopter road operations. The Highway 101 AV-8 roadway operation area is located at midpoint 564 852.

4018. SIMULATED FLIGHT DECKS

FLIGHT DECKS	DESCRIPTION	COORDINATES
Extended LPD	Marked on HLZ	479 996
LHD spots (3)	Marked	561 847

4019. DROP ZONES

1. General Parachute and paradrop operations include dropping or releasing personnel, cargo, vehicles, illumination, or any item from an aircraft for descent to the ground.

2. Scheduling Prior to conducting any parachute or paradrop operations, the unit desiring to conduct such training shall coordinate and schedule (in advance) the airspace and the appropriate Drop Zone (DZ) requirements needed to support the operation. Advance scheduling of airspace and DZ requirements shall be done through the Range Scheduling Office.

3. Restrictions The following restrictions and safety precautions apply to all parachute and paradrop operations at Camp Pendleton.

a. The Drop Zone Safety Officer (DZSO)/Drop Zone Safety Team Leader (DZSTL) shall perform duties per MCWP 3-1.5.7. The OIC will have the final approval authority for drops based on the wind condition. The OIC will suspend or cancel drop operations if, in his judgment, wind direction or wind gusts in combination with aircraft position make the drop unsafe.

b. During static-line parachute operations, the winds on the surface will not exceed 13 knots, or 30 knots through the jump altitude. When utilizing Ram-Air parachutes, either static-line deployed or manually deployed, the winds on the surface will not exceed 18 knots; the winds through the jump altitude are unlimited.

c. The RSO must maintain two-way radio communication with the drop aircraft, and with LONGRIFLE. In the event of radio communication failure, a single red smoke grenade, or other established visual signal, will be used to indicate "NO DROP," and operations shall be suspended until air-ground communication is reestablished.

d. No drops will be made from altitudes exceeding the height restrictions of Camp Pendleton Restricted Airspace, unless coordinated in advance with the Base Airspace Manager at (760) 725-8183. Within R-2503B, the maximum drop altitude is 15,000' MSL; in R-2503A, the maximum drop altitude is 2,000' MSL. If a training requirement exists for parachute/ paradrop operations above these altitudes, advanced coordination and approval authority will be required from the Federal Aviation Administration (FAA). In this case, notification and coordination with the Camp Pendleton Airspace Manager shall be made at least ten (10) working days prior to the desired paradrop operation.

e. All High Altitude High/Low Opening paradrops shall be conducted in VFR conditions to include aircraft transit/pattern and jumper descent to DZ.

f. Cargo drops will not be made at an altitude above 3,000' AGL in R-2503B or 2,000' MSL in R-2503A, unless coordinated with the Base Airspace Manager at (760) 725-8183. A cold pass is required prior to dropping cargo.

g. Units dropping cargo into DZ Basilone or DZ Tank Park shall also coordinate with PMO at least three (3) working days prior to the drop to coordinate road closings. The Range Operations Division shall coordinate with PMO on the day of the event to request PMO presence 15 minutes prior to time on target (TOT). PMO shall dispatch MPs to the rally point coordinates (Grid 674 866 for Basilone and 592 820 for Tank Park), with a Range Inspector, and await a request from LONGRIFLE to establish the road blocks (approximately 5 minutes prior to TOT). In the event an aircraft is not on schedule, and will be more than 15 minutes late, PMO will be released pending recall when a revised TOT is established.

h. Parachute and paradrop operations will be conducted in designated DZ areas only as established by the Director, Range Operations Division. Requests for parachute/paradrop operations in areas other than established DZs will require advance approval from the Director, Range Operations Division; and shall be coordinated in advance with the Range Scheduling Office, and Airspace Manager.

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4. Near Water Operations

Near water is defined as any parachute operation taking place where a body of water is located. A water obstacle is any body of water (for example, a lake, pond, river, stream or canal) that has a depth of four feet or more, is forty feet wide or wider, and is located within one thousand meters from any edge of the surveyed or tactically assessed drop zone.

a. A safety boat shall be available in the water, with the motor running during all near water operations. At a minimum, there shall be a two (2)-man crew operating each boat, which will be equipped with a radio monitoring the drop zone control frequency. At least one (1) man in the safety boat shall be a qualified parachutist and both shall be, at minimum, CWS-1 swimmers. The safety boat and its crew fall under the direct control of the OIC/RSO.

b. All parachutists will wear B-7 or UDT vest life preservers whenever the aircraft is required to pass over a large body of water enroute to the drop zone, or near water parachute operations as defined above.

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5. Procedures

The following control procedures will apply to all parachute and paradrop operations conducted on this Base.

a. The OIC and RSO shall be physically located within the drop zone. Prior to occupying the drop zone, the OIC/RSO shall contact LONGRIFLE to receive a safety brief and provide LONGRIFLE with a brief scenario of the training to be conducted. The scenario shall include type aircraft, proposed start/stop times, and the type of personnel and type of cargo to be dropped.

b. All aircraft entering Camp Pendleton Restricted Airspace for participation in parachute/paradrop operations shall first check-in with LONGRIFLE. After

clearance into the airspace, LONGRIFLE will pass control of the aircraft to the OIC.

c. Because DZs Basilone and Fallbrook are located within MCAS, Camp Pendleton Class D Airspace, a different control procedure will be used for parachute/paradrop operations scheduled within DZ Basilone. All aircraft conducting drop operations at this site will be directed by LONGRIFLE to contact the MCAS Air Traffic Control Tower, when the MCAS is open, for clearance and positive control prior to beginning DZ operations. The MCAS Air Traffic Control Tower will provide clearance authority for the aircraft to begin drop operations, and pass control of the aircraft to the OIC. When the MCAS is closed, LONGRIFLE will pass control of the aircraft to the OIC. An alternate pattern is available for large aircraft (i.e., C-141) conducting paradrops at DZ Basilone designed to avoid over flight of Camp Pendleton impact areas. If this pattern is desired, coordinate with LONGRIFLE in advance.

d. Assignment of a qualified military medical support person is mandatory as part of the DZ crew.

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6. Drop Zones A listing of all DZs within the Camp Pendleton area is provided below.

PARACHUTE DROP ZONES

DROP ZONE	TRAINING AREA	ELEV	GRID	HAZARDS
Aliso	AFA 21	460	6509 9081	Zulu Impact Area
Basilone	Kilo One	350	6642 8770	Water
Case Springs	Echo	2,100	6177 0072	Water
Catalina	Ocean		5742 8070	Water
DeLuz	Hotel	730	7202 9619	Large rocks, tree line
Fallbrook (Helos only)	Juliett	510	7463 8685	Tree, gorge
Horno	Papa Three	625	5758 9158	

(Continued on next page)

DROP ZONE	TRAINING AREA	ELEV	GRID	HAZARDS
Ocean (4-day notice)	Ocean	N/A	5442 8270	Water
Papa Three	Papa Three	420	5940 9065	Water, dry wash w/trees, power line
Tank Park (Helos only)	Oscar Two	250	5942 8270	Power line
Wild Eagle	Adjacent to Zulu Impact Area	460	6509 9081	Impact area, trees
X-Ray	X-Ray Impact Area	730	6322 8640	X-Ray Impact Area

4020. AIRCRAFT REFUELING SITES

1. Sites The sites at established training facilities and/or within training areas, approved aviation refueling sites, are listed below and on the following page.

SITE	LOCATION	ENVIRONMENTAL CONSTRAINTS	REMARKS
LHD	561 847	Stay on the LHD Pad; vernal pools in close proximity	
LZ-21	624 765	Stay in the landing zone; near a rare plant area	
LZ-53	555 937	Stay on landing site; rare plant area in close proximity	
STOL-101	564 852	No special concerns	

(Continued on next page)

SITE	LOCATION	ENVIRONMENTAL CONSTRAINTS	REMARKS
PAD-1	574 834	Stay in the landing zone; vernal pool in close proximity	
PAD-2	601 822	The site is near riparian habitat and rare plant area	Rearm approved
AFA-22	668 880	No special concerns	
AFA-31	667 917	No special concerns	
AFA-40	638 989	No special concerns	
AFA-41	629 993	No disturbance to north; archaeological site	
LZ Viewpoint	548 869	Gnatcatcher habitat nearby; no brush removal/disturbance around site	

2. Constraints for all Refueling Sites

a. Use existing access roads to all sites.

b. Use only the existing disturbed areas/hard-stand at each site. No brush cutting or disturbance outside of the existing footprint is allowed.

c. No digging/grading is allowed at any site without approval from the Assistant Chief of Staff, Environmental Security.

d. Secondary containment for refueling operations will be constructed using sand bags or some other implement over which impermeable material is draped and secured.

e. No dirt piles or loose soil will be left at any site for any reason. This could present an “attractive nuisance” to the endangered Arroyo Southwestern Toad and/or Pacific Pocket Mouse.

f. All sites are to be left in their original condition after each refueling operation (no permanent tanks, containment berms, etc.).

g. Units choosing to use the designated sites will not be required to seek additional environmental approval.

h. Units shall obtain approval from the Assistant Chief of Staff, Environmental Security when refueling sites, not listed above, are requested.

4021. UNMANNED AERIAL VEHICLE (UAV) OPERATIONS

UAVs operating at Camp Pendleton shall remain within R-2503A and/or R-2503B. UAVs must have operable transponders when operating within Camp Pendleton SUA. UAV operations shall not be conducted at Camp Pendleton unless positive two-way communication is established and maintained between the UAV operator and LONGRIFLE, and the UAV operations are conducted in VMC during the periods when LONGRIFLE is augmented by surveillance radar. All UAV operations at Camp Pendleton shall be coordinated with the Airspace Manager [(760) 725-8183], and scheduled per procedures outlined in paragraph 3002 in chapter 3 of this Manual.

4022. CHAFF AND FLARES

a. Flares and chaff may be dropped within impact areas at or below 500' AGL; and no less than one nautical mile offshore at or below 500' AGL. Flares and chaff may not be dropped without approval from LONGRIFLE. Flares may not be dropped when the FDR is EXTREME, during high wind conditions, or when directed by LONGRIFLE. Fixed-wing aircraft operating within the confines of Camp Pendleton airspace (and the assigned impact area) may not expend flares at an altitude greater than 500' AGL, unless previously coordinated with the Airspace Manager at (760) 725-8183.

b. Listed below are the approved sites for loading chaff and flares.

(1) LZ ViewPoint
(2) LZ Red Beach
(3) CALSITE 20
(4) PAD 2

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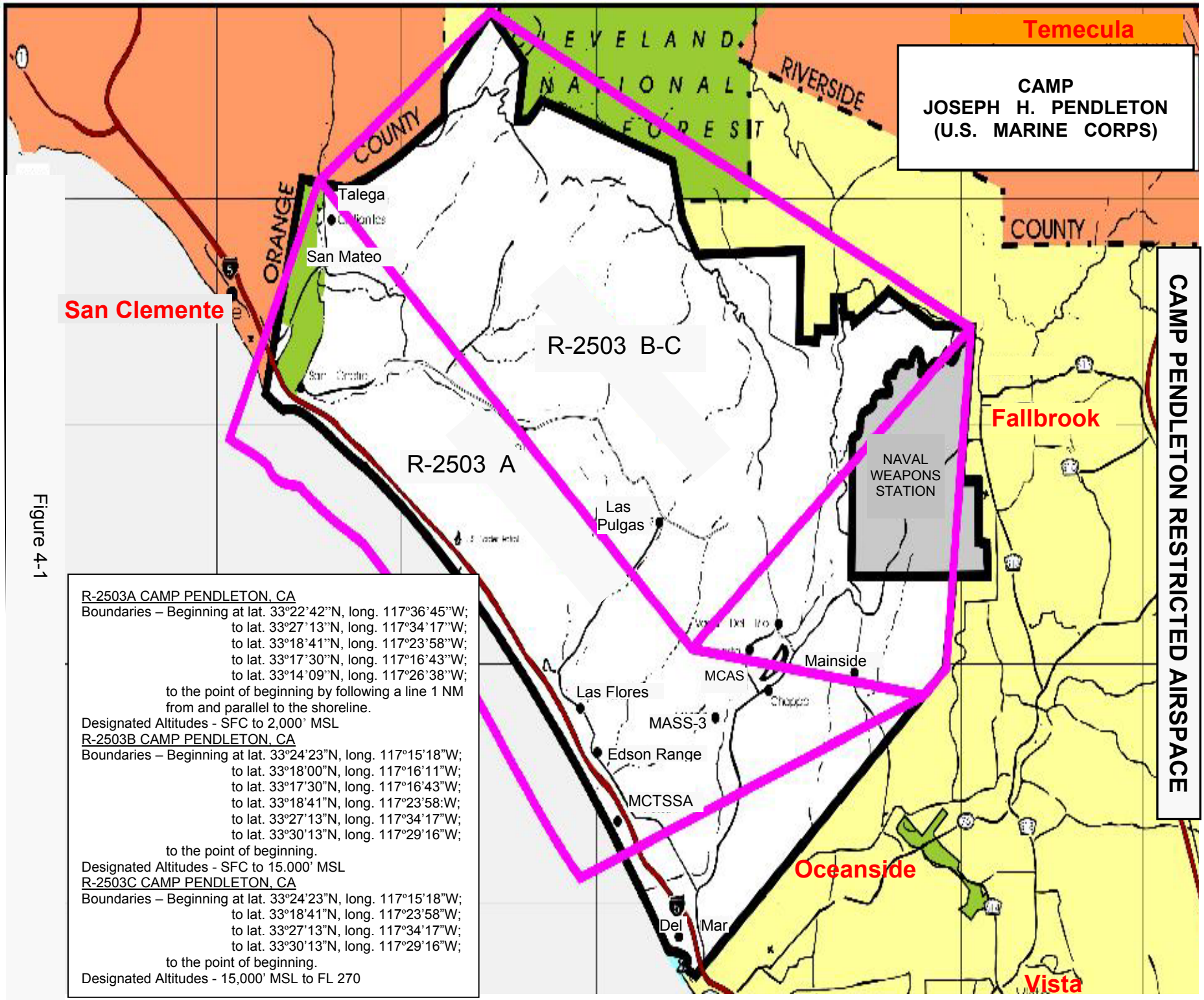
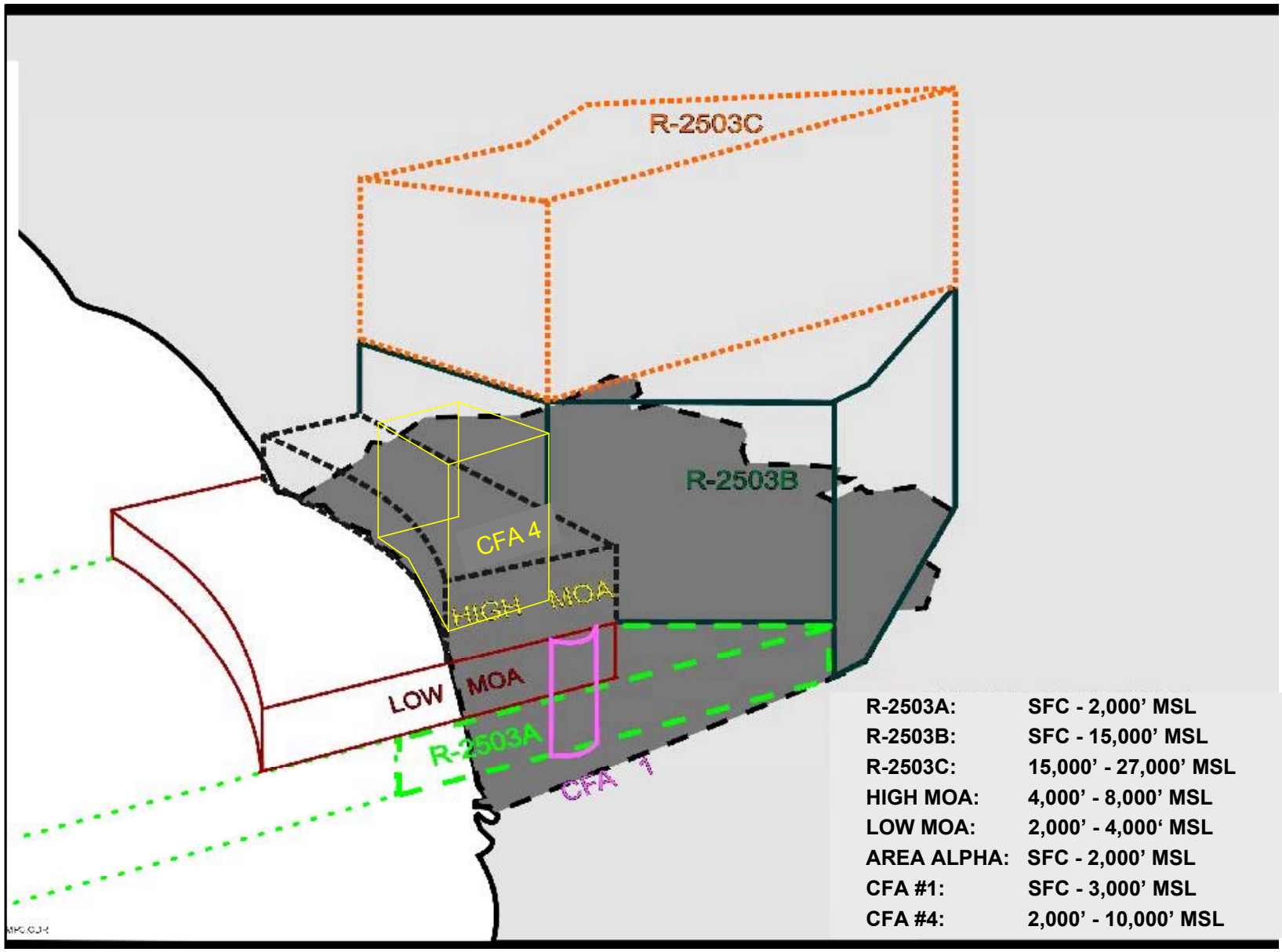


R-2503A CAMP PENDLETON, CA
Boundaries – Beginning at lat. 33º22'42"N, long. 117º36'45"W;
to lat. 33º27'13"N, long. 117º34'17"W;
to lat. 33º18'41"N, long. 117º23'58"W;
to lat. 33º17'30"N, long. 117º16'43"W;
to lat. 33º14'09"N, long. 117º26'38"W;
to the point of beginning by following a line 1 NM from and parallel to the shoreline.
Designated Altitudes - SFC to 2,000' MSL

R-2503B CAMP PENDLETON, CA
Boundaries – Beginning at lat. 33º24'23"N, long. 117º15'18"W;
to lat. 33º18'00"N, long. 117º16'11"W;
to lat. 33º17'30"N, long. 117º16'43"W;
to lat. 33º18'41"N, long. 117º23'58:W;
to lat. 33º27'13"N, long. 117º34'17"W;
to lat. 33º30'13"N, long. 117º29'16"W;
to the point of beginning.
Designated Altitudes - SFC to 15.000' MSL

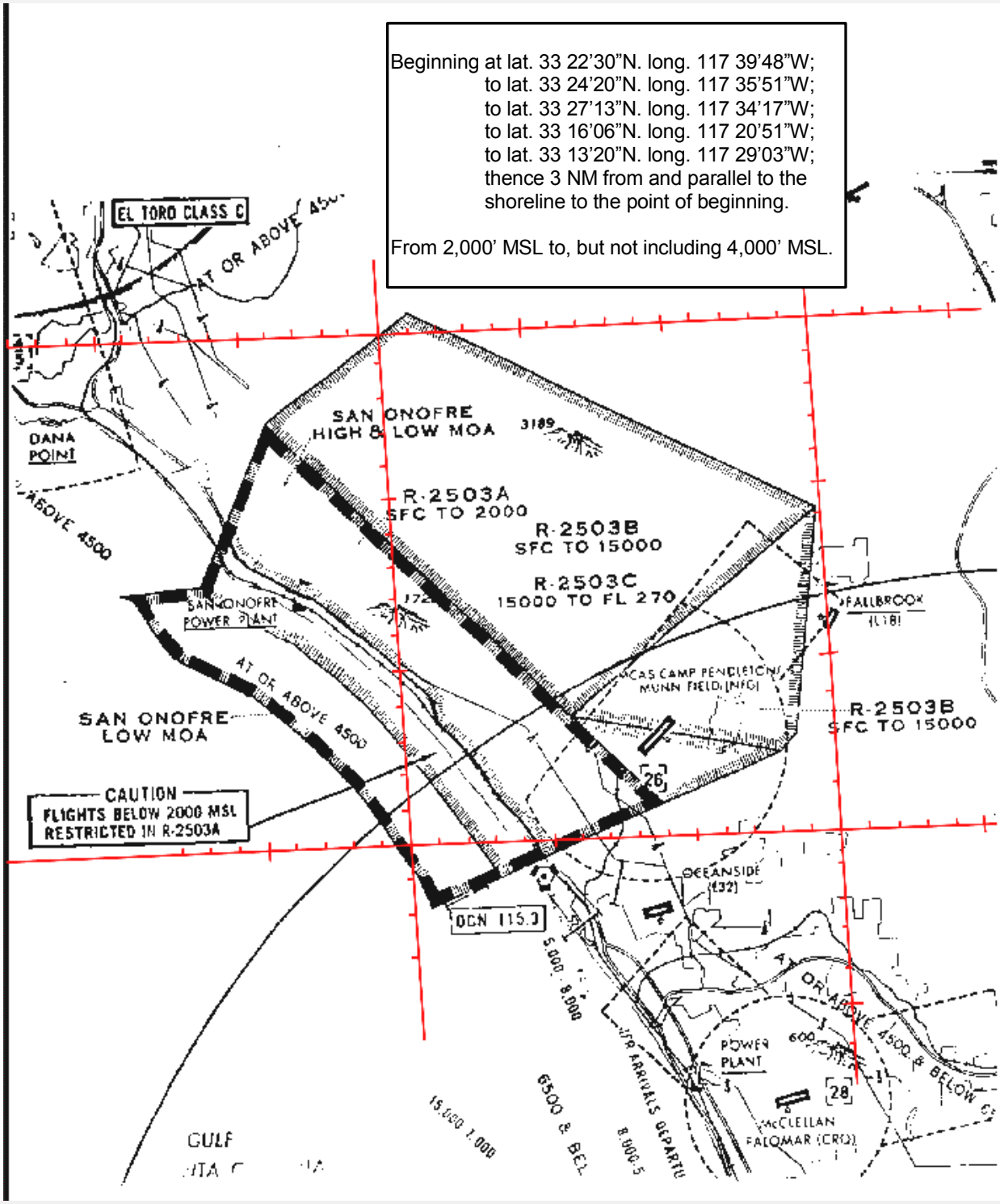
R-2503C CAMP PENDLETON, CA
Boundaries – Beginning at lat. 33º24'23"N, long. 117º15'18"W;
to lat. 33º18'41"N, long. 117º23'58"W;
to lat. 33º27'13"N, long. 117º34'17"W;
to lat. 33º30'13"N, long. 117º29'16"W;
to the point of beginning.
Designated Altitudes - 15,000' MSL to FL 270

Figure 4-1



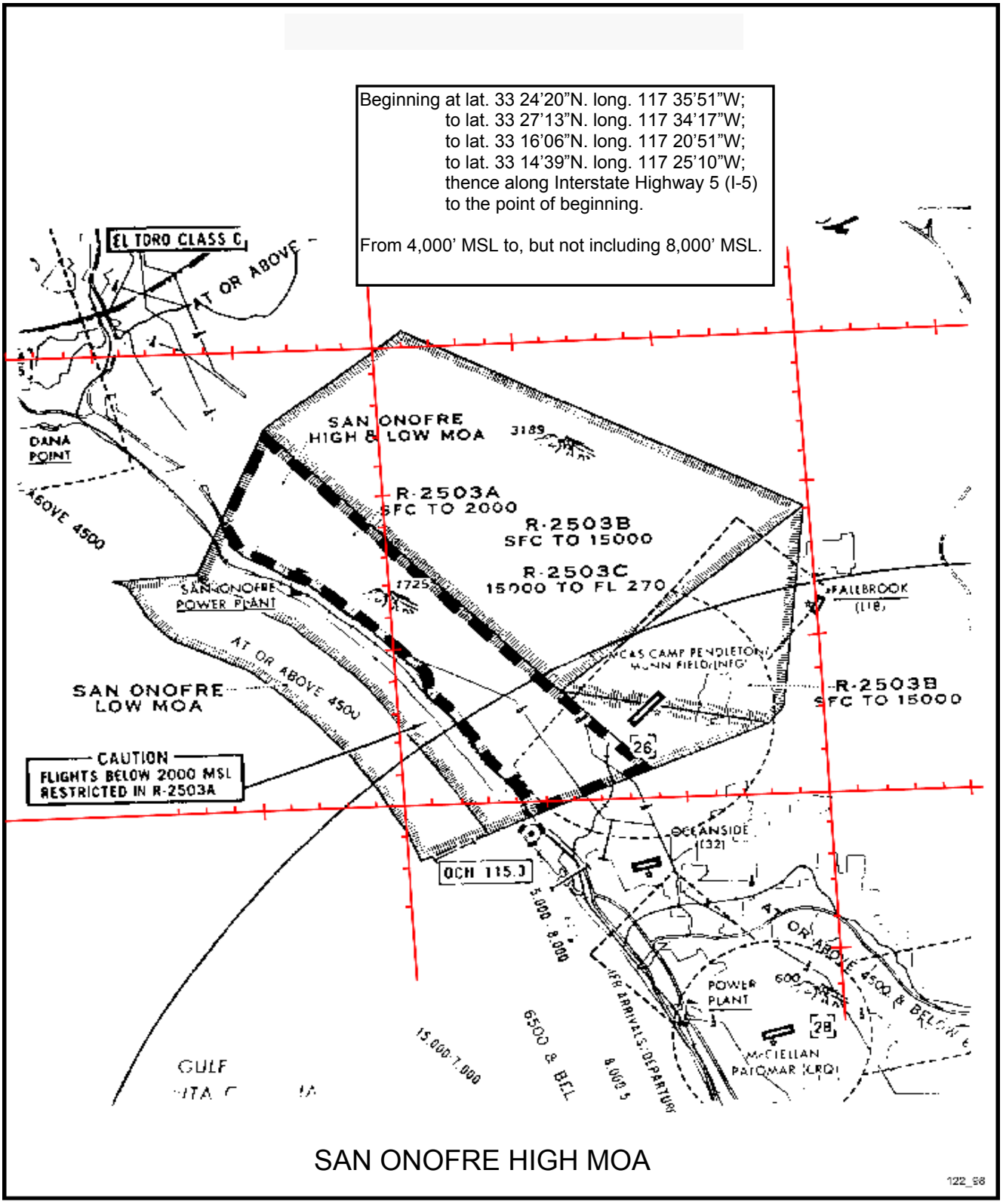
CAMP PENDLETON SPECIAL USE AIRSPACE

Figure 4-2



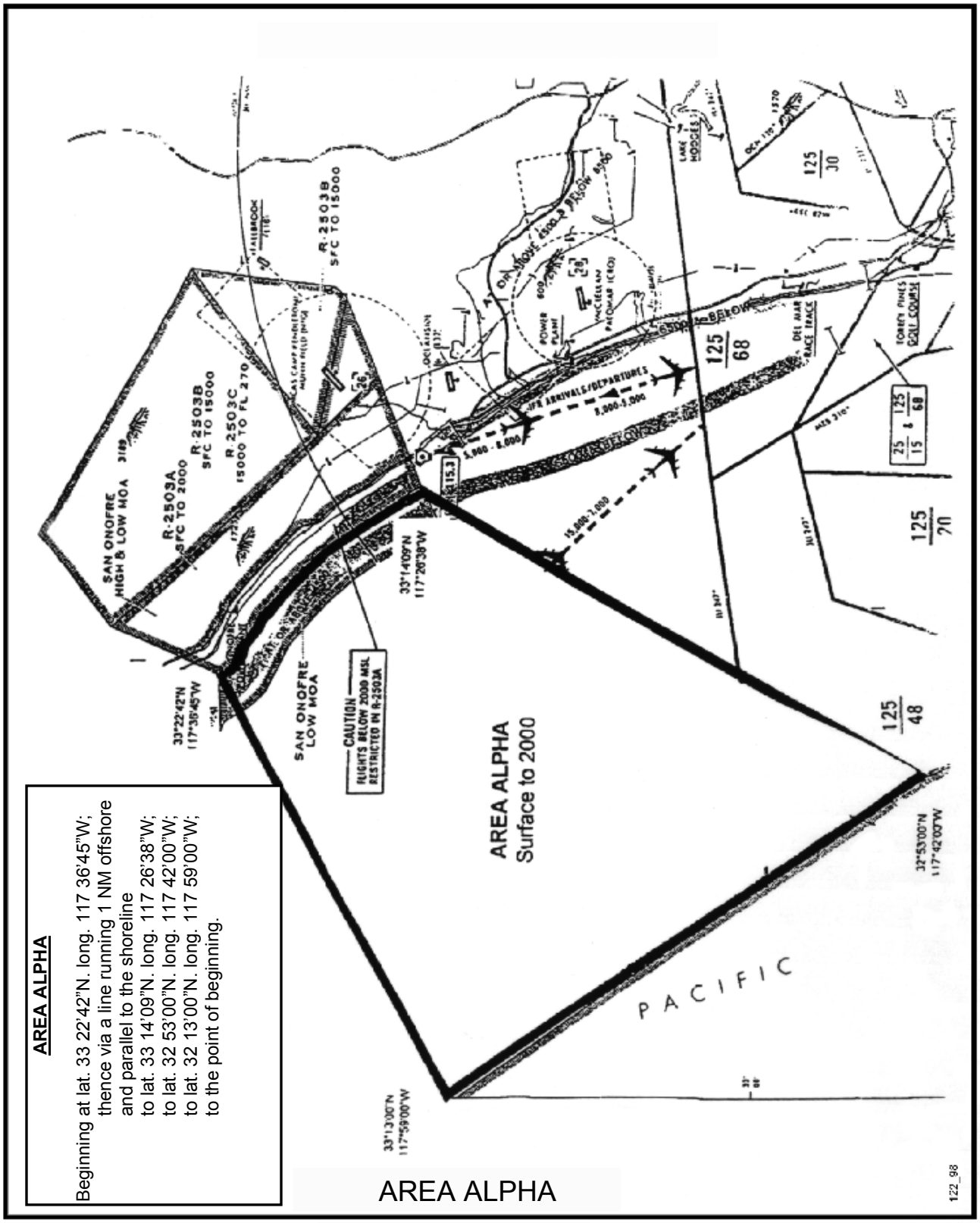
SAN ONOFRE LOW MOA

Figure 4-2



SAN ONOFRE HIGH MOA

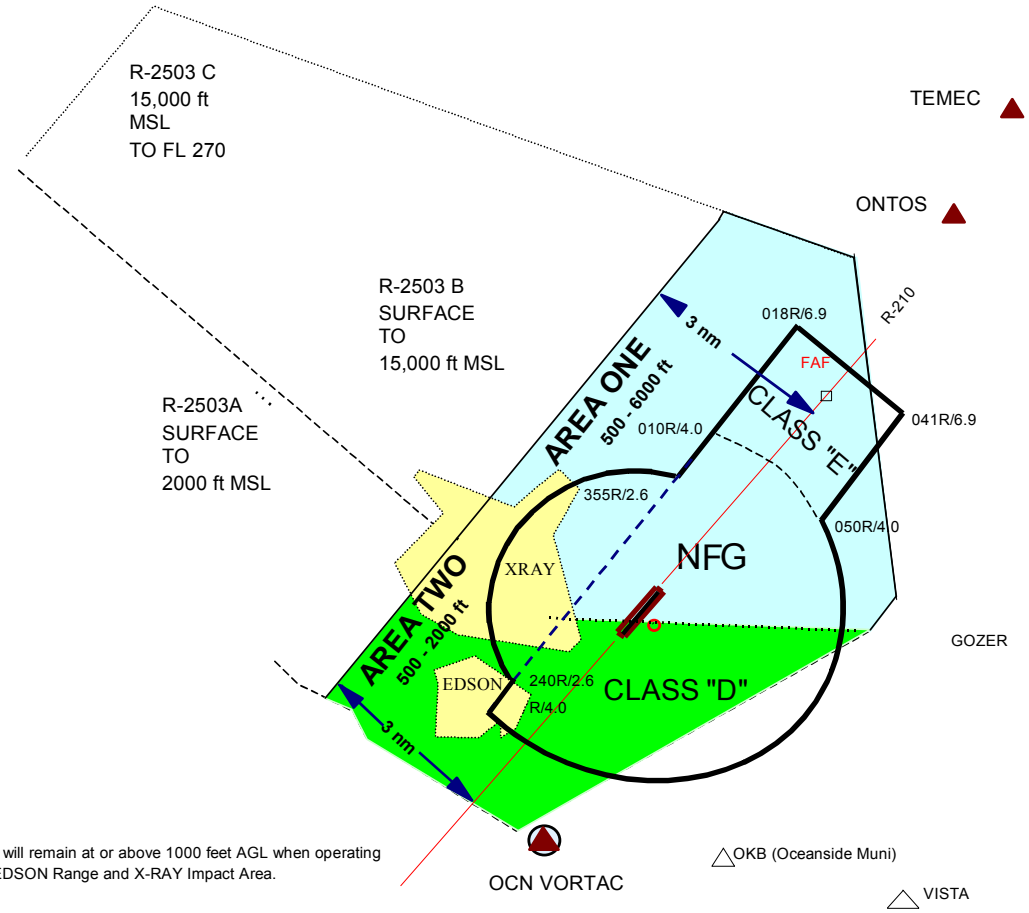
Figure 4-2



AREA ALPHA

Figure 4-2

MCAS, CAMP PENDLETON AIRSPACE



Aircraft will remain at or above 1000 feet AGL when operating in the EDSON Range and X-RAY Impact Area.

NOT TO SCALE

000215/LO

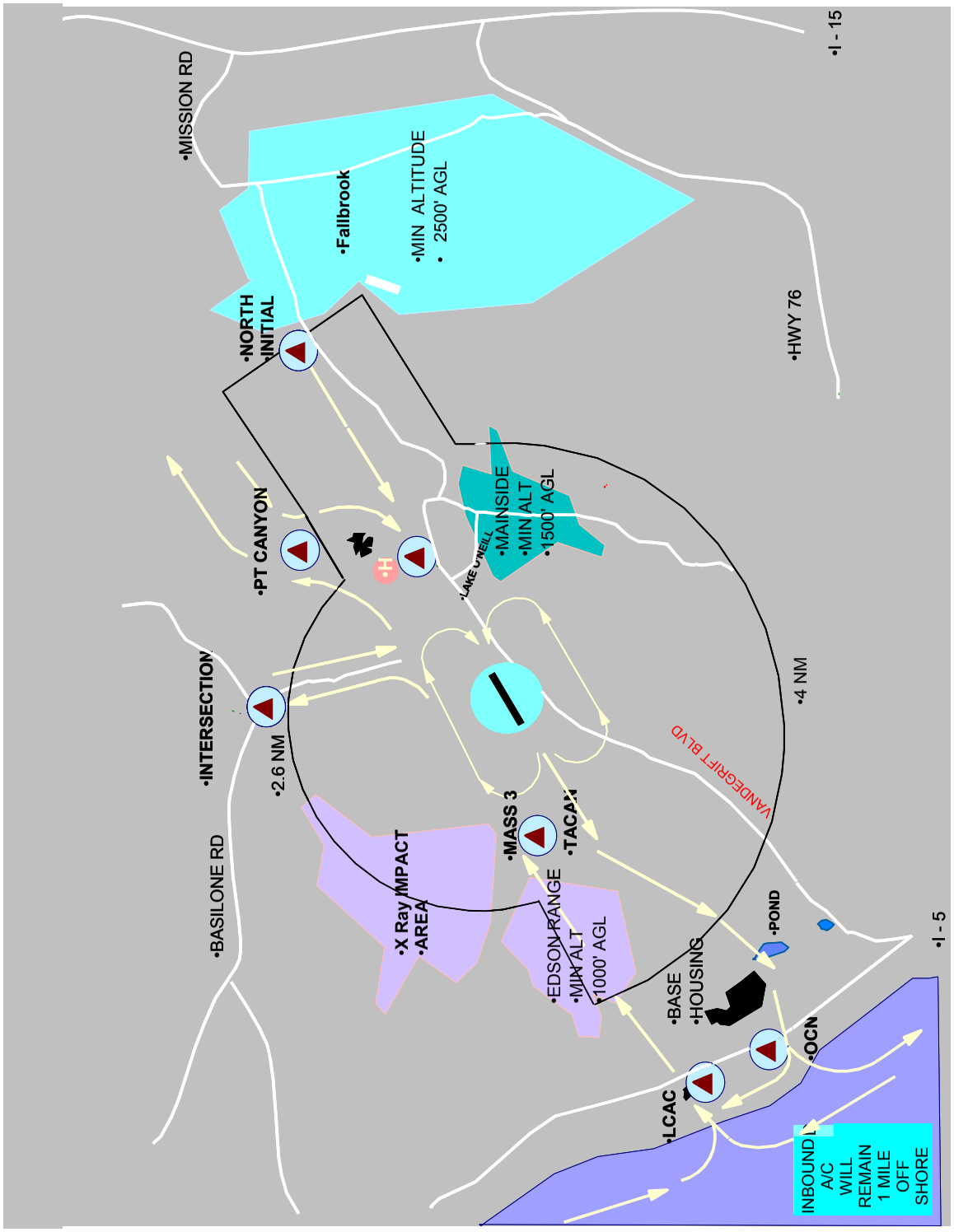
AREA ONE - THAT PORTION OF RESTRICTED AIRSPACE R2502B FROM 500 ft TO 6000 ft MSL SOUTHEAST OF A LINE 3NM NORTHWEST AND PARALLEL TO THE EXTENDED RUNWAY CENTERLINE
EXCLUDING: (a) AIRSPACE DEFINED AS CLASS D AND E,
(b) AIRSPACE FROM THE SURFACE TO 1000 FT DEFINED AS X-RAY.

AREA TWO - THAT PORTION OF RESTRICTED AIRSPACE R2503A, FROM 500 ft TO 2000 ft MSL, SOUTHEAST OF A LINE 3NM NORTHWEST AND PARALLEL TO THE RUNWAY CENTERLINE
EXCLUDING: (a) AIRSPACE DEFINED AS CLASS D,
(b) AIRSPACE FROM THE SURFACE TO 1000 FT DEFINED AS EDSON AND X-RAY

CLASS "D" FOR THE PURPOSED OF THIS LETTER, - THE CIRCULAR AIRSPACE EXTENDING FROM THE SURFACE UP TO AND INCLUDING 2600 ft MSL. EXTENDING FROM THE AIRPORT REFERENCE POINT TO 4 NM FROM THE 010R ARC SOUTHEAST THE 227R AT 4NM DIRECT TO THE 240R AT 2.6NM ARC NORTHWEST TO THE 355 AT 2.6 DIRECT 010R AT 4 NM.

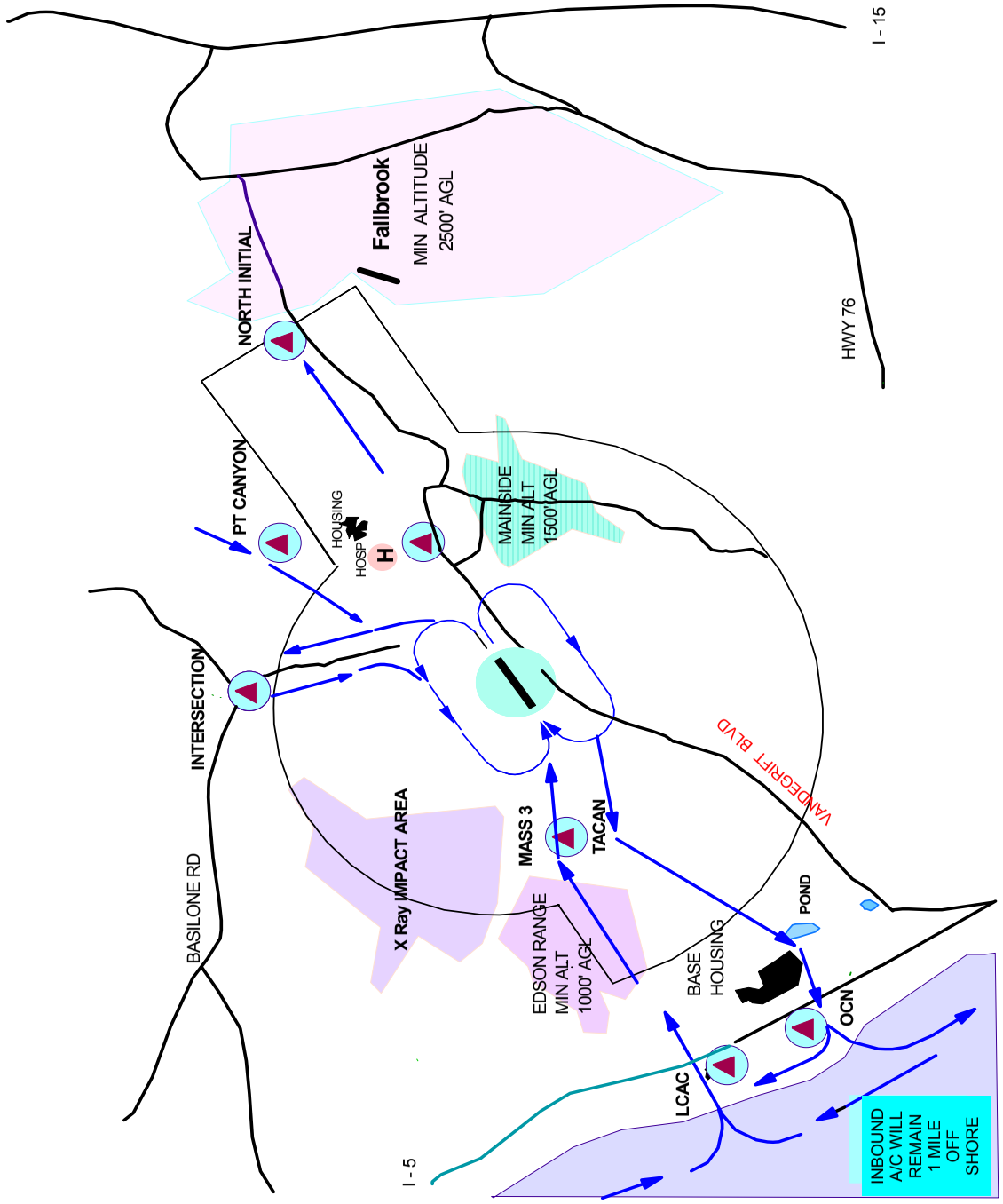
CLASS "E THE AIRSPACE EXTENDING FROM THE SURFACE UP TO AND INCLUDING 2600 ft MSL. EXTENDING FROM THE 010R AT 4NM DIRECT 018R AT 6.9 NM DIRECT 041R AT 6.9 NM DIRECT 050R AT 4NM ARC NORTHWEST TO THE 010R AT 4NM.

Figure 4-3



MCAS, CAMP PENDLETON
RUNWAY 21 VFR ARRIVAL/DEPARTURE ROUTES

Figure 4-3



MCAS, CAMP PENDLETON
RUNWAY 3 VFR ARRIVAL/DEPARTURE ROUTES

Figure 4-3

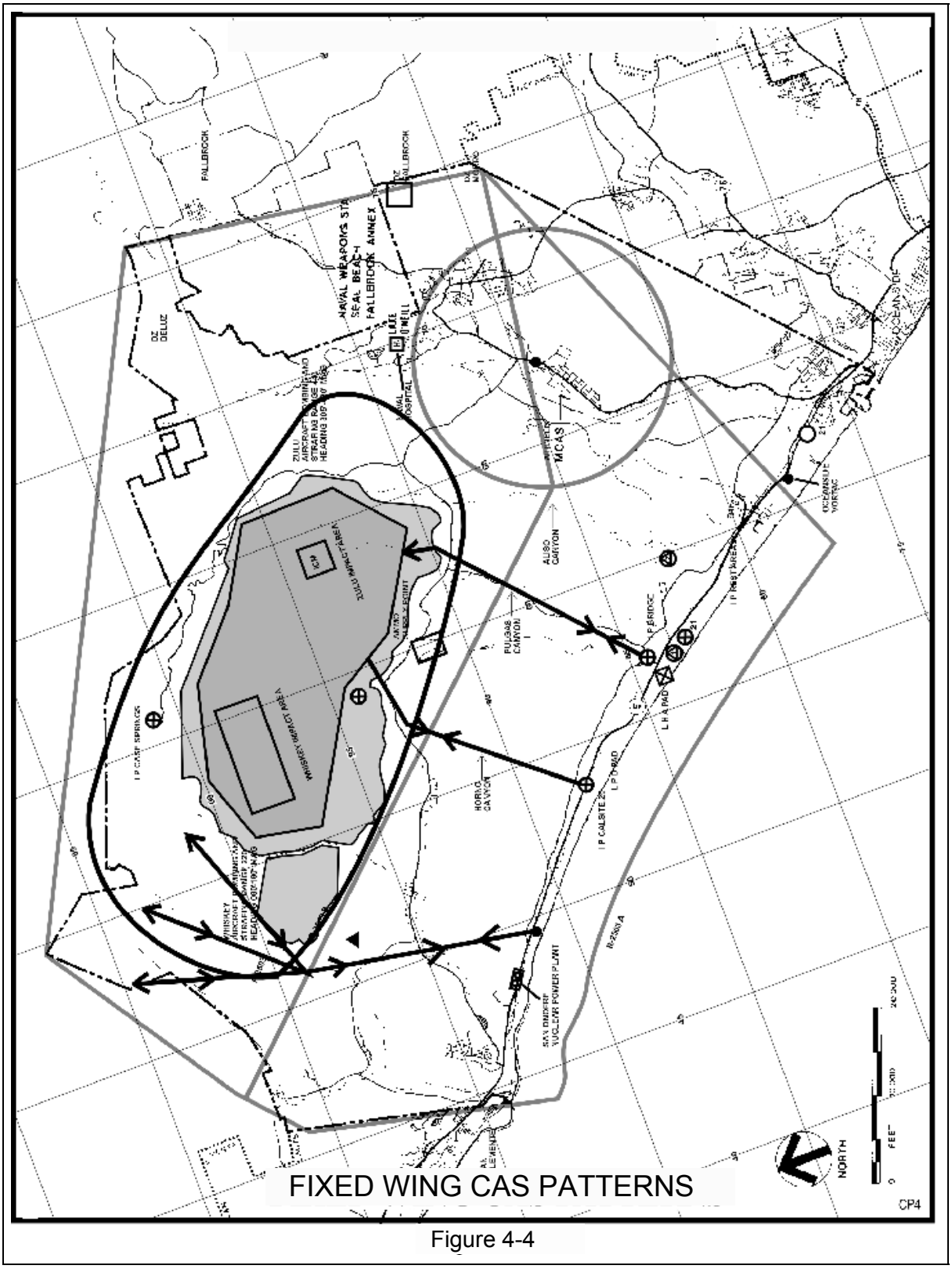
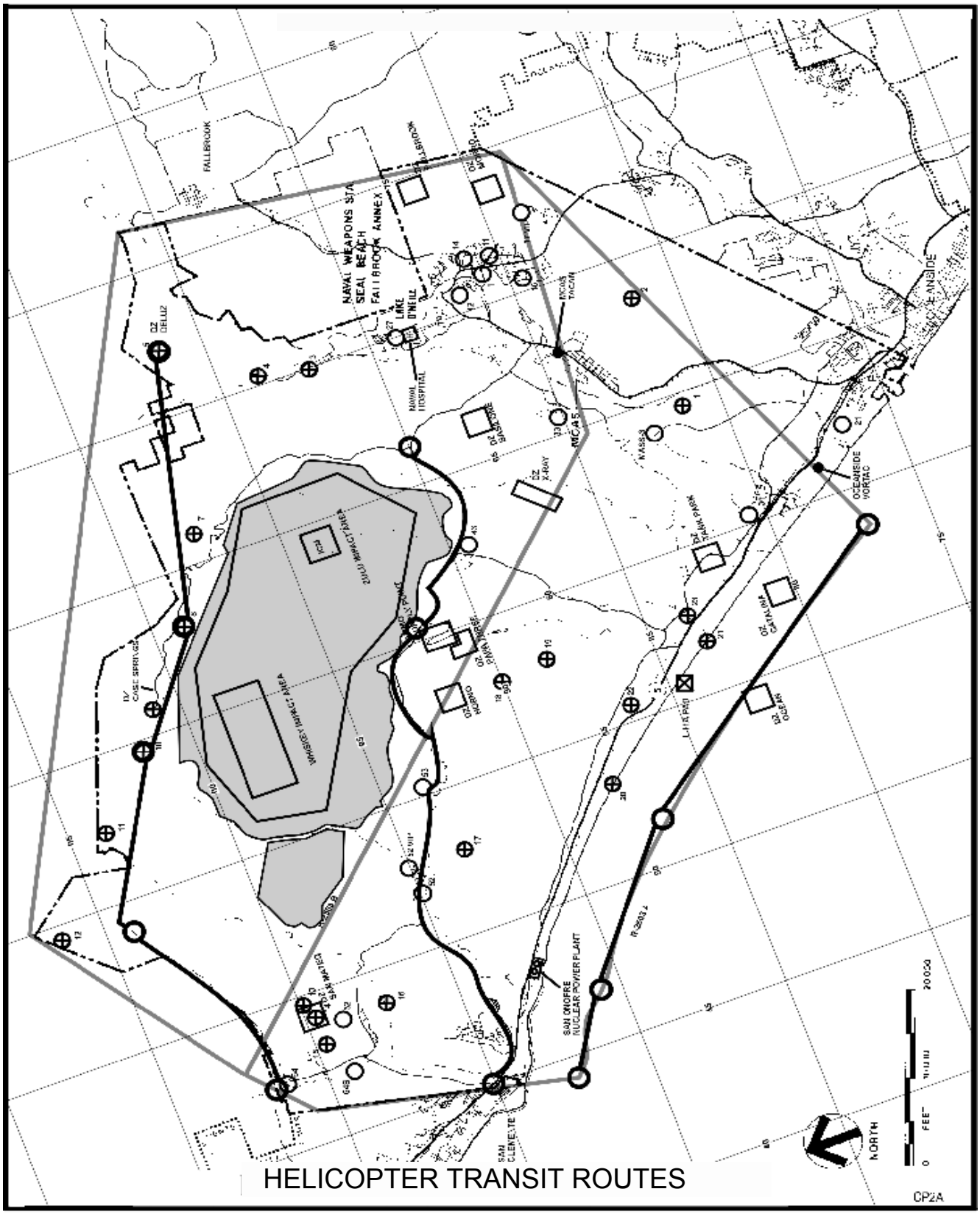

FIXED WING CAS PATTERNS
NAVAL WEAPONS STA
SEAL BEACH
FALLBROOK ANNEX
FALLBROOK
DZ DELUZ
ZULU AIRCRAFT STRAFING RANGE
HEADING 305° TO 185°
NAVAL HOSPITAL
LAKE O'NEILL
MCAS
ALISO CANYON
PULGAS CANYON
HORNO CANYON
ZULU IMPACT AREA
WHISKEY IMPACT AREA
WHISKEY AIRCRAFT STRAFING RANGE
HEADING 305° TO 185°
I P CAMP SPRINGER
I P CALSITE 2
I P TO ROAD
I P BRIDGE
I P WEST AREA
LH A PAD
SAN ONOFRE NUCLEAR POWER PLANT
OCEANSIDE
OCEANSIDE VORTAC
NORTH
FEET
CP4

Figure 4-4



HELICOPTER TRANSIT ROUTES

Figure 4-5

HOLF
Ingress/Egress

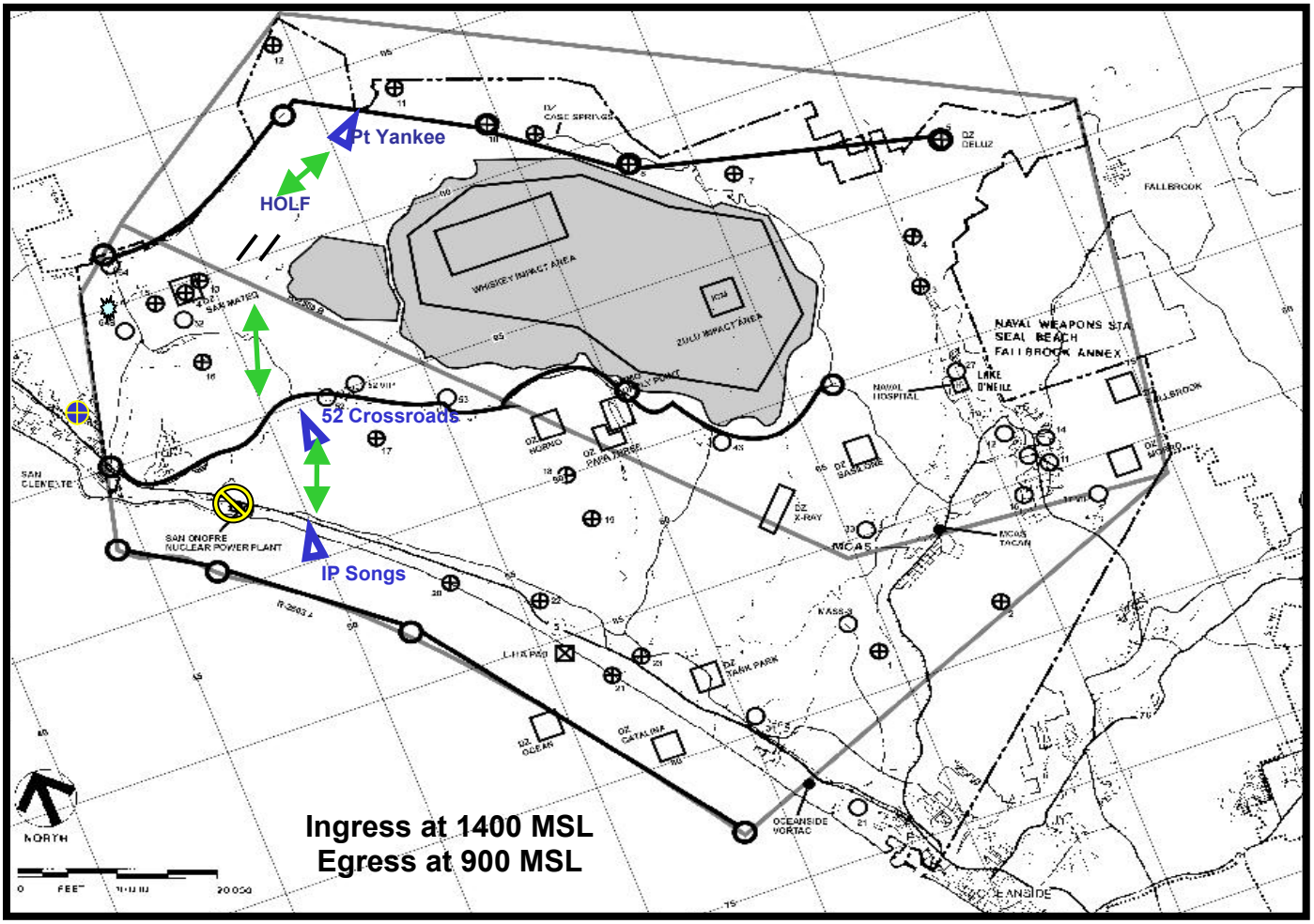


Figure 4-6

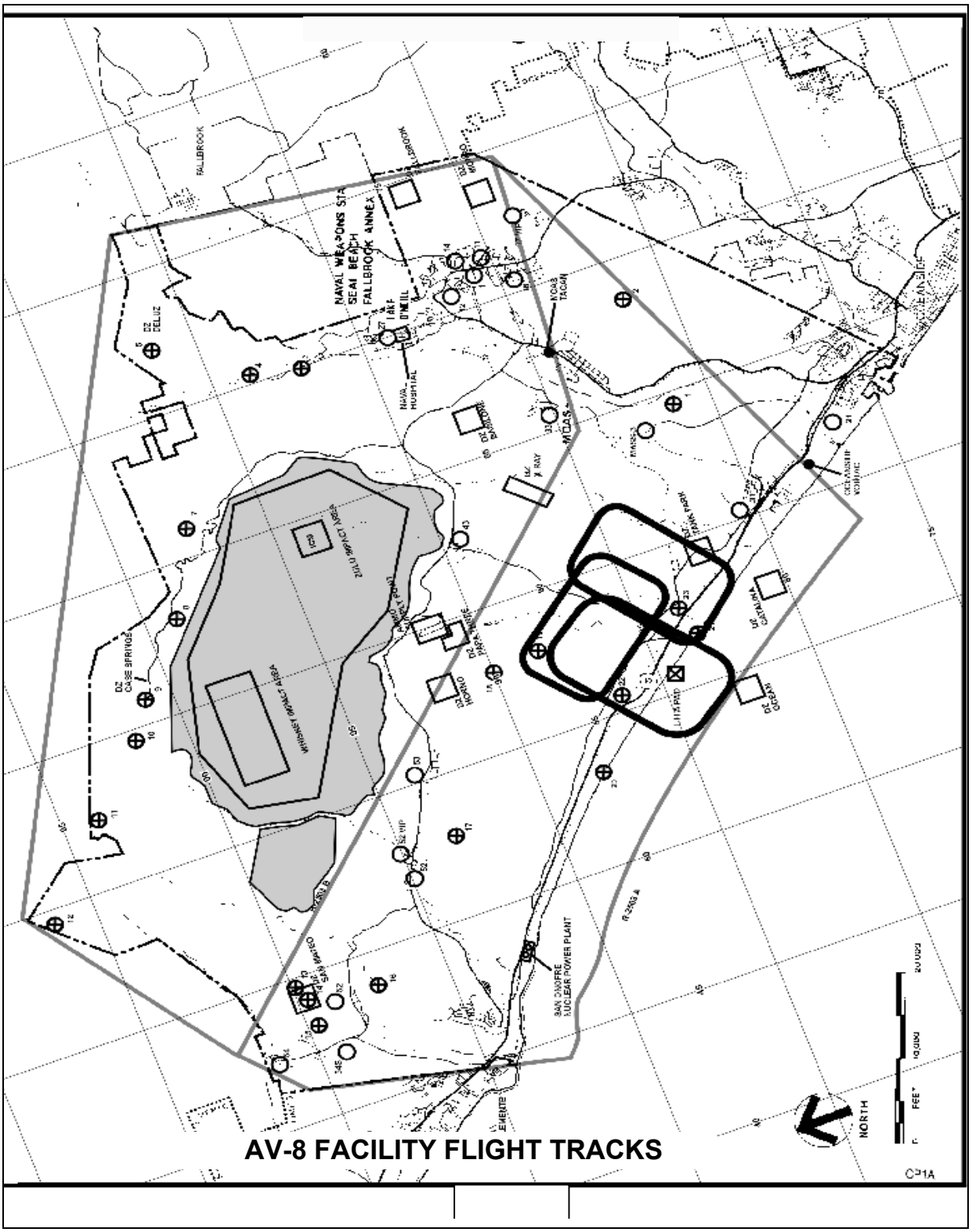

AV-8 FACILITY FLIGHT TRACKS
NAVAL WEAPONS STA
SEAL BEACH
FALLBROOK ANNEX
FALLBROOK
NAVAL HOSPITAL
MCAS
SAN ONOFRE NUCLEAR POWER PLANT
NORTH
FEET

Figure 4-7

CHAPTER FIVE

MARITIME OPERATIONS

Overview

This chapter provides a general overview of maritime facilities and operations at Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

Topic	See Page
5000. Offshore Training Safety	5-3
5001. Camp Pendleton Amphibious Assault Area (CPAAA)	5-3
5002. Camp Pendleton Amphibious Vehicle Training Area (CPAVA)	5-4
5003. Landing Craft Air Cushion (LCAC) Transit Lane	5-5
5004. Landing Craft Air Cushion (LCAC) Operations	5-5
5005. Del Mar Boat Basin	5-6

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CHAPTER FIVE

MARITIME OPERATIONS

5000. OFFSHORE TRAINING SAFETY

The waters offshore Camp Pendleton are subject to military, government, and civilian vessel operations, as well as recreational water craft activities. Although Marines train as they fight, it is imperative that units operating in any offshore areas, including published restricted waters, take all the precautions necessary to ensure they safeguard personnel and equipment from transiting civilian and other military ships, water craft and/or recreational equipment.

5001. CAMP PENDLETON AMPHIBIOUS ASSAULT AREA (CPAAA)

1. General The CPAAA is an ocean area used for amphibious operations, simulated dive, glide, parachute operations, and simulated low-level bombing, simulated rocket fire and strafing, and free balloon operations.

a. No live ordnance may be expended in this area.

b. CPAAA is not an exclusive military use area.

2. Boundaries CPAAA is contained within the boundaries listed below.

LATITUDE NORTH	LONGITUDE WEST
33 degrees 30’ 00”	117 degrees 45’ 00”
Along coastline to	
33 degrees 23’ 00”	117 degrees 35’ 30”
33 degrees 20’ 00”	117 degrees 40’ 20”
33 degrees 09’ 20”	117 degrees 28’ 30”
33 degrees 12’ 00”	117 degrees 24’ 30”
Along coastline to	
33 degrees 05’ 00”	117 degrees 19’ 00”
33 degrees 05’ 00”	117 degrees 45’ 00”
to point of origin	

3. Scheduling Guidelines for requesting CPAAA use are contained in FACSFACINST 3210.1. Units anticipating use of CPAAA shall forward requests to the Fleet Area Control & Surveillance Facility (FACSFAC, San Diego).

5002. CAMP PENDLETON AMPHIBIOUS VEHICLE TRAINING AREA (CPAVA)

1. General The CPAVA is an ocean area adjacent to the shoreline used for amphibious operations, simulated dive, glide, and low level bombing. It includes the LCAC Transit Lane. No live or inert ordnance may be expended in this area.

2. Boundaries CPAVA is contained within the boundaries listed below.

LATITUDE NORTH	LONGITUDE WEST
33 degrees 23’ 00”	117 degrees 35’ 30”
33 degrees 12’ 00”	117 degrees 24’ 30”
33 degrees 09’ 20”	117 degrees 28’ 30”
33 degrees 20’ 00”	117 degrees 40’ 20”

3. Scheduling a. Submit requests for use of the CPAVA to the Range Scheduling Office up to ninety (90) days prior to the date the area is desired.

b. Units desiring to conduct offshore training that may be hazardous to non participants (i.e. mine countermeasures training, underwater demolitions) shall notify the Director, Range Operations Division at least 30 days in advance of planned training. Units must provide a diagram of planned training footprint using the Camp Pendleton Military Installation Map; diagrams must include a description of training mines or other obstacles. Units desiring to conduct hazardous activities offshore shall also be responsible for publication of a Notice to Mariners via coordination with the US Coast Guard.

4. Cancellation The Range Scheduling Office shall be notified in writing upon cancellation of training. Verbal cancellations will not be accepted.

5003. LANDING CRAFT AIR CUSHION (LCAC) TRANSIT LANE

The LCAC Transit Lane is contained within the boundaries listed below.

LATITUDE NORTH	LONGITUDE WEST
33 degrees 15' 40"	117 degrees 26' 20"
33 degrees 12' 50"	117 degrees 31' 10"
33 degrees 12' 30"	117 degrees 30' 50"
33 degrees 15' 20" to point of origin	117 degrees 26' 10"

5004. LANDING CRAFT AIR CUSHION (LCAC) OPERATIONS

1. General LCACs are restricted in their ability to maneuver when departing from and returning to the ACU-5 ramp. This LCAC maneuverability restriction equates to plus or minus ten degrees from a line perpendicular to the surf zone.

2. Transit Lane Due to the LCACs high speed of advance, a clear LCAC Transit Lane extending a minimum of 4,000 yards seaward from the ACU-5 ramp (33-15.5N/117-26.3W) has been designated for LCAC line-up purposes. This exclusion area (in effect, an LCAC "driveway") is the only safe access for LCACs departing from and returning to the ACU-5 ramp.

3. Anchoring For LCAC safety purposes, it is imperative ships do not anchor within the LCAC Transit Lane. This exclusion extends seaward 4,000 yards, bearing 210 to 160 degrees true, from L33-15.5N/117-26.3W.

4. Environmental LCAC operations ashore and land operations shall be conducted per chapter 2 of this Manual. LCAC operations shall maintain a 1,000-foot seaward buffer zone from the Blue Beach/White Beach least tern/snowy plover nesting areas between 1 March and 15 September. Direct ingress from the LCAC ramp/facility is not affected by this buffer zone.

5005. DEL MAR BOAT BASIN

1. General

a. The Commanding General, MCB exercises command in all matters pertaining to the Del Mar Boat Basin, the government-owned beaches adjacent to it, the channel and channel entrance, and the restricted sea areas off the Del Mar outer breakwater.

b. The Assistant Chief of Staff, Operations and Training exercises general staff cognizance over the Del Mar Boat Basin Complex. The Assistant Chief of Staff, Operations and Training shall resolve "Priority Use" conflicts. All requests for use of the Del Mar Boat Basin will be addressed to the Range Scheduling Office.

c. The Assistant Chief of Staff, Operations and Training is designated as the authority for administrative control of, and in normal operations, is delegated the prime coordination responsibility for the Del Mar Boat Basin.

d. The 21 Area Commander is designated as the authority to oversee the operations of the Del Mar Boat Basin, and to ensure users adhere to the instructions contained in this chapter.

e. The normal hours of operation of the Del Mar Boat Basin are from 0730 to 1630, Monday through Friday, unless otherwise directed.

f. The maximum speed of a craft operating within the Del Mar Basin and channel waters shall not exceed 5 mph or safe wake speed.

2. Normal Operating Area

The area for normal training operations, outside the Del Mar Boat Basin, where boats may be employed is limited to the area bounded by the harbor entrance to the south and from the northern boundary of Camp Pendleton land on the north, and three miles out to sea from the Camp Pendleton beaches.

3. Training

Requests for use of the operations area, Del Mar Boat Basin, docks, or any other Del Mar Boat Basin facilities will be submitted in writing to the Range Scheduling Office at least seven (7) working days prior to the planned event.

4. Fishing

a. No lobster traps, commercial or otherwise, will be set within the Del Mar Boat Basin or channel; nor within 750 feet of the jetty or groyne. Violations of this restriction will be reported to the Base Game Warden at (760) 725-3360.

b. Fishing boats will not be permitted within the Del Mar Boat Basin area.

c. Fishing is permitted on the north jetty during daylight hours only, except when precluded by military commitments.

d. State of California fishing regulations apply to all users. Both a state fishing license and a Base fishing permit are required for fishing

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5. Restricted Sea Areas

a. Access to the area west of Bldg. 210536 is restricted to authorized personnel only. This includes the south groyne, the north boundary of the Oceanside Harbor, and Staging Area #2. Staging Area #2 may be used, upon written request to the Commanding General (Assistant Chief of Staff, Operations and Training), for training, and staging cargo and vehicles for exercises.

b. Children under 16 years of age are prohibited from traversing the north jetty unless accompanied by, and under the immediate supervision, of a responsible adult.

c. All navigational aids are off-limits to all personnel, except those personnel authorized to service, inspect, and maintain them.

d. Restricted sea areas include all of the water of the Del Mar Boat Basin entrance channel lying northerly of a line between a light on the north Del Mar jetty at latitude 33 degrees 12’ 20”, longitude 117 degrees 24’ 0”, and a light on the north Oceanside Harbor groyne at latitude 33 degrees 12’ 30”, longitude 117 degrees 23’ 0”. Restricted sea areas are off-limits to all unauthorized personnel.

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6. Port of Refuge

a. Use of the Del Mar Boat Basin and channel as a port of refuge by small craft is authorized.

b. A vessel in distress will be provided all necessary assistance, within the capability of the Base, to prevent loss of life or property.

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7. Privately-Owned Boats and Small Craft

All authorized personnel operating a privately-owned boat within the Del Mar Boat Basin and channel waters will ensure boats or craft are properly outfitted and registered per applicable U.S. documentation regulations or state registration procedures, and BO P5000.2J.

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CHAPTER SIX

RANGE OPERATIONS

Overview

This chapter provides the responsibilities, safety requirements, and the policies and procedures associated with ground training operations at MCB, Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

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CHAPTER SIX

RANGE OPERATIONS

6000. RANGE OPERATIONS

1. Establishment

Ranges are established by the Commanding General, MCB, Camp Pendleton. This does not prohibit placing approved targets on certain existing ranges after observing all safety precautions and regulations, and coordinating with the Range Control Officer. Targets will never be placed in any dud-producing impact area without approval from the Range Control Officer, and escorted by EOD personnel. Recommendations to improve ranges and facilities should be submitted to the Assistant Chief of Staff, Operations and Training.

2. Maintenance

The Range Operations and Facilities Maintenance Divisions maintain ranges.

3. Operations

a. Operations and Training (O&T) range personnel or COMTS contractors are required to operate electrical targets or simulators on ranges equipped for that purpose. Times must be included on the request when operators are required. When electrical targets or simulators are not used, the ranges may be scheduled without operator support.

b. All ranges belong to the Commanding General, MCB, Camp Pendleton. When units are the primary users of a particular range, they do not inherit title to those ranges, and possess no authority to modify the nomenclature, purpose, or design of any range.

c. Range Operations Division (ROD) personnel are authorized access to all ranges and training facilities for the purpose of inspection, operation, or maintenance at all times. These personnel will not disrupt unit training unless necessary to perform their duties. Training units will not interfere with these personnel in the performance of their duties, even if the range or facility is in use.

4. Targets

a. The Automated Support Branch (ASB), Range Operations Division provides targets for installed mechanisms on COMTS ranges and for the PITS mechanisms, when ASB provides the equipment operator.

b. Targets for artillery and aircraft will be provided by, and positioned in the impact areas, by the Range Operations Division.

c. Using units will provide targets for machine gun qualification firing. Organizations will submit target plans, including mounting materials to the Range Scheduling Office with their range requests. Organizations will be responsible for picking up and returning all targets.

d. Engineer stakes or other hard material shall not be used to support targets.

e. When applicable, the use of Steel Reactive Targets (SRT) shall be conducted as outlined in TECOM Safety of Use Memorandum (SOUM) 2-02, and coordinated through the Range Control Officer .

6001. RANGE CONTROL FEATURES

1. Range Signs and Markers

Range signs and markers are placed on all ranges, mortar positions, and artillery firing areas (AFAs) to indicate firing lines, lateral limits, range number, and other information. Firing lines and lateral limits are not indicated at mortar or artillery firing areas. The signs and markers are described below.

a. Surveyed Monuments. A white concrete monument placed near the center of firing lines and AFAs.

b. Firing Line Markers

(1) Left. Small, white concrete monument

(2) Right. Small, red concrete monument

c. Fan Markers

(1) Left. 4’ x 4’ to 12’ x 12’, white and black checkerboard, square wood sign.

(2) Right. 4’ x 4’ to 12’ x 12’, orange and black checkerboard, square wood sign.

d. Range Number Signs. A sign bearing the range number for each range.

e. Hearing Loss Signs. A sign warning users hearing protection devices are required.

f. Off Limits Signs. A sign warning the area is off-limits by order of the Commanding General, MCB, unless scheduled through the Range Scheduling Office.

g. Impact Area Signs. A sign warning personnel of live-fire impact areas.

h. Additional signs outlining specific instructions or precautionary measures may be posted as deemed necessary by the Assistant Chief of Staff, Operations and Training.

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2. Barricades and Range Guards

Either barricades or range guards shall block normal approaches to danger areas created by firing. Barricades, combined with appropriate warning signs, are adequate and range guards are not required except in special cases. Check for specific requirements in appendix C of this Manual.

a. Barricades. Barricades, when required, shall be provided by the Range Operations Division for all roads and trails leading into range areas. There are two types of barricades:

(1) Portable barricades consisting of a sawhorse-like structure, at least two feet high, placed directly across the road. A sign with letters three inches high stating, "Live-Firing in Progress, Keep Out" shall be attached to the cross member. The sign shall be clearly visible to anyone attempting to enter the range area.

(2) Permanent barricades consisting of heavy posts embedded on both sides of the road or trail, with a chain, or rope stretched between the posts. The lowest point shall be at least two feet above the ground. The sign [described in (1) above] shall be attached to the chain. Chains or cables shall be locked in place.

(3) Firing units shall ensure barricades are in place prior to firing. Specific requirements for each range are listed in appendix C of this Manual.

(4) During night training, barricades shall be lighted with chem-lights or other suitable means from sunset to sunrise.

b. Range Guards

(1) Range guards shall be posted to prevent entry into the danger areas that cannot be observed, or which do not lie within the established impact areas. Normally, range access roads are not within this category and do not require a range guard, except as described in appendix C of this Manual.

(2) Artillery firing units shall post range guards on established roads when the area "E" of the surface danger zone diagram (refer to directives in the MCO 3570 series) actually covers the road involved. Traffic on these roads shall be halted during actual firing. Delays must not exceed 10 minutes at any one time.

(3) OICs/RSOs may post additional range guards, as necessary, to ensure safety. The arbitrary blocking of roads or the denial of access to other than a danger area is not permitted.

(4) Range guards shall be provided with a means of communication by the unit posting them. Range guards shall also be provided with some means of lighting for the identification of their positions from sunset to sunrise.

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3. Warning Flags and Warning Lights

During daylight hours, the warning flag shall be raised whenever firing is in progress. During hours of darkness, a blinking red light, facing to the rear of the range, shall be in place. LONGRIFLE will place the unit in check-fire until lights are in place during night fire. The flag is in an ammo can, along with the specific facility regulations, attached to a pole at each training facility. The light will be issued by LONGRIFLE to the RSO or unit representative prior to range use. Contact LONGRIFLE at (760) 725-4604/3974 to coordinate light checkout. Units on ranges adjacent to the Zulu and Whiskey Impact Areas shall mark their forward position, during night operations, with an Infrared (IR) Strobe, IR chem-light, or a visible light source. Once air assets know of, and have positively identified the forward position, LONGRIFLE may contact the unit to secure the IR light source.

6002. PROCEDURES FOR RANGE CHECK-IN/OUT

1. Briefs

The RSO (including FACs) must participate in a "Hot Brief" with LONGRIFLE via radio on frequencies: UHF 301.9, 249.9, 255.2; VHF 123.2; FM 30.35 or 49.00. Only the Director, Range Operations Division may approve alternate communication methods. The RSO shall identify himself/herself as the RSO (which will be verified in LONGRIFLE's database), then confirm numbers of participating personnel, types of weapons to be fired, types of ammunition to be fired, and the presence of a safety vehicle and corpsman.

2. RSO Box

A 60mm ammunition can, which reads, "Range Regs RSOs Only," has been attached to a pole at each range, drop zone, rappel tower, mortar position, and artillery firing area. In the ammunition can, the RSO will find a red flag and the most current copy of the regulations for that range/facility.

3. SDZ Diagrams (SDZs)

Required SDZs must be submitted by FAX [(760) 725-4090] or delivered to the Range Scheduling Office at Bldg. 2399, MCAS, Camp Pendleton, at least ten (10) working days in advance of events. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. The SDZ diagram will be constructed per MCO 3570 series, and will include the information listed in paragraph 3002.3 of this Manual.

4. Clearance

a. Once all regulations and safety requirements, to include wearing appropriate personal protective equipment (e.g., helmets, flak jackets, and hearing protection) during all live-fire events have been satisfied, LONGRIFLE will authorize the unit to go hot.

b. Helmets and flak jackets are not required when conducting annual known distance (KD) marksmanship training to include KD battlesight zeroing. Sniper training is also excluded from wearing helmets and flak jackets when conducting training which does not require wearing helmets and flak jackets per the MCO 3570 series. All military and civilian agencies conducting law enforcement-type training are permitted to wear their equivalent protective equipment in lieu of helmets and flak jackets.

c. The RSO and OIC of Firing shall be physically present at the range or firing position whenever training is in progress. If it becomes necessary to change RSOs, both old and new RSOs must be physically present at the range or firing position to conduct a face-to-face relief, and the new RSO must follow the procedures described in paragraph 6002.1 in this chapter.

5. Securing from Firing

a. The unit will notify LONGRIFLE thirty (30) minutes prior to going cold. LONGRIFLE shall dispatch a Range Inspector to the range to ensure proper policing of the range is accomplished. The RSO is not released from his/her responsibilities until cleared by the Range Inspector.

b. Ranges will be inspected the morning following night firing exercises (FIREXs). The RSO is not released from his/her responsibilities until cleared by the Range Inspector.

6003. AUTHORIZATION TO FIRE

Firing shall not be conducted unless it has been scheduled with the Range Scheduling Office and authorized by LONGRIFLE.

6004. CONTRACTOR OPERATION AND MAINTENANCE OF TRAINING SYSTEMS (COMTS) RANGES

1. Background

The USMC Contractor Operation and Maintenance of Training Systems (COMTS) Program supports five ranges (Ranges 210G, 215A, 218A, 223B, 409A) aboard Camp Pendleton. For additional information on this program, refer to paragraph 3005.1 of this Manual.

2. COMTS Range Scheduling

Units desiring to train on COMTS ranges shall schedule their training through the Range Scheduling Office. After a unit's scheduling request is approved, the unit must contact the Automated Support Branch (ASB) at (760) 725-4446/4805 at LEAST FOURTEEN (14) WORKING DAYS prior to the planned training to coordinate their training scenarios and arrange contractor time for training scenario development. The

Range Control Officer will approve all scenarios. The ASB will reconfirm support requirements with the unit a minimum of two (2) working days prior to the unit actually using the range. The range contractor will provide range operators for the number of hours requested on the scheduling request, up to a total of 18 hours a day. Units should list the times they desire to go hot and cold on the start and stop boxes of the TAR, and annotate range occupation times in the comment section of the TAR. Requests to extend training time on a COMTS range, received by the Range Control Scheduling Office, less than 48 hours prior to actual range usage cannot be approved due to contractual limitations.

3. Range NCOs

Range NCOs from the ASB have been assigned to the COMTS ranges and the MOUT Facility (R-131) to assist RSOs. The Range NCO shall check the RSO in and out of the supported ranges, provide a range safety brief and ensure the civilian range contractor (if applicable) provides training support per the using unit's original scheduling request and scenarios. The presence of a Range NCO DOES NOT relieve the RSO of his assigned responsibilities in this Manual. The Range NCO is not authorized to extend the using unit's training time on any range. Requests for training time extensions shall be forwarded to the Range Scheduling Office, per paragraph 6004.2 in this chapter. Questions regarding the scheduling of and training at COMTS ranges should be referred to the Range Scheduling Office. Questions and comments relative to the COMTS contractor performance or ASB Range NCOs should be referred to the OIC, ASB at (760) 725-5105.

6005. AUTOMATED TARGET AND SIMULATOR SUPPORT

1. Scheduling

Units desiring automated target and simulator support on non-COMTS ranges shall submit a TAR to the Range Scheduling Office. When the scheduling request is approved, the unit shall contact the Automated Support Branch (ASB) at (760) 725-4446/4805 at LEAST FOURTEEN (14) WORKING DAYS prior to the planned training event to coordinate training scenarios. The ASB SNCOIC will reconfirm support requirements with the using unit a minimum of two (2) working days prior to the planned training event.

2. Operators

When the unit has properly scheduled its requirements through the Range Scheduling Office, the ASB shall provide operators to use the Portable Infantry Target System (PITS), and artillery or machine gun noise simulators. PITS operators are not normally provided to units who have a PITS through a Combat Visual Information Center-Supply account. However, the ASB may provide PITS operators to these units when their operator requirements exceed their internal capability. Additionally, the ASB will provide PITS operator instruction through a civilian contractor at the unit's request. Requests for PITS operator instruction may be coordinated directly with the SNCOIC, ASB at (760) 725-4446.

6006. BIVOUACKING ON RANGES

1. Observation Post Towers

Bivouacking is not allowed on observation post (OP) towers.

2. Permitted Areas

Bivouacking is allowed on ranges, training areas, and in artillery firing areas (AFAs) subject to the following conditions:

a. Ranges shall not be scheduled for the purpose of bivouacking only.

b. Units may arrive the night before firing. The RSO shall check out the range or AFA prior to occupation by the bivouacking unit.

c. Units may bivouac after firing, provided they are clear of the range or AFA before the arrival of the next scheduled using unit.

d. Bivouacking shall take place only behind the firing line or start point, and only behind the range that has been checked out.

e. Bivouacking in training areas shall not impede training at specific facilities unless those facilities have also been scheduled to support the bivouac.

f. Bivouac sites shall remain a minimum of 500 meters clear of all aviation facilities.

g. Bivouac sites in locations within training areas or beaches shall be marked at night.

h. A six-digit grid coordinate shall be provided to LONGRIFLE when bivouacking in training areas or on beaches.

3. Environ-mental

Bivouacking shall comply with the provisions of chapter 2 of this Manual.

6007. MEDICAL REQUIREMENTS

1. Corpsman and Safety Vehicle

A Corpsman (or civilian equivalent for non-minilitary units) with first aid equipment shall be present on all ranges, unless specifically excluded in this Manual. He/she shall not be assigned any additional duties when live-firing is in progress. The term "live-firing" includes any caliber of ammunition, hand or rifle grenades, demolitions, rockets, or any other ordnance capable of producing an explosion or high rate of burning. Additionally, a vehicle designated as a safety vehicle shall be located at all ranges during live-firing. Whenever possible, this vehicle should be an ambulance.

The presence of one hospital corpsman and one safety vehicle is the minimum requirement.

2. Training Areas A corpsman and safety vehicle shall be present during unit training activities conducted within training areas and beaches.

3. Obstacle Courses A corpsman and safety vehicle are not required to be present during training at obstacle courses.

4. Range Series/ Complexes When the 210 and 314 range series (210B, 210C, 210D, 210E,210G; and 314, 314A, 314B, 314C), and known distance rifle and pistol ranges [Ranges 102/103 (Wilcox Range Complex), Ranges 116A, 116B, 116C, 116D and 117A (SEAL Complex), and Ranges 213/214 (Horno Range Complex)] are used by the same organization, one corpsman and safety vehicle with two-way radio communication are required.

6008. TRAINING AREAS

1. Training Areas Field training and tactical exercises are conducted in the training areas, shown on the Camp Pendleton Military Installation Map, are delineated below.

Alpha One	Echo	Lima	Romeo One
Alpha Two	Foxtrot	Mike	Romeo Two
Alpha Three	Golf	November	Romeo Three
Bravo One	Hotel	Oscar One	Tango
Bravo Two	India	Oscar Two	Uniform
Bravo Three	Juliett	Papa One	Victor
Charlie	Kilo One	Papa Two	Yankee
Delta	Kilo Two	Papa Three	No Name

2. Scheduling All training areas are assigned to the Commanding General, MCB, and will be scheduled through the Range Scheduling Office.

3. Training Area Provisions Units scheduled to use training areas shall have a Camp Pendleton-certified RSO, a safety vehicle, and a corpsman; and will check in and out by radio with LONGRIFLE upon commencing and terminating training in their assigned area. In the initial contact, the following information shall be provided: unit identification, RSO's information, type of training, number of troops, type of ordnance by DODIC, and unit's location using a six digit grid coordinate. Maintain and monitor the appropriate LONGRIFLE safety net at all times and make hourly radio checks.

4. Unit Hikes A corpsman and safety vehicle must accompany all hikes. Submission of TARs for unit hikes shall be accompanied by a route overlay no less than seven (7) working days before the planned hike. Overlays shall be submitted by FAX [(760) 725-4090] or hand-delivered to the Range Scheduling Office. The area commander shall approve any hikes passing through a cantonment area. Hike routes shall remain clear of housing areas by no less than 500 meters. Monitor the appropriate LONGRIFLE safety net at all times and make hourly radio checks. All changes to the hike route, while on the march, shall be approved by LONGRIFLE.

5. Environmental Individual training exercises and events conducted in Camp Pendleton Training Areas shall comply with the provisions of chapter 2 of this Manual. Training areas containing sensitive environmental resources that must be protected are identified in figure 2-1. In many cases, the sensitive environmental resources are found in a very small portion of the training area. Refer to the most current Environmental Operations Map for specific locations of these resources; and refer to chapter 2 of this Manual for specific environmental restrictions when operating near these sensitive areas.

6009. CONDUCT OF TRAINING

1. General Assignment to a training area does not include any range, AFA, OP, CALSITE, LZ, DZ, airspace, or other training facility (including combat towns) located within that area unless specifically requested and approved by the Range Scheduling Office. Therefore, personnel are not authorized access to these areas.

a. Training shall be conducted and supervised in a manner that avoids damage to facilities and utilities located within the training areas. Units exercising in the vicinity of any aviation training facility shall ensure sites are not disturbed, no obstruction is left in the area, and no foxholes or other entrenchments are constructed at these locations.

b. Training shall be conducted in a manner that avoids unnecessary damage to or destruction of natural resources (refer to chapter 2 of this Manual).

2. Housing Areas Units using the Bravo Three, Hotel, India, Juliett, and Oscar One Training Areas will remain clear of Base housing areas at all times. Entry into the Juliett Training Area will not be made via any 17 Area housing access roads.

3. Aviation Facilities Unless otherwise scheduled by the Range Scheduling Office and approved by LONGRIFLE, units training in the vicinity of any aviation facility shall remain clear by not less than 500 meters. Vehicle traffic on these facilities is prohibited.

4. Fighting Holes

Per chapter 2 of this Manual, fighting holes will be filled in upon the completion of each training exercise.

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5. Trash

Trash will not be buried in any training area. The practice of stockpiling refuse for removal later is not permitted. Police, including trash removal, of training areas is the responsibility of the using unit.

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6. Exclusive Use

Training areas are not exclusive use areas unless an LFAM exercise has been scheduled or special coordination with LONGRIFLE has been accomplished. Training areas are assigned based upon the number of personnel, equipment, environmental impact, and type of training conducted.

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7. Training Near the ASP

A prohibited area, marked by signs, exists in the Papa Three Training Area surrounding the Ammunition Supply Point magazine area. It extends 500 meters out from the perimeter fence. Although troops are permitted in this prohibited area, the use of pyrotechnics of any type is prohibited.

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8. Communication Wire

Any wire strung across ravines, between poles or trees, or at an altitude higher than 15 feet above ground level shall be clearly marked with white engineer tape or other highly visible materials. All communication wire laid by using units in training areas must be retrieved prior to departure.

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9. Livestock

If livestock (e.g., sheep, bison, etc.) are grazing in a location where they interfere with training, or are a hazard to troops, notify LONGRIFLE as soon as possible.

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10. Cantonment/ Built-up Areas

a. Use of cantonment, built-up, or cultivated areas for live-fire training (e.g., small arms fire, blanks, pyro, smoke, etc.), shall be approved by the Commanding General (Assistant Chief of Staff, Operations and Training), as well as the appropriate area commander.

b. All non live-fire acitivites within a cantonment area will be approved by the area commander.

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11. I-5 Freeway and Railroad Tracks

The I-5 Freeway, the rights-of-way immediately adjacent to highways (I-5 Freeway, old Highway 101, and El Camino Real), and the North County Transit District railroad tracks are off-limits to pedestrians, troop training, and all vehicular traffic. Underpasses and overpasses will be used when crossing railroad tracks or the I-5 Freeway. If it is necessary to cross the railroad tracks at ground level, the unit shall make prior arrangements to have a certified flagman at the railroad tracks by contacting the Marine Corps Base Transportation Management Office at (760) 725-8164. Units shall inform the Range Scheduling Office when all coordination has been made.

Any fees incurred are the responsibility of the training unit. TMO's notification requirement is 48 hours.

12. River Bottoms and Creek Drainage Areas

The entire length of the Santa Margarita River, from the Pacific Ocean to the Camp Pendleton boundary at grid 761 960, and the portion of the DeLuz Creek south of the 945-northing grid line is designated a restricted area. This area may be used for training only with special authorization from the Range Scheduling Office. Training in this area will be subject to the conditions listed below.

a. Troop movement on foot is authorized year round on established roads, trails, and crossings. Foot traffic off existing roads, trails, and crossings is authorized between 1 September and 14 March.

b. Tracked or wheeled vehicle movement in creek/river bottom areas is restricted to established road crossings.

c. Bivouacking in any riverbed is not authorized.

d. Personnel will not dig or fill in the riverbed, or disturb plants or wildlife in any manner.

e. These restrictions are necessary to prevent pollution of Camp Pendleton's main water source, and to protect endangered species that live in the riverbed (refer to chapter 2 of this Manual).

13. Road Crossings

Regulations pertaining to the use of tank/AAV and other vehicle crossings are contained in paragraph 6029 in this chapter. Personnel formations and troop movements, of any type, on hard-surface roads are prohibited unless coordinated in advance with LONGRIFLE and PMO. PMO's notification requirement is 48 hours [(760) 763-1219].

6010. LIVE-FIRING IN TRAINING AREAS

Live-firing in training areas is limited to established ranges, AFAs, LFAMs; and hunting approved per BO P5000.2. LFAM exercises shall be conducted per BO P3500.2 and this Manual.

6011. IMPACT AREAS

Detailed descriptions of the Zulu, Whiskey, Quebec, Edson Range, and X-Ray Impact Areas are provided in appendix B of this Manual.

6012. LEASED AREAS

1. Long-Term Lease Areas

Most of the long-term lease areas, located at the northwestern and southwestern edges of the Base, are available for military training. The long-term lease areas supporting agriculture should be avoided during periods of pesticide/herbicide application for health and safety reasons. The only portion of leased land not available for training is the southeastern portion of the agricultural area at the northern end of the Base. The dirt road around the perimeter of the agricultural area may be used for motorized or foot marches as long as the vehicle speed limit does not exceed 10 MPH. The purpose of this speed limit is to prevent dust clouds, which may cause damage to crops. This road is off-limits to tracked vehicles. Requests for use of this area shall be made in writing to the AC/S, Operations and Training (O&T) at least thirty (30) days in advance of the desired date (copy to AC/S, ES) in order to coordinate with the tenant.

2. San Onofre State Beach Lease Area

San Onofre State Beach is a long-term lease area. It is available for military training and its use is encouraged. Requests for the use of San Onofre State Beach shall be made in writing to the Assistant Chief of Staff Operations and Training at least thirty (30) days in advance (copy to the Range Scheduling Office).

6013. BEACHES

Camp Pendleton beach locations are listed below.

BEACH	TRAINING AREA	NORTH LIMIT	SOUTH LIMIT	GEOGRAPHIC CENTER
Section A (Green)	N/A	460 938	468 933	463 936
Section B (Gold)	Uniform	530 883	561 845	546 864
Section C (Red)	N/A	561 845	570 831	564 840
Section D	Victor	570 831	585 811	578 821
Section E (White)	Victor	585 811	593 798	588 806
Section F	Victor	593 798	609 775	601 787
Section G (Blue)	N/A	609 775	619 762	614 767
Section H (Del Mar Rec)	N/A	619 762	624 753	624 752

NOTE: The authorized use of Uniform, Victor, and Oscar One Training Areas does not include beaches.

6014. TRAINING TANKS (SWIMMING POOLS)

TANK/POOL NUMBER	ASSIGNED TO/ SCHEDULED BY	DESCRIPTION
14116	MCCS Recreation Div.	50 Meters
33581	33 Area Commander	Non-standard
41305	41 Area Commander	Non-standard
43317	43 Area Commander	Tower, 50 Meters
53417	53 Area Commander	Tower, 50 Meters
62517	62 Area Commander	Tower, 50 Meters

6015. RAPPEL TOWERS/DRY NET PLATFORMS

1. General

a. Requirements for rappel towers and dry net platforms are listed below.

(1) A Rappel/HRST Master shall be present for all rappel training.

(2) Helmets shall be worn at all times while training on the tower.

b. Towers and platforms are listed below.

LOCATION	SCHEDULED BY	DESCRIPTION
666 859 (33 Area)	Range Scheduling	2 cliff rappelling positions; 1 simulated MOUT window entry; 1 inclined rappelling position, fastrope capable
542 942 (53 Area)	Range Scheduling	1 cliff rappelling position; 1 inclined rappelling position; 2 helicopter rappelling positions; 1 inclined rappelling position, fastrope capable
487 981 (62 Area)	Range Scheduling	1 cliff rappelling position; 1 inclined rappelling position; 2 helicopter rappelling positions; 1 inclined rappelling position, fastrope capable

6016. COMBAT TOWNS (MOUT AREAS)

LOCATION	SCHEDULED BY	DESCRIPTION
678 879 (25 Area)	Range Scheduling	Village; provides for instruction in MOUT fighting techniques; ideal objective during field training exercises
510 949 (52 Area)	Range Scheduling	Unsophisticated; small village for instruction in basic MOUT fighting techniques; 2 machine gun simulators. Due to structural integrity shortcomings, requests will be approved as an objective in field training exercises on a case-by-case basis only.
621 850 (Range 131, MOUT Facility)	Range Scheduling	Sophisticated city; provides for instruction in MOUT fighting techniques; ideal objective during field training exercises; refer to appendix C - annex III (MOUT SOP) for detailed description, and procedures

NOTE: Listed below are the special instructions for the combat towns listed above.

1. Combat towns are out of bounds to all personnel except those scheduled at these facilities.

2. Combat towns will not normally be available for command post exercises.

3. Electrical wiring and other facilities shall not be altered without prior approval of the Assistant Chief of Staff, Operations and Training.

4. When using pyrotechnics, refer to the FDR. Use extreme care to prevent fires. Ground signals (launcher-type) shall be aimed away from all buildings, personnel, buildings and equipment. Burning-type, or smoke-producing grenades, shall be fired at least 20 feet away from personnel. Smoke grenades shall not be ignited within five feet of dry grass or other flammable materials. Refer to the FDR, and use extreme care to prevent fires.

5. Care shall be taken to ensure all demolition charges are placed in the center of pits provided for this purpose. Where no pits are provided, demolition charges shall not be placed within 10 meters of any building, or on the concrete sidewalks or streets of the

MOUT (Range 131). Charges exceeding ¼ pound net explosive weight [(NEW) C4, TNT or det cord] shall not be used. RSOs shall inspect all charges before firing to ensure they are correctly positioned so they do not cause any building or equipment damage, or personnel injury.

6. All booby traps that have been set shall be cleared upon completion of training.

7. All wire laid by the using unit shall be retrieved prior to departure from these facilities.

8. Upon completion of the training exercise, the using unit shall conduct a proper police of the facility.

9. Combat towns shall be checked out by the RSO at least 30 minutes prior to the scheduled time of the exercise.

10. Furniture, vehicles, etc., at the Range 131 MOUT Facility are in place to lend realism to the training environment and shall not be removed by training units. Units shall not add anything without approval from the Range Control Officer.

11. No HC smoke shall be used without informing LONGRIFLE. Gas masks will also be used when using HC smoke. All smoke shall be used in a well-ventilated and cleared area, not inside buildings.

12. The Range 131 MOUT Facility, is designed and organized to support advanced training in war fighting skills required for operations in an urban environment. The facility consists of a live-fire training area, the MOUT Assault Course (MAC), and blank-fire training areas, the MOUT Town. Additional information is found in appendix C - annex III (MOUT SOP).

6017. FORTIFIED AREAS/EMPLACEMENTS

LOCATION	SCHEDULED BY	DESCRIPTION
496 966	Range Scheduling	Fortified (52 Area) emplacements
682 874 (Hill 100)	Range Scheduling	Fortified emplacements
592 922 (Northern portion of Papa Three)	Range Scheduling	Mock company-size Soviet (Northern anti-mechanized defensive position)
473 976 (62 Area)	Range Scheduling	Fortified emplacements

6018. GAS CHAMBERS

LOCATION	SCHEDULED BY	DESCRIPTION
737 859 (14 Area)	Range Scheduling	Concrete structure
630 808 (31 Area)	Range Scheduling	Metal structure
658 851 (33 Area)	Range Scheduling	Concrete block structure
595 828 (41 Area)	Range Scheduling	Concrete block structure
546 936 (53 Area)	Range Scheduling	Concrete block structure
487 990 (62 Area)	Range Scheduling	Concrete block structure

6019. OBSTACLE COURSES

LOCATION	ASSIGNED TO/ SCHEDULED BY
624 766 (21 Area)	Area Commander
610 803 (31 Area-WFTB)	Area Commander
655 858 (33 Area)	Area Commander
655 858 (41 Area)	Area Commander
615 899 (43 Area)	Area Commander
514 954 (52 Area)	Area Commander
560 928 (53 Area)	Area Commander
488 986 (62 Area)	Area Commander

NOTE: Refer to paragraph 6007.3 in this chapter for safety requirements.

6020. AIRCRAFT MOCK-UPS/HULKS

LOCATION	SCHEDULED BY	DESCRIPTION
637 809 (31 Area)	Range Scheduling	2 CH-46
664 856 (33 Area)	Range Scheduling	1 CH-53
486 981 (62 Area)	Range Scheduling	LCU
592 904 (Papa 3)	Range Scheduling	1 F-4

6021. HEAVY EQUIPMENT TRAINING AREAS

LOCATION	SCHEDULED BY	DESCRIPTION
Area enclosed by a line 475 980 to 479 981 to 479 979 to 466 979 to 475 980	Range Scheduling	An area to be used to train heavy equipment operators consistent, to the maximum extent possible, with the recognized programs of controlling soil erosion (62 Area)
Area enclosed by a line 720 866 to 725 866 to 725 862 to 720 866	Range Scheduling	An area to be used to train heavy equipment operators, consistent to the maximum extent possible, with the recognized programs of controlling soil erosion (14 Area)

6022. FLEET HOSPITAL OPERATIONS AND TRAINING COMMAND (FHOTC) TRAINING FACILITY

LOCATION	SCHEDULED BY	DESCRIPTION
474 008	Range Scheduling	Field training facility for combat zone fleet hospital personnel

NOTE: This facility is limited to Fleet Hospital, Operations and Training Command personnel and students, unless approved by the Commanding Officer, FHOTC.

6023. FIELD MEDICAL SERVICE SCHOOL (FMSS) TRAINING FACILITY

LOCATION	SCHEDULED BY	DESCRIPTION
651 782	Range Scheduling	Field training facility for training U.S. Navy medical personnel and students

NOTE: Use of this facility is limited to Field Medical Service School, unless approved by the Commanding Officer, FMSS.

6024. INFANTRY WEAPONS

1. Small Arms

a. Safety precautions will be strictly adhered to as prescribed by appropriate field manuals, directives in the MCO 3570 series, and this Manual.

b. Overhead or flanking-fire is authorized only as prescribed by directives in the MCO 3570 series, appropriate firing tables and field manuals, and approved by the Range Control Officer.

2. Machine Guns

a. Safety precautions shall be strictly adhered to as prescribed by appropriate field and technical manuals, directives in the MCO 3570 series, and this Manual. All personnel are required to wear helmets, flak jackets and hearing protection at all times during firing with the exception of those events outlined in paragraph 1002.2b of this Manual.

b. Machine guns shall remain in Condition 4 while in a cold status.

c. After machine guns are fired, the RSO shall ensure all weapons are clear, and in a Condition 4 status.

d. The RSO shall ensure proper settings of headspace and timing on all guns prior to shooting.

e. No one is allowed forward of any gun emplacement, for any purpose, until authorized by the RSO. This does not apply to tactical exercises involving overhead or flanking-fire.

f. Machine guns may be fired over unprotected individuals in firing exercises, provided the provisions of directives in the MCO 3570 series, appropriate firing tables, and field manuals are followed and approved by the Range Control Officer.

3. Mortars (60mm and 81mm)

Mortar training requirements are outlined in appendix E of this Manual.

4. Rockets and Missiles

Safety precautions shall be strictly adhered to as prescribed in appropriate field and training manuals, directives in the MCO 3570 series, and this Manual. All ground personnel engaged in the firing of rockets and missiles are required to wear helmets, flak jackets, and hearing protection at all times during firing.

5. Grenades

Field-firing of grenades include the firing of all types of rifle grenades, to include the 40mm grenade family (MK19, M79, and M203), and thrown hand grenades. (Refer to FM 23-30 and directives in the MCO 3570 series).

a. Fragmentation, offensive, and WP hand grenade duds shall be rendered safe or destroyed by qualified EOD personnel. If a dud occurs, the RSO shall order, "cease fire," record the time the dud occurred, keep all troops under cover, and notify LONGRIFLE, who will contact EOD for assistance. EOD will observe a minimum 30-minute waiting period. After the waiting period, the EOD Team will clear the dud and inform the RSO when the range is clear.

b. Grenade ranges shall cease training one hour prior to sunset. In the event a dud grenade is not cleared before reduced light conditions, the using unit shall provide a guard force until the grenade can be cleared.

NOTE: EOD's minimum response time to grenade ranges is one hour.

c. Only one high explosive (HE) hand grenade will be thrown at a time. Multiple throwing of HE hand grenades is prohibited. When training on a range with divided walls and a dud occurs, LONGRIFLE can approve training to continue on the side opposite of the dud.

d. All personnel engaged in any type of HE hand grenade, rifle, or 40mm grenade training are required to wear helmets, flak jackets, and hearing protection at all times during firing. Eye protection is required for all personnel within an HE hand grenade SDZ.

e. Safety precautions shall be strictly adhered to as prescribed by appropriate field and technical manuals, directives in the MCO 3570 series, and this Manual.

f. Live grenades shall not be thrown into standing water and mud.

6025. MINES, BOOBY TRAPS, AND PYROTECHNICS

1. General

The use of live mines and booby traps will be confined to demonstrations of their effectiveness. Demonstrations shall be conducted in an impact area, or on a demolition range of approved size for the quantity of explosives. All personnel within the danger area, as depicted in the SDZ diagram, shall wear helmets, flak jackets, and

hearing protection. All personnel shall be clear of the SDZ, and located in a safe area during detonation/functioning of mines and booby traps.

a. Demonstrations in impact areas shall have approval from the Range Control Officer, and shall be coordinated with EOD. Live mines shall not be placed under or near any metal object, which could become a missile hazard (e.g., jeeps, 55-gallon drums, etc.).

b. Practice mines and booby traps may be used in all training areas and on all demolition ranges. Their use shall be governed by the FDR (refer to paragraph 1010 and figure 1-4 in chapter 1 of this Manual).

c. No live or practice mines or booby traps with any type of explosive devices shall be left on any range or in any maneuver area. Trip flares shall be counted before issue to ensure all items issued have been retrieved on completion of the demonstration or exercise.

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2. Pyrotechnics

Pyrotechnics may be used in all impact areas, training areas, and field firing ranges provided the FDR does not prohibit their use. Units shall request permission from LONGRIFLE prior to using any pyrotechnic device.

a. Pyrotechnics shall be stored in small amounts, away from any firing points, either right or left of, but not directly behind the firing point. They shall be placed to minimize the possibility of ignition or explosion in case of an accident during firing.

b. Use extreme care when handling pyrotechnics so they do not fall onto shooters or other personnel, into boxes of pyrotechnics, or other ammunition. Extreme care shall be exercised when firing through trees or other obstructions.

c. Trip flares shall be fenced or guarded to prevent personnel from approaching within five (5) feet of each installed flare.

d. Trip flares shall be positioned so the hazard pattern or the impacting flare does not endanger personnel.

e. Trip flares shall not be left on any range or in any area. Trip flares shall be counted before issue to ensure all items issued are retrieved on completion of the demonstration or exercise.

f. M203 illum star clusters and smoke may be used in all imapct areas, training areas and field firing ranges provided the FDR does not prohibit their use. Units shall request permission from LONGRIFLE prior to using any M203 DODICs.

6026. DEMOLITIONS

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1. General

Safety precautions shall be strictly adhered to as prescribed in appropriate field and training manuals, directives in the MCO 3570 series, and this Manual.

a. Explosives equivalent to1/4 pound TNT (1/4 pound blocks of TNT and C4 equivalent) net explosive weight (NEW) may be used on all ranges and training areas.

b. All personnel engaged in demolitions training are required to wear helmets, flak jackets and hearing protection at all times.

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2. Demonstrations

Approval to use demolitions larger than ¼ pound NEW (or equivalent) for demonstrations in training areas shall be requested per paragraph 1006 of this Manual.

a. Requests for approval of demonstrations shall contain the following information.

(1) Date, time, and location of demonstration

(2) Exact placement, quantity, and composition of charges

(3) Measures for control and safety of spectators

b. Be aware of critical Base utility points that may be located throughout training areas and could be subject to damage. Contact the Director, Facilities Maintenance Division [(760) 725-4820/4743] for more information to coordinate.

c. The Assistant Chief of Staff, Environmental Security shall be consulted in planning for underwater demolitions to address potential environmental permit requirements.

d. The following safety measures shall be observed when using demolitions in conjunction with maneuvering troops during training exercises and demonstrations.

(1) An officer or staff non-commissioned officer will be appointed as the Demolition Control Officer.

(2) The Demolition Control Officer shall have a functional means of communication and signal flares to halt the exercise in the event of a malfunction or misfire without referral to the OIC of the exercise.

(3) A single centralized controlling position, with a clear view of the demolition area, shall be used and controlled by the Demolition Control Officer.

(4) All demolition pits shall be clearly marked with engineer tape or barbed wire. Charges shall not exceed ¼ pound NEW explosives.

(5) Troops shall not maneuver in, through, or within the established SDZ (for the particular exercise) of demolition pits during the hours of darkness. Use of demolitions at night are severely limited, and subject to the approval of the Range Control Officer. The RSO shall have an unobstructed view of the demolition pit area(s) at all times, and ensure a means of protecting the surface danger zone of each pit.

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3. Engineer Demolition

a. Engineer units are authorized to use demolition charges during the performance of engineering work. The size and type of charge shall be dictated by engineering safety requirements, provisions delineated in this Manual, and directives in the MCO 3570 series.

b. Units desiring to use demolitions shall submit a request to the Range Scheduling Office at least thirty (30) days prior to the first day of firing. It shall contain the location, nature of work, type and size of charge, times and dates, and the name and telephone number of the OIC of Firing.

6027. NON-LETHAL WEAPONS

1. General

a. The term, "non-lethal" should be understood as a function of intent. It is a goal, not a guarantee for these weapons. The Range Control Officer must approve the concept of employment of any non-lethal weapons not previously addressed in this Manual.

b. The use of Special Effects Small Arms Marking System (SESAMS shall be conducted as outlined in TECOM Safety of Use Memorandum (SOUM) 1-02.

c. The non-lethal munitions (NLM) authorized at combat towns are listed below.

DODIC	TYPE	DESCRIPTION
AA29	CTG 12 GAUGE	BEANBAG
AA30	CTG 12 GAUGE	BLANK LAUNCHING
AA31	CTG 12 GAUGE	FIN STAB RUBBER
BA07	CTG 40MM	FOAM RUBBER BATON
BA08	CTG 40MM	RUBBER BALL
BA09	CTG 40MM	WOOD BATON
CWDC	CTG 12 GAUGE	INERT
DWBS	CHG	DIVERSIONARY/FLASHBANG
G878	FUSE	FUSE, DELAY
GG04	GRENADE	RUBBER BALL
GG05	GRENADE	PRACTICE, NON-LETHAL W/FUSE
G811	GRENADE	PRACTICE BODY

6028. ARTILLERY AND TANKS/AAV/LAV/ARMORED HMMWV

1. Field Artillery

Artillery training requirements are outlined in appendix D of this Manual.

2. Tanks/AAVs LAVs

a. Firing over the heads of personnel from moving vehicles is prohibited.

b. Individual vehicles shall display a red range flag while firing. While on the firing line, each vehicle shall display a green range flag when all weapons have been cleared. A yellow flag shall be displayed when there is a weapon malfunction.

(1) The relationship between firing points and targets must meet the requirements listed in directives in the MCO 3570 series.

(2) Prior to firing, the safety limits for each firing point will be physically marked on the ground only when moving into those positions to fire; ground marks are not required for static fire.

(3) Live rounds shall not be chambered until the firing vehicle has reached the specified point on the range designated as a firing area. LAVs in an uploaded status shall have systems in both manual and electric-safe.

3. Vehicle Crews

No weapons system shall be elevated above the line of sight to target, unless that weapons system has been determined to be clear of ammunition, or is required to be elevated above that line in order to be safely cleared.

a. The clearing of any weapon shall be accomplished per the appropriate operator's manual.

b. Vehicle crews shall use range flags. It is the responsibility of the OIC and RSO to ensure compliance of proper range flag use.

c. Prior to movement of any vehicle from designated firing areas, the RSO shall ensure all weapons systems are clear.

d. The OIC and RSO shall ensure all personnel are thoroughly briefed in the correct procedures, listed below, for immediate action in case a round exits the authorized impact area (refer to paragraph 7010 of this Manual).

(1) All weapons systems shall cease-fire immediately.

(2) The Tank/LAV Commander shall not disturb the lay of the gun in either elevation or deflection, unless immediate danger exists to personnel onboard the vehicle.

(3) The OIC and RSO shall determine the magnetic azimuth at which the round was fired, and shall determine the existing elevation on the weapon. These procedures shall be followed so that an approximation of where the round would land can be achieved.

(4) The RSO is required to notify LONGRIFLE immediately when an incident occurs. An approximation of how far the round traveled, and at what azimuth the round was fired, shall be included in the report.

(5) A cease-fire will remain in effect until LONGRIFLE authorizes firing to resume.

6029. POLICE OF TANK/LAV/AAV, AND OTHER VEHICLE CROSSINGS

1. General

Commanding Officers, OICs, or NCOICs of vehicles using authorized tank crossings, or making an emergency crossing of hard-surfaced roads shall ensure crossings are properly policed immediately after use. Proper police includes removing soil, rocks, debris, and dunnage from the paved surface of the road, leveling the shoulders of the road, and cleaning drainage ditches paralleling shoulders of the road. When it is necessary for tracked vehicles to cross wheeled vehicle access roads in training areas, crossings shall be made at right angles to the road, at low speed, without turns. If it is necessary for tracked vehicles to operate on these roads, the approach shall be made at the minimum angle possible to avoid sharp turns on the road surface. Speeds shall not exceed five miles per hour. Do not hold up traffic for more than ten minutes. Where applicable, units shall use the tire stations available to cross roads.

2. Road Guards

Road guards shall be posted a safe distance on either side of crossings to stop traffic while vehicles are crossing, and when police is conducted. Road guards shall wear high-visibility safety vests for all crossings, day and night. For all crossings made during periods of darkness or limited visibility, road guards shall carry flashlights with plastic signal wands.

3. Road Use

Tracked vehicles are prohibited from using asphalt and macadam roads, and operating on the shoulders of all roads. Old concrete Highway 101 (569 852 to 489 925) may be used, observing speed restrictions, minimum angle turns on road surfaces, and conditions of entrance and exit. Permission to use paved roads under unusual or emergency conditions shall be requested from LONGRIFLE.

4. Road Crossing

Tanks, LAVs and AAVs are authorized to cross roads at grids 595 930, 640 893, 613 887, 491 984, and 670 880. A proper police shall be conducted after crossing. Units shall contact LONGRIFLE prior to crossing. AAVs are authorized to cross

Vandergrift BLVD at grid 654 816 with MP support. PMO's notification requirement is 48 hours [(760) 763-1219].

5. Cement Road Crossings

Cement track vehicle crossings are located at grids 593 823, 596 814, 597 811, 625 899, 575 849, 527 948, and 579 833.

6030. TRAINING AREA ROADS

1. General

The speed limit on all training roads throughout Camp Pendleton is 25 mph unless otherwise posted, or conditions dictate a lower speed to ensure safe transit. Units should conduct route recons during the planning phase of trianing to ensure conditions of the roads will safely accommodate the movement of unit vehicles to and from scheduled training sites, and to establish appropriate controlling/safety measures as needed. Range Control provides a Roads and Rivers Report outlining transiting conditions of major roads and rivers during times of inclement weather.

2. Road Use in Victor and Uniform Training Areas

a. Use of the unimproved roads within the Victor and Uniform Training Areas, paralleling the I-5 Freeway, is not authorized unless those specific training areas have been scheduled and approved by the Range Scheduling Office.

b. LONGRIFLE may restrict the use of unimproved roads during dry weather months. This restriction is necessary to reduce dust clouds causing traffic hazards on the I-5 Freeway. Tactical movement may be impacted during dry season, when dust will be a problem.

c. Trenching adjacent to the I-5 Freeway is prohibited due to the underground telephone cable/fiber seven (7) feet west of the freeway fence.

d. Be aware of critical Base utility points that may be located throughout training areas and could be subject to damage. Contact the Director, Facilities Maintenance Division [(760) 725-4820/4743] for more information to coordinate.

3. Road Blocks

Temporary roadblocks, fortifications, etc., constructed during training exercises, shall be immediately removed upon completion of the exercise. Roadblocks will be manned at all times and non-exercise traffic will be permitted to pass through roadblocks at all times, unless coordinated with LONGRIFLE. Obstacle plans shall be submitted to the Range Scheduling Office at least fifteen (15) working days prior to planned training.

4. Roblar Road

a. Safe transit of Roblar Road requires a thorough ORM, and compliance with all road sign instructions and speed limits.

b. Access

(1) Unscheduled vehicular traffic transiting along Roblar Road adjacent to Range 409A has a negative impact on Range 409A training evolutions due to check fires to allow passage of vehicles. In order to reduce Range 409A down time, the following Roblar Road access schedule for transiting through Range 409A is in effect.

TIMES	SCHEDULE
0001-1000	Open for transit (Real time coordination with RSO as required)
1000-1800	Closed to all through traffic except emergency vehicles (Real time coordination with RSO as required)
1800-1900	Open for transit (Real time coordination with RSO as required)
1900-2359	Closed to all through traffic except emergency vehicles (Real time coordination with RSO as required)

(2) Access times other than those listed above may be coordinated through LONGRIFLE on a case-by-case basis.

c. Hiking on Roblar Road

(1) Units should follow all scheduling, communication, and safety procedures required for all other hikes; but when on the paved portion of Roblar Road the rules listed below shall apply.

(2) Daylight

(a) The unit shall have at least one lead and one trail vehicle. The uphill vehicle must be at least 100 meters from the nearest Marine on foot and the down hill vehicle must be at least 50 meters. These vehicles will stop ALL traffic before traffic reaches the column.

(b) In addition to communication with LONGRIFLE, communications must be established and maintained between both road guard vehicles and the column.

(c) Vehicle traffic movement through the column will be allowed only after communication and coordination is made between the vehicle driver and the OIC or SNCOIC of the unit on foot.

(d) No vehicles will be allowed to pass any troops that are moving.

(3) Dark

(a) There will be no tactical night movements on Roblar Road.

(b) All the rules above will be followed, additionally:

1 All vehicles will use headlights.

2 Flashlights will be on and spaced throughout the column (at least one for every 10th person).

3 Lead and trail personnel will each have BOTH a flashlight and a reflective vest.

6031. EXPERIMENTAL WEAPONS AND ORDNANCE

Experimental weapons or ordnance shall not be fired on ranges or AFAs at Camp Pendleton without prior approval from the Assistant Chief of Staff, Operations and Training.

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CHAPTER SEVEN

AMMUNITION AND EXPLOSIVES

Overview

This chapter provides a general overview of the procedures to be used while handling or using ammunition and explosives at MCB, Camp Pendleton

In This Chapter

The following topics are covered in this chapter.

Topic	See Page
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CHAPTER SEVEN

AMMUNITION AND EXPLOSIVES

7000. TRANSPORTATION OF AMMUNITION AND EXPLOSIVES

1. General MCO P4400.150E, MCO P8020.10 and BO P8000.2B govern polices and procedures associated with the use, storage, and accountability of ammunition and explosives.

2. Qualified Drivers Drivers of any vehicle transporting ammunition or explosives aboard MCB, Camp Pendleton shall meet specific administrative and medical criteria. Drivers shall also complete the Explosives Driver Course. Additional information is contained in the BBul 1550 Series, and BO P8000.2B.

3. Privately Owned Vehicles Using POVs aboard MCB, Camp Pendleton to load, store, or transport ammunition, pyrotechnics, or explosives of any kind, for military training is prohibited. Authorized users of ranges dedicated to recreational firing, and individuals authorized to hunt aboard Camp Pendleton, are permitted to transport a reasonable amount of small arms ammunition when enroute to and from those activities.

4. Ammunition Handling Facilities Operations at ammunition handling facilities (e.g., LZ Red Beach, VSTOL Pad 1, CALSITE 21, VSTOL Pad 2 Aliso Canyon, and LZ View- point) shall be conducted in the same manner as any other range during ammunition operations. It shall be scheduled, checked in and out by a qualified RSO, and communication shall be established and maintained with LONGRIFLE. Notify the Explosive Safety Office when an ammunition handling site has been scheduled [Base Safety Center (Explosive Safety Officer), MCB, Camp Pendleton or at (760) 725-9201. All operations are subject to BO P8000.2B and directives in the MCO 3570 series.

7001. AMMUNITION HANDLING AND STORAGE

1. General Ammunition will be supplied as indicated below. Detailed information is contained in MCO P8020.10 and BO P8000.2B.

2. Ammunition Supply a. The Marksmanship Training Branch will supply ammunition for requalification firing, required by MCO 3574.2J, for Ranges 102, 103, 213, and 214 (Wilcox and Horno Range Complexes).

b. The firing unit shall supply ammunition for field firing and other training.

c. The firing unit shall supply ammunition for organizational, intramural, and recreational firing.

d. The Marksmanship Training Branch will supply ammunition for semiannual Base and Division intramural tournaments.

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3. Firing Sites

a. Ammunition at firing sites shall be positioned to minimize the possibility of accidental ignition, explosion, or detonation. Ammunition shall be staged in a dry place; and protected from inclement weather and the direct rays of the sun.

b. Matches, cigarette lighters, or other spark-producing items shall not be in or near an explosive area.

c. Precautions shall be taken to prevent ammunition from contacting the ground or spark-producing substances (for example, placing the ammo on the pallets provided upon delivery will prevent the ammunition from ground contact).

d. Ammunition may be pre-positioned at firing sites if approved by the Range Control Officer and in compliance with the provisions of MCO P8020.10 and BO P8000.2B.

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4. Ammunition Control

The following ammunition control procedures shall be observed.

a. Supervisory personnel shall be present with the vehicle/convoy designated to pick up or return ammunition from or to the Ammunition Supply Point (ASP).

b. All ammunition shall be delivered to the RSO of the range/firing site. The RSO shall conduct a joint physical/visual inventory of the ammunition received with the designated personnel delivering the ammunition. The RSO shall compare this against what is reflected on the ASP issue document (DD Form 1348-1A). The RSO shall verify the lot number on every container of ammunition to ensure it matches the lot number on the issue document (DD Form 1348-1A). The RSO shall open all containers which are not factory-sealed, and physically/visually inspect the ammunition to ensure it corresponds with the ammunition type on the issue document.

c. The RSO shall receipt for the ammunition by signing the DD Form 1348-1A; and entering the quantity received by DODIC, document number, and lot number on the Expenditure Report (NAVMC 11381) upon completing the inventory to ensure the quantity matches the corresponding DD Form 1348-1A. A copy of the properly completed Expenditure Report shall remain on the range with the RSO at all times.

d. The RSO is ultimately responsible for the accountability of ammunition and shall supervise the issue and control of the ammunition for the duration of the exercise. The RSO shall ensure ammunition is not removed from the original packing until just prior to firing. Ammunition not containing a factory seal shall be expended first.

e. The RSO shall take measures to prevent ammunition from being rendered unserviceable, in the event the exercise is terminated prematurely, by not removing excessive quantities of ammunition from its original packaging, losing lot number identity, burning, or otherwise destroying containers, or exposing items to the weather, etc. Ammunition shall not be removed from the confines of the range except as authorized by proper authorities.

f. The RSO shall account for all ammunition as it is expended on the firing range. Upon completion of the exercise, the RSO shall ensure all unexpended ammunition is inventoried, verified, and annotated on the turn-in document (DD Form 1348-1) and the Expenditure Report with the RSO's signature. If any ammunition is found missing during the inventory, the using unit shall submit a Missing, Lost, Stolen, or Recovered (MLSR) Report per BO P8000.2B.

g. The RSO shall complete the Expenditure Report (NAVMC 11381) and any turn-in documents (DD Form 1348-1A) prior to securing from the range, per MCO P4400.150E.

h. Ammunition shall never be abandoned, destroyed, fired indiscriminately, buried, treated, or otherwise disposed of in order to circumvent the inconvenience of returning the items to a storage area. Units discovering abandoned, buried, or treated ammunition shall notify LONGRIFLE immediately.

i. Ammunition may be staged day or night with two armed guards. The guards shall maintain hourly radio checks with LONGRIFLE.

j. A checklist for handling and storing ammunition and explosives on ranges is provided in appendix I of this Manual. Use of the Ammunition and Explosives Range Checklist for Range Safety Officers is recommended during ammunition handling and storing activities.

k. All Security Code 1 (or "Category 1") items (e.g., AT-4, DRAGONS, Stingers) shall be positively controlled by a SSgt (or above), from ammunition supply point pick-up to expenditure/return of unused ammunition. The SSgt (or above) shall sign, escort, and observe use while maintaining control at all times. Any unused Category 1 item shall be returned to the Ammunition Supply Point by a SSgt (or above). Per appendix F of OPNAV INST 5530.13B, Category 1 item control may be turned over to another SSgt (or above) utilizing the DD Form 1907 (Signature Tally Record) which is included with every Category 1 item.

l. Blank and live ammunition shall be physically segregated at the storage and distribution sites on the range.

m. Issuing blank and live ammunition at the same time is prohibited.

n. Storing ammunition in a billeting area is prohibited.

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5. Modifications

a. Modification or "fixing" ammunition charges before shooting is not authorized. If the charges are not fully ready to fire, return them to the local ASP, and a contact team from Fallbrook (Naval Weapons Detachment) or Crane will make the repairs.

b. Mixing or combining two or more separate DODICs into a single munition is prohibited, unless the DODICs were designed to be integrated (e.g., CS capsules or loose CS powder will not be introduced into smoke grenades in order to generate a smoke/CS cloud).

7002. DEFECTIVE AMMUNITION

Defective ammunition shall not be expended. Every round of ammunition which malfunctions, or does not fire as it is designed shall be reported. MCO 8025.1D establishes reporting requirements and time frames. The CG, I MEF (G-4 Ammo) and CG, MCB [Base Safety Center (Explosive Safety Officer)] shall receive copies of all reports, through the appropriate chain of command, per BO P8000.2B.

7003. MALFUNCTION REPORTS

Detailed malfunction reporting requirements and exceptions are contained in MCO 8025.1D. Duds, hang fires and misfires should be considered malfunctions for the purpose of reporting. In the event of a malfunction, training units shall submit a malfunction report by Naval message, within 24 hours of the malfunction if an injury occurs. Report malfunctions within 72 hours if no injury has occurred. Additionally, the malfunction shall be reported to the MCB Explosive Safety Officer [(760) 725-9201], with a copy of the report FAX'd to the Explosive Safety Office as soon as possible [(760) 725-9655]. A copy of the malfunction report form is contained in appendix I of this Manual.

7004. EXPLOSIVE ORDNANCE DISPOSAL (EOD)

1. General

The mission of EOD is to remove explosive ordnance hazards posing a threat to personnel, equipment, material, and the installation, which are beyond the capability of other MOSs in the Marine Corps. EOD will provide appropriate technical assistance to units requesting assistance. EOD is not available or responsible for the routine transportation of ammunition and explosives. EOD assistance is available on a 24-hour basis. The EOD office is located in the 13 Area, Bldg. 1361; and can be contacted during normal hours at (760) 725-5498/6325. Contact LONGRIFLE after working hours for EOD assistance at (760) 725-4604/3974.

2. Impact Areas

EOD personnel are required to escort any unit or individual entering a dedicated impact area. The only exception is ranges where this Manual authorizes limited troop penetration beyond the firing line.

7005. DUDS

A dud is ammunition, of any caliber or weight, that has been fired, placed, dropped, thrown or launched, but which fails to function as designed. Duds, (with the exception of hand grenade ranges) occurring within a dedicated impact area do not normally require an EOD response, but shall be reported to LONGRIFLE with the approximate location. Exceptions to this are short rounds, which place the firing unit within the fragmentation radius of the fired munitions. Duds found outside an impact area, or in a training area, shall be reported to LONGRIFLE immediately. An exact, clearly marked location of the dud is required, a guide made available, and all personnel cleared of the immediate area. Do not disturb a dud in any manner.

7006. MISFIRES AND HANG FIRES

1. General

A misfire is defined as the failure of a primer or the projectile propelling charge to function, a line charge or demolition material which fails to function, a Javelin or TOW that fails to launch and that no internal components have initiated, or a failure of a man-portable rocket such as the SMAW, to launch. Misfires will be handled as follows.

a. The firing unit will immediately advise LONGRIFLE of the situation and request EOD support when misfire procedures are unsuccessful. Misfires will be removed per the provisions of the appropriate weapons technical manual.

b. In the interest of safety, all misfire procedures shall be completed on the range.

c. Line charges and demolition material like C4 or TNT which fail to function are misfires.

2. Unserviceable Ammunition

Unserviceable ammunition removed from the range, as a result of misfires, including small arms ammunition, will be returned to the ASP and processed similarly to other Condition Code H material.

3. Hang Fire

A hang fire occurs when a Javelin or TOW fails to launch, but internal components of the missile, such as batteries and gyros, are initiated. If a Javelin or TOW hang fires, contact LONGRIFLE to request EOD assistance. A Javelin or TOW hang fire will not be transported off the range.

7007. IMPROVED CONVENTIONAL MUNITIONS (ICM)

Refer to appendix D of this Manual (Artillery Firing Areas) for instructions regarding the use of artillery-delivered ICM.

7008. CHEMICAL MUNITIONS

Chemical munitions are defined as an agent or munitions, which, through its chemical properties, produces lethal or other damaging effects on human beings. Live chemical munitions shall not be used for training purposes. The term does not include riot agents, chemical herbicides, smoke, and other obscuration materials.

7009. RIOT AGENTS, SMOKE, AND OTHER OBSCURATION MATERIALS

1. General

Riot agents, smoke, and other obscuration materials shall be used only during scheduled training, per the provisions in applicable technical manuals and directives. Since improper use may result in serious injury, fatalities, or fires, units shall use appropriate caution.

2. CS

When Chlorobenzylamalonitrile (CS) is used in conjunction with scheduled training, ensure non-toxic vapors are not employed under conditions, which are dangerous to personnel, wildlife, or property in adjacent training areas, or outside the boundaries of MCB, Camp Pendleton. The intent to use CS shall be specified when scheduling training areas. Refer to appendix F of this Manual for specifics concerning the use of CS.

7010. ROUNDS FIRED OFF-RANGE

Rounds fired off-range shall be immediately reported to LONGRIFLE. This requirement complies with the 1997 Military Munitions Rule amendments to the Resource Conservation and Recovery Act. If a munition lands off-range, and is not promptly rendered safe or retrieved, the munition becomes a solid and hazardous waste, and any imminent and substantial threats shall be addressed. If remedial action is not feasible, the Range Control Officer will maintain a record of the event for as long as any threat remains. The record shall include the munition type (DODIC and nomenclature) and location (to the extent the location is known).

7011. OVERHEAD-FIRE

Firing shall not be permitted to pass over cantonment areas, ammuniton suppy points (ASPs) or field ammunition storage areas (FASPs) from any position.

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CHAPTER EIGHT

LASER OPERATIONS

Overview

This chapter details the procedures concerning the use of airborne and ground-based lasers on board MCB, Camp Pendleton.

In This Chapter

The following topics are covered in this chapter.

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CHAPTER EIGHT

LASER OPERATIONS

8000. GENERAL

This chapter applies to the use of the laser systems listed in paragraph 8004 in this chapter, or any other system approved for use by the Navy Laser Safety Review Board (LSRB). Questions concerning the use of Multiple Integrated Laser Engagement System (MILES), or any other Class I systems used aboard Camp Pendleton shall be submitted to the Base Laser System Safety Officer (LSSO) at (760) 725-0355.

8001. REQUESTING RANGES/OBSERVATION POSTS FOR LASER USE

Units planning to use lasers at Camp Pendleton shall schedule laser training events as outlined in paragraph 3002 in chapter 3 of this Manual. Scheduling requests shall list type of laser and associated buffer angle.

8002. LASER SYSTEMS SAFETY OFFICER (LSSO)

Any unit operating lasers at Camp Pendleton shall assign a LSSO. All LSSOs shall be Camp Pendleton-certified by the Base Laser Systems Safety Officer (LSSO). To receive certification, LSSOs shall provide a certification letter from the command LSSO validating the appropriate training in the operations and safety precautions of the systems to be used has been completed. LSSO shall also be familiar with directives in the MCO 3570 series and MCO 5104.1B directives. The LSSO may also serve as the RSO after successful completion of the Camp Pendleton Range Safety Certification Course.

8003. LASER SAFETY PROCEDURES

1. General Only personnel authorized by the unit LSSO shall operate ground lasers; and only on approved ranges and observation posts established per MCO 5104.1B, and those listed in paragraph 8005 of this chapter.

2. Operators

All operators shall receive training prior to operating any laser on the following aspects of laser operations.

a. Operation of the laser system

b. Hazards and safety precautions relative to laser operations in general

c. All provisions in this chapter

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3. LSSO Firing Logs

The LSSO will provide a copy of the laser-firing log (appendix I, page I-21) to LONGRIFLE. The log will contain the date, time, type of lasers, name of the operators, direction, and distance.

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4. Laser Restrictions

a. Positive two-way communication shall be maintained, at all times, between the laser system operator and LONGRIFLE.

b. There shall be no laser firing during rain, fog, or any other inclement conditions.

c. Lasing will cease when the RSO, LSSO, operator, or LONGRIFLE has concerns about target designation or tracking.

d. LSSO responsibilities shall not be delegated.

e. Only authorized targets may be designated or ranged.

f. The laser shall always be pointed down-range (toward the target or impact area).

g. Whenever the laser is in use, all unprotected personnel in the immediate vicinity of the laser firing position shall remain behind the laser operator.

h. Never designate or range aircraft, moving vehicles, personnel, or animals.

i. Personnel without laser eye protection shall not use optical devices (i.e., binoculars) or look down-range during laser operations.

j. Prior to lasing, the target shall be positively identified under the cross hairs of the scope or on the operator's monitor.

k. Never designate water, glass, mirrors, plexiglas, or any other specular reflector. Specular reflector is defined as any shiny surface, which might reflect the laser beam.

l. Prior to commencing airborne lasing operations, a flyover of the range shall be made to ensure no unprotected or unauthorized personnel, or animals are in the laser hazard area.

m. Unprotected personnel shall not be allowed within the beam path and its associated buffer zone without protective laser optics. Eye protection shall have curved lenses and an optical density (OD) appropriate to the wavelength of the laser system being utilized. Please refer to paragraphs 8007 and 8008 in this chapter.

n. Lasing shall cease if unprotected or unauthorized aircraft enter the operations area or the buffer zone between the lazing aircraft and the target.

o. Class 3 and 4 lasers shall not be directed above the horizon.

p. Batteries shall be removed from the laser at the completion of each day's use, and whenever the laser is located outside the range area.

q. All personnel authorized to use class 3 or 4 laser systems shall be enrolled in a laser medical surveillance program (at the unit level) per BUMED INST 6470.23.

8004. ALLOWABLE LASER SYSTEMS

1. General

Camp Pendleton has been certified for the use of the systems listed below, and any other system approved by the Navy Laser Systems Review Board, which meets the allowable system, maximum allowable buffer, or NOHD for a requested Laser Training Area.

2. Man-Portable

a. AN/GVS-5	Laser Range Finder, Infrared Observation Set (LIOS)
b. AN/PAQ-1	Laser Target Designator (LTD)
c. AN/TVQ-2	Ground/Vehicle Laser Locator Designator (G/VLLD)
d. AN/PAQ-3	Modular Universal Laser Equipment (MULE)
e. AN/PAQ-4A & 4C	M-16A2 Laser Sight
f. GCP-1B	Ground Commanders Pointer (GCP-1A/2&2B)
g. IZLID II	Infrared Zoom Laser/Illuminator/Designator
h. AN/PEQ-1	Special Operations Forces Laser Marker (SOFLAM)

	i. MILES	Multiple Integrated Laser Engagement System
	j. AN/GVT-1	Simulated Laser Target
	k. PGTS	Precision Gunnery Training System
	l. AN/PEQ-2A	Infrared Target Pointer Illuminator Aiming Light
3. Tank-Mounted	a. AN/VVG-1	(M551A1)
	b. AN/VVG-3	(M1)
4. Airborne	a. LAAT	(AH-1S MC)
	b. TADS/PNVS	(APACHE AAH)
	c. LPL-30	(hand held laser pointer)
	d. AIM-1	(MLR UH-1N & EXL AH-1W)(crew served weapon mounted)
	e. AN/ASQ-211	Night Targeting System
	f. AN/AAQ-22	Navigational Thermal Imaging System (NTIS) (UH-1N)
	g. Nite Eagle	(UH-1N)
	h. LATAGS	Laser Air to Air Gunnery System
	i. AGES/AD	Air to Ground Engagement System/Air Defense

8005. ALLOWABLE LOCATIONS FOR LASERS

The systems listed in paragraph 8004 in this chapter and those approved by the Navy Laser Safety Review Board may fire from the firing points listed below if they meet the allowable system, maximum allowable buffer or maximum allowable NOHD.

CAMP PENDLETON LASER RANGES

RANGE/ TRAINING AREA	FIRING PT	FP COORDI-NATE (NAD 83)	MAX ALLOWABLE BUFFER	MAX ALLOWABLE NOHD (If system does not meet max allowable buffer)	ALLOWABLE SYSTEM (AIR/ GROUND/ BOTH)	LASER TRAINING AREA (LTA)	LTA COORDINATES (NAD 83)	LATERAL LIMITS (GRID)
ZULU	OP A	636 900	15 mrad	N/A	GROUND	19	629 932 to 639 932 to 639 942 to 629 942 to 629 932	Rt - 006 Lt - 348
ZULU	OP A	636 900	15 mrad	N/A	GROUND	4	628 928 to 625 928 to 624 933 to 629 942 to 653 942 to 637 916 to 628 916 to 628 928	Rt - 021 Lt - 334
ZULU	OP B	6396 9040	15 mrad	N/A	GROUND	19	629 932 to 639 932 to 639 942 to 629 942 to 629 932	Rt - 001 Lt - 340
ZULU	OP D	6429 9084	15 mrad	N/A	GROUND	19	629 932 to 639 932 to 639 942 to 629 942 to 629 932	Rt - 355 Lt - 330
R-227	4	631 905	10 mrad	5.8 km (unaided)	GROUND	5	628 928 to 625 928 to 624 933 to 629 942 to 653 942 to 637 916 to 628 916 to 628 928	Rt - 030 Lt - 341
R-407	5	647 913	15 mrad	N/A	GROUND/AIR (hover only)	6	634 922 to 628 926 to 628 928 to 625 928 to 623 933 to 629 942 to 649 942 to 649 922 to 634 922	Rt - 014 Lt - 305
R-408	OP F	666 927	15 mrad	N/A	GROUND/AIR (hover only)	3	623 928 to 629 952 to 657 952 to 658 946 to 658 928 to 623 928	Rt - 341 Lt - 270

CAMP PENDLETON LASER RANGES (continued)

RANGE/ TRAINING AREA	FIRING PT	FP COORDI-NATE (NAD 83)	MAX ALLOWABLE BUFFER	MAX ALLOWABLE NOHD (If system does not meet max allowable buffer)	ALLOWABLE SYSTEM (AIR/ GROUND/ BOTH)	LASER TRAINING AREA (LTA)	LTA COORDINATES (NAD 83)	LATERAL LIMITS (GRID)
R-409A N	6	670 948	15 mrad	N/A	GROUND	7	658 947 to 640 950 to 643 958 to 660 952 to 658 947	Rt - 289 Lt - 261
R-409A N	6A	668 946	15 mrad	N/A	GROUND	7	658 947 to 640 950 to 643 958 to 660 952 to 658 947	Rt - 306 Lt - 275
R-409A S	7	682 934	15 mrad	N/A	GROUND	8	659 950 to 648 958 to 656 964 to 665 955 to 659 950	Rt - 321 Lt - 304
R-409A S	7A	684 935	15 mrad	N/A	GROUND	8	659 950 to 648 958 to 656 964 to 665 955 to 659 950	Rt - 318 Lt - 302
WHISKEY	OP J	595 994	5 mrad	500 meters or less	GROUND/AIR (hover only)	22	588 973 to 595 972 to 595 991 to 593 991 to 588 973	Rt - 209 Lt - 174
WHISKEY	OP J	595 994	15 mrad	N/A	GROUND/AIR (hover only)	21	574 980 to 579 974 to 592 992 to 592 993 to 574 980	Rt - 245 Lt - 208
R-212 TOW	8	559 951	N/A	500 meters or less	AIR (hover only)	9	561 954 to 565 957 to 566 956 to 948 565 to 561 954	Rt - 077 Lt - 030
R-212 TOW	8A	562 950	5 mrad	500 meters or less	AIR (hover only)	9	561 954 to 565 957 to 566 956 to 948 565 to 561 954	Rt - 037 Lt - 347

CAMP PENDLETON LASER RANGES (continued)

RANGE/ TRAINING AREA	FIRING PT	FP COORDI-NATE (NAD 83)	MAX ALLOWABLE BUFFER	MAX ALLOWABLE NOHD (If system does not meet max allowable buffer)	ALLOWABLE SYSTEM (AIR/ GROUND/ BOTH)	LASER TRAINING AREA (LTA)	LTA COORDINATES (NAD 83)	LATERAL LIMITS (GRID)
R-214	9	564 940 to 565 940	15 mrad	N/A	GROUND	10	564 940 to 563 945 to 564 945 to 565 940 to 564 940	Rt - 359 Lt - 345
R-216	10	570 940 to 571 938	15 mrad	N/A	GROUND	11	570 943 to 572 951 to 584 950 to 573 940 to 570 943	Rt - 047 Lt - 349
R-203	12	526 974 to 526 973	15 mrad	N/A	GROUND/AIR (hover only)	14	527 977 to 532 987 to 538 981 to 529 975 to 527 977	Rt - 061 Lt - 006
R-204B	13	533 969	15 mrad	N/A	GROUND/AIR (hover only)	15	533 970 to 534 980 to 541 977 to 536 970 to 533 970	Rt - 052 Lt - 342
R-314A	14	514 988 to 514 990	15 mrad	N/A	GROUND/AIR (hover only)	16	515 990 to 518 988 to 517 985 to 514 988 to 515 990	Rt - 080 Lt - 140
R-103	15	6519 8420	15 mrad	N/A	GROUND/AIR (hover only)	17	651 842 to 649 848 to 649 849 to 644 845 to 646 844 to 651 842	Rt - 344 Lt - 292
R-127	16	604 841	5 mrad	850 meters (unaided)	GROUND	18	605 843 to 607 846 to 610 844 to 607 841 to 605 843	Rt - 044 Lt - 011

8006. TYPICAL REFLECTIVE SURFACES

1. Specular Specular reflectors (shiny surfaces) are unsafe to lase.

2. Diffuse Diffuse reflectors are safe to lase.

3. Examples

SPECULAR REFLECTORS	DIFFUSE REFLECTORS
Glass or Plexiglas	Rocks
Calm or turbulent water	Camouflage
Ice	Old ordnance
Wet foliage	Dry foliage
Glossy paint	Matte paint
Chrome	Rusted metal

8007. REQUIRED EYE PROTECTION

For systems not listed, the appropriate eye protection, as recommended by the Navy Laser Safety Review Board, will be required.

MAN-PORTABLE

SYSTEM	WAVE LENGTH (NM)	REQUIRED EYE PROTECTION OPTICAL DENSITY (OD)	
		Unaided	Aided
AN/VGS-5	1064	3.7	5.3
AN/PAQ-1	1064	4.0	4.9
AN/TVQ-2 (G/VVLD)	1064	3.8	5.6
AN/PAQ-3 (MULE)	1064	3.9	5.6
AN/PAQ-4A & 4C	830	N/A	N/A
GCP-1B	830	2.2	2.2
IZLID II	870	2.0	3.3
AN/PEQ-1 (SOFLAM)	1064	4.0	5.3
MILES	905	.6	.6
AN/GVT-1 with diffuser without diffuser	-	N/A	N/A
PGTS	-	N/A	N/A
AN/PEQ-2A	-	-	-

TANK-MOUNTED

SYSTEM	WAVE LENGTH (NM)	REQUIRED EYE PROTECTION OPTICAL DENSITY (OD)	
		Unaided	Aided
AN/VVG-1 (M551A1)	694	5.3	5.8
AN/VVG-3 (M1)	694	4.0	4.7
AN/AAS-33A (A-6F Tram)	1064	4.6	5.8
AN/AVQ-25 (F-111F PAVE/Tack)	1064	4.3	5.8

AIRBORNE

SYSTEM	WAVE LENGTH (NM)	REQUIRED EYE PROTECTION OPTICAL DENSITY (OD)	
		Unaided	Aided
LAAT (AH-1S MC)	1064	4.0	4.5
TADS/PNVS (AAH)	1064	4.0	5.5
LPL-30 (hand-held)	850	1.7	1.7
AIM-1 (MLR UH-1N)	850	1.7	1.7
AN/ASQ-211 NTS LDRS (AW-1W)	1064	3.5	5.2
AN/AAQ-22 (NTIS)	1064	4.0	4.0
Night Eagle (UH-1N)	1064	4.1	5.2
LANTIRN Combat Mode (F-15) Training Mode	1064 1540	4.2	5.8
LATAGS	-	N/A	N/A
AGES/AD	-	N/A	N/A

8008. NOMINAL OCULAR HAZARD DISTANCES (NOHD) AND RANGE SAFETY DATA FOR MILITARY LASER SYSTEMS

MAN-PORTABLE

SYSTEM	UNAIDED (NAKED EYE) M	AIDED (WITH BINOS, SCOPE, ETC.) M
AN/VGS-5 w/19db Filter (RED) w/29db Filter (YELLOW)	2700 290 39	20000 1800 500
AN/PAQ-1	700	33000
AN/TVQ-2 (G/VVLD) Ranging Mode w/8.5db Filter (YELLOW) Designating Mode	 8000 2500 25000	 40000 23000 80000
AN/PAQ-3 (MULE) Ranging Mode Designating Mode	 6500 20000	 35000 79000
AN/PAQ-4A & 4C	-	-
GCP-1B	240	1650 2570 3750
IZLID II Low Power High Power	200 315	1440 2260
AN/PEQ-1 (SOFLAM)	9600	54000
AN/PEQ-2A	263	1810 2821 4710

TANK-MOUNTED

SYSTEM	UNAIDED (NAKED EYE) M	AIDED (WITH BINOS, SCOPE, ETC.) M
AN/VVG-1 (M5511A1)	15000	64700
AN/VVG-3 (M1)	7000	53500

AIRBORNE

SYSTEM	UNAIDED (NAKED EYE) M	AIDED (WITH BINOS, SCOPE, ETC.) M
LAAT (AH-IS MC)	5000	36400
TADS/PNVS (AAH)	20000	Information unavailable
LPL-30 (hand-held)	90	1600
AIM-1 (MLR UH-1N)	90	1600
AN/ASQ-211 NTS LDRS	15000	69000
AN/AAQ-22 (NTIS)	720	8600
Night Eagle (UH-1N)	15000	65000
LATAGS	N/A	N/A
AGES/AD	N/A	N/A

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APPENDIX A

DEFINITIONS

Overview

This appendix provides definitions of various words and acronyms found in this Manual.

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APPENDIX A

DEFINITIONS

Air Sentry	An individual designated by the Officer in Charge (OIC) of Firing to maintain surveillance of an assigned sector of airspace to warn of the approach of aircraft.
Area Alpha	Special military operations area connecting W-291 to R-2503A from surface to 2,000' MSL, established by a Letter of Agreement with the FAA, that affords fixed wing high speed VFR operations.
Artillery Firing Area	Area established to support artillery firing activities.
Base	Marine Corps Base, Camp Pendleton (also known as MCB).
Cantonment	An area assigned for administrative and logistical functions, such as housing, troop billeting, offices, storage and maintenance areas. Normally, field training and live-firing are not conducted within cantonment areas.
Common Impact Area	The impact area created when the surface danger zones of concurrently used ranges overlap.
Confined Area Landing Site (CALSITE)	Helicopter landing areas located in Camp Pendleton training areas used for confined area landing practice, external training, etc.
Consolidated Radar Control Facility (CRCF)	Marine Corps Base and Marine Corps Air Station Camp Pendleton, Air Traffic Control and Range Control Facility, BLDG 2399, Marine Corps Air Station, Camp Pendleton. Location of LONGRIFLE.
Controlled Firing Area (CFA)	Airspace established to conduct activities that would be hazardous to non-participating aircraft if not conducted in a controlled environment. It is the range user's respon-sibility to provide for the safety of persons and property on the surface and to cease firing when aircraft transit the CFA.

CPAAA	Camp Pendleton Amphibious Assault Area is an ocean area used for amphibious training activities and exercises.
CPAVA	Camp Pendleton Amphibious Vehicle Area is an area contained within CPAAA. It is adjacent to the shoreline and used for amphibious training activities.
Dedicated Impact Area	Impact area supporting live-fire of dud-producing ordnance (e.g., Quebec, Whiskey, and Zulu Impact Areas).
Drop Zone (DZ)	A tactical landing zone in which personnel or cargo paradrops are authorized.
Dud	Ammunition of any caliber or weight that has been fired, placed, dropped, thrown or launched but which fails to function as designed.
FCLP	Field Carrier Landing Practice
Field Training Facilities	Those areas designated for a specific type of training, normally not requiring the use of live ordnance (e.g., rappel towers, combat towns).
Fire and Maneuver Range	Range on which troop movement and live-firing may be conducted simultaneously.
Fire Danger Rating	National rating based on weather conditions and fire burning indexes describing the potential for wildland fire ignition, rate of spread, and suppression probability.
Firing Lane	The area within which a weapon system is fired. It consists of a start firing line, cease-firing disarm line, and left and right limits of fire.
Firing Line or Point	The location from which a weapon is fired at a target or into an impact area.
Flat Trajectory/ High Velocity Weapons	Recoilless rifles, tank guns, LAV 25mm guns, and artillery (when conducting direct-fire operations).

Formal School A school or a single course conducted by a school, which produces, as a result of its Program of Instruction (POI), a Marine qualified in a Military Occupational Specialty (MOS). This definition includes Weapons and Field Training Battalion (WFTBN), the Range Coach and Marksmanship Instructor, and Martial Arts Instructor/Trainer Courses conducted by 1st Marine Division.

Forward Air Controller (FAC) A Naval Aviator designated to serve in the same capacity as an OIC of Firing and/or Range Safety Officer (RSO), but specifically for control of aircraft in support of ground troops.

Forward Air Controller/Air-borne (FAC/A) A Naval Aviator/Flight Officer aboard an aircraft designated to serve in the same capacity as an OIC of Firing and/or Range Safety Officer (RSO), but specifically for control of aircraft in support of ground troops while airborne. On board MCB, Camp Pendleton, only rotary-wing FAC(A)s are authorized.

Hang Fire An undesired delay in the functioning of a firing system. A hang fire for a rocket occurs if the rocket propellant is ignited by the firing impulse, but the rocket fails to exit the launcher within the expected time frame.

High Explosive Impact Area Impact areas specifically designed for the impact of all types of ordnance, such as high explosive impact areas (Quebec, Camp Pendleton, and Zulu). These areas are also referred to as dedicated or permanent impact areas.

Instrument Flight Rules Aircraft flights conducted under instrument conditions.

Impact Area The area into which the fire of weapons is directed. It usually extends from the far boundary of the target line area to the maximum range of the weapon and ammunition fired. It is bounded on the flanks by the right and left limits of fire established in the surface danger area diagram for each type of weapon.

Landing Zone (LZ) A pre-designated, numbered helicopter landing zone, which provides major commands ready access to air transportation and medical evacuation.

Laser System Safety Officer (LSSO) A designated individual who has attended the Laser System Safety Course, and has been issued an LSSO card. The LSSO is responsible for ensuring compliance with the Range and Training Regulations and the unit standing operating procedures for laser operations and training.

Leased Area	Government property within the confines of MCB, Camp Pendleton that is leased to non-military tenants, such as the State Beach and agricultural areas.
Live-Fire Range	A range on which live-fire exercises, including the use of some types of practice ammunition, may be conducted.
LONGRIFLE	The communication callsign for Range Control [RADIO UHF 301.9, 255.2, 249.9, VHF 123.2, FM 30.35, 49.00; TELEPHONE (760) 725-4604/3974, DSN 365-4604/3974].
Malfunction	Failure of a munition to function in accordance with design, intent, or expected performance.
Maneuver Area	Two or more contiguous training areas designated and scheduled by a using unit for tactical exercises of battalion level or higher.
Military Munitions Rule (MMR)	Rule that identifies when conventional and chemical military munitions are or are not considered solid hazardous wastes.
Military Operations Area (MOA)	An airspace assignment established to separate or segregate certain military aircraft activities from IFR traffic and to identify for VFR traffic where these activities are occur.
Military Operations in Urban Terrain (MOUT) Facility	Refer to appendix C - annex III of this Manual.
Misfire	Temporary failure or delay in the action of a primer, igniter, or propelling charge. A DRAGON, TOW, or other item that fails to launch, but internal components such as thermal batteries and gyros are initiated.
Mortar Firing Area	An area established to support multiple mortar-firing activities from a designated area to a pre-determined target position.

NEW	Net Explosive Weight (in pounds). The actual weight of explosive mixture of compound including the TNT equivalent of other energetic material, which is used in the determination of explosive limits and ESQD arcs.
No Fire Area (NFA)	A designated area into which neither live-fires nor effects of live-fire will occur. NFAs are designated by a six-digit grid with a radius in meters.
Non-Lethal	Also known as less than lethal. Pertains to training conducted with munitions not intended to be lethal.
Notice to Airmen (NOTAM)	A message to aircraft pilots in a specific area warning of airspace restrictions, equipment outages, or other factors which may affect flight activities.
Notice to Mariners (NOTMAR)	A publication to mariners and vessels warning of conditions dangerous to navigation, such as live-firing or amphibious exercises.
NBC	Nuclear, Biological, Chemical
NBC Agents	Devices, biological agents and chemicals that may cause damage incapacity, injury, sickness, or death.
Observation Post (OP)	A point from which impacting ordnance may be observed.
Officer in Charge (OIC)	An individual designated by the Commanding Officer of the training unit who assumes responsibility for all aspects of training to include but not limited to live-fire, paradrops, or air exercises.
Overhead-Fire	The firing of projectiles over the heads of personnel, or over areas in which the presence of personnel is suspected. Must be approved in advance by the Range Control Officer.
Paradrop	The controlled aerial delivery of personnel or equipment by parachute.

POL	Petroleum, oil, and lubricants
Position Commander	Officer in command of an artillery position.
Pyrotechnics	Non-injury causing smoke or signals, either flares or grenades. White phosphorous is not considered a pyrotechnic.
Range	A training facility designated for live-fire, practice firing of weapons, demolitions, flame weapons, or fire and maneuver exercises.
Range Guard	An individual designated to maintain surveillance over an assigned locale to prohibit unauthorized entry into a surface danger area, and to give the alarm in the event that entry is detected.
Range Safety Officer (RSO)	A designated individual who has attended the Camp Pendleton Range Safety Certification Course and has received a Camp Pendleton Range Safety Certification Course Card. The RSO is assigned by the OIC of Firing to assist in enforcing all safety measures while operating in Camp Pendleton ranges and training areas.
Restricted Airspace/Area	Airspace designated under Federal Aviation Regulations, Part 73, within which the flight of non-participating aircraft, while not wholly prohibited is subject to restriction.
San Onofre High/Low Military Operations Area (MOA)	High/Low MOA established over the coastal area activated during large-scale amphibious exercises to support fixed-wing aviation operations.
Special Use Airspace (SUA)	Airspace in which aviation activities must be confined because of their nature and where limitations may be imposed on aircraft operations that are not a part of those activities. Types of SUA include Restricted Areas, CFAs, MOAs, and Warning Areas.

Surface Danger Zone (SDZ)	The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapons systems to include explosives and demolitions.
Survey Control Point	A permanent or semi-permanent concrete or brass marker placed to denote a topographical reference point.
TNT Equivalent	Considering the peak overpressure produced by detonation of a given weight of TNT as 100 percent, the TNT equivalency of an explosive is the amount of overpressure produced by detonation of an identical quantity of explosive compound under comparable conditions, expressed as a percentage.
TERF Route	Terrain Flight route used for helicopter low altitude navigation training.
Training Area	All areas on Camp Pendleton outside of cantonment and impact area boundaries.
VFR	Aircraft operations conducted under visual flight rules.

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APPENDIX B

IMPACT AREAS

Overview

This appendix provides details regarding the locations, dimensions, and procedures for entering the impact areas on board MCB, Camp Pendleton.

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	B-3
2. Impact Areas For Mortar Fires and Aviation-Delivered Ordnance	B-4
3. Artillery Impact Area	B-4
4. Ranges Not Within Impact Areas	B-4
5. No Fire Areas (NFA)	B-4
6. Warning and Entry	B-5
7. Control	B-5
8. Coordination	B-6
9. General Training Use	B-6

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APPENDIX B

IMPACT AREAS

1. GENERAL

a. Zulu Impact Area Dedicated impact area bound by grids 6590 9600 to 6590 9270 to 6390 9070 to 6290 9120 to 6090 9270 to 5990 9420 to 6140 9570 to 6240 9550 to 6446 9678 to the beginning.

b. Whiskey Impact Area Dedicated impact area bound by grids 5770 0000 to 5590 9960 to 5490 9620 to 5890 9420 to 5990 9420 to 6140 9570 to 6240 9550 to 6446 9678 to 6350 9730 to 6150 9940 to the beginning.

c. Quebec Impact Area Dedicated impact area bound by grids 5370 9600 to 5220 9660 to 5170 9750 to 5130 9860 to 5130 9900 to 5240 0010 to 5520 9940 to 5480 9820 to 5480 9720 to 5450 9660 to the beginning.

d. Edson Range The range is bound by grids 6060 8060 to 6050 8130 to 6040 8120 to 6010 8110 to 5970 8110 to 5970 8150 to 5990 8170 to 6060 8290 to 6070 8300 to 6080 8320 to 6060 8360 to 6170 8430 to 6350 8300 to 6250 8100 to 6200 8050 to 6120 8020 to the beginning.

e. X-Ray Impact Area The area is bound by grids 6210 8460 to 6150 8530 to 6130 8600 to 6210 8720 to 6170 8750 to 6130 8850 to 6180 8880 to 6260 8900 to 6330 8880 to 6350 8920 to 6440 8900 to 6490 8950 to 6550 8910 to 6470 8770 to 6520 8550 to 6540 8550 to 6550 8510 to 6530 8490 to 6540 8430 to 6500 8400 to the beginning.

f. Grenade Ranges The locations listed below are hand grenade ranges, and are encircled by a surface danger zone radius of 150 meters.

GRID	DESCRIPTION
6234 8943	Range 109
5248 9687	Range 202
5027 0152	Range 307

2. IMPACT AREAS FOR MORTAR FIRES AND AVIATION-DELIVERED ORDNANCE IMPACT AREA

A blue-dotted line on the Camp Pendleton Military Installation Map depicts the impact area for mortar and aviation delivered ordnance fires. The area is bound by grids 5770 0000 to 5596 9920 to 5540 9710 to 5990 9490 to 6090 9270 to 6390 9120 to 6590 9270 to 6590 9600 to 6350 9730 to 6150 9940 to the beginning. R-210E and the Quebec Impact Area are also authorized to support mortar fire.

3. ARTILLERY IMPACT AREA

A green-dotted line on the Camp Pendleton Military Installation Map depicts the impact area for artillery-delivered ordnance fires. The area is bound by grids 5770 0000 to 5590 9960 to 5490 9620 to 5890 9420 to 5990 9420 to 6090 9270 to 6290 9120 to 6390 9070 to 6590 9270 to 6590 9600 to 6350 9730 to 6150 9940 to the beginning.

4. RANGES NOT WITHIN IMPACT AREAS

The following ranges (also listed in appendix C of this Manual) are not within the boundaries of the impact areas delineated above: R-107, R-109, R-127, R-206, R-207, R-207A, R-300, R-307, R-401, R-403 and R-409A. Surface danger zones for these ranges are depicted on the current edition of the Camp Pendleton Military Installation Map.

5. NO FIRE AREAS (NFA)

The Camp Pendleton NFAs listed on the following page are to be used when conducting live-fire training within the impact areas listed above.

IMPACT AREA	NFA	GRIDS	MANNED RADIUS	UNMANNED RADIUS
ZULU	RG 223B	621 925	500 M	100 M
ZULU	RG 409A	652 950	500 M	100 M
(Continued on next page)				

IMPACT AREA	NFA	GRIDS	MANNED RADIUS	UNMANNED RADIUS
ZULU	OP I	649 968	500 M	100 M
ZULU	RG 218A	579 936 to 575 937 to 574 946 to 582 944	N/A	N/A
WHISKEY	OP J	596 995	500 M	100 M
WHISKEY	RG 600	621 984	500 M	N/A
WHISKEY	OP M	617 989	500 M	N/A

6. WARNING AND ENTRY

a. Boundaries Impact area and range boundaries are marked with red warning signs stating, "DANGER – IMPACT AREA – KEEP OUT." Signs are posted at approximately 200-meter intervals in prominent locations.

b. Entry Entry into these areas for official business is accomplished as follows.

(1) Permission to enter an impact area may be granted only by LONGRIFLE. EOD personnel must accompany anyone entering a dedicated impact area.

(2) Permission to travel established roads (Jardine Canyon, San Mateo Canyon, DeLuz Canyon entrance to R-409A, Aliso Canyon, or Roblar Roads) through impact areas may be granted only by LONGRIFLE.

(3) Entry into the Quebec, Whiskey, and Zulu Impact Areas for hunting is prohibited.

7. CONTROL

LONGRIFLE controls all firing on ranges, and into the designated impact areas. LONGRIFLE is located at the Consolidated Radar Control Facility (CRCF), Bldg. 2399, MCAS, Camp Pendleton. Telephone numbers are DSN 365-4604/3974 or commercial (760) 725-4604/3974.

8. COORDINATION

a. General Firing into impact areas shall be approved by LONGRIFLE.

b. CAS Missions Conducting CAS missions in the aircraft bombing and/or strafing areas within the Whiskey and Zulu Impact Areas may require temporary check-fires on any range or training area bordering these major impact areas.

c. Air Strikes After coordination with LONGRIFLE, units using ground weapons systems to mark for aircraft may continue to fire mortars for marking, illumination, and suppressive fire during the conduct of air strikes under the control of a FAC or FAC(A).

(1) The flight leader shall notify the rotary-wing FAC(A) or TACP upon completion of the strike and check out with LONGRIFLE

(2) After the strike is complete LONGRIFLE shall inform all RSOs whose ranges are in check-fire that they may resume firing.

9. GENERAL TRAINING USE

Units desiring to conduct exercises in non dud-producing impact areas shall submit a scheduling request, per paragraph 3002 in chapter 3 of this Manual, and coordinate with the Range Control Officer no later than two (2) weeks in advance. Policing of the assigned portion of the impact area is the responsibility of the using unit.

APPENDIX C

RANGES

Overview

This appendix provides a description and regulations for each ground and aviation range on board MCB, Camp Pendleton.

In This Appendix

The following topics and ranges are covered in this appendix.

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2. Category Definitions for Appendix C	C-5
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R-213	C-89
R-214	C-91
R-215A	C-93
R-216 (Inactive)	C-95
R-217	C-97
R-218A	C-99
R-219	C-101
R-221	C-103
R-222 (Inactive)	C-105
R-223A (Inactive)	C-107
R-223B	C-109
R-225	C-111
R-227	C-113
R-300	C-115
R-307	C-117
R-312A (Inactive)	C-119
R-313A (Inactive)	C-121
R-314	C-123
R-314A	C-125
R-314B (Inactive)	C-127
R-314C	C-129
R-401	C-131
R-403A	C-133
R-403B	C-135
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5. Annex III - Military Operations in Urban Terrain Training Facility Standing Operating Procedures (MOUT SOP)	C-201

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APPENDIX C

RANGES

1. ORGANIZATION

This appendix is presented in three annexes.

a. Annex I Ground Ranges

b. Annex II Aviation Ranges

c. Annex III Military Operations in Urban Terrain Training Facility Standing Operating Procedure (MOUT SOP)

2. CATEGORY DEFINITIONS FOR APPENDIX C

RANGE	Alphanumeric designator
LOCATION	Eight-digit grid location of the range, as depicted on the Camp Pendleton 1:50,000 Military Installation Map
TYPE	Description of intended use
ALLOWABLE WEAPONS	List of weapons authorized for use
RANGE FAN LIMITS**	Direction of authorized firing limits applicable to all firing points on the range
BOUNDARIES**	List of grids outlining the area of a range allowing personnel to maneuver beyond the limits of a single firing line
MINIMUM RANGE**	Minimum distance in which targets may be engaged
MAXIMUM RANGE**	Maximum distance in which targets may be engaged

Continued on next page

RANGE AND TRAINING REGULATIONS

IMPACT AREA**	Ground and associated airspace within the training complex used to contain fired or launched ammunition and explosives, and resulting fragments and debris from the range (e.g., Quebec, Whiskey and Zulu Impact Areas)
ENVIRONMENTAL	Essential environmental information and direction pertaining to endangered species, wetlands and sensitive habitat in surrounding areas
RANGE FACILITIES	Specific buildings, structures or services on site
TROOP PENETRATION LIMIT FROM FIRING LINE**	Distance personnel may travel down-range from the firing line
ASSIGNED TO	Responsible commander
TELEPHONE	Telephone number of phone located at the range
SPECIAL INSTRUCTIONS	Essential information pertaining to safe and proper use of the range

APPENDIX C

ANNEX I - GROUND RANGES

RANGE	Fleet Hospital Ops/Training Command (Compound)
LOCATION	4722 0100
TYPE	Corpsman Training Compound
ALLOWABLE WEAPONS	Rifles, 5.56 (blanks only); grenades (smoke-producing only); simulators
RANGE FAN LIMITS**	N/A
BOUNDARIES**	From 4718 0105 to 4730 to 4735 0073 to 4727 0059 to 4717 0059
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	N/A
ENVIRONMENTAL	There is California Gnatcatcher habitat nearby. The gnatcatcher habitat is severely damaged by fire; therefore, extreme caution shall be used with open flame, heating elements, cigarettes, and pyrotechnics. Keep troops and vehicles out of the gnatcatcher habitat (brush areas). Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	None (facility is self-sufficient)
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-9841
	****RANGE REGS POSTED** **AT THE RANGE** **SUPERCEDE THIS MANUAL****
SPECIAL INSTRUCTIONS	1. NO AIR-DEPLOYED PRYO of any kind is allowed on this range. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

2. This training facility is designated specifically for and limited to the Fleet Hospital Ops/Training Command.

3. Contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4805/4446 fourteen (14) days in advance to coordinate training scenarios. Units shall reconfirm ASB support two (2) working days prior to the planned training event.

4. Ensure all weapons are cleared and inspected at the conclusion of training and prior to departing the facility.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	Field Medical Service School
LOCATION	6499 7825
TYPE	Corpsman Training Facility
ALLOWABLE WEAPONS	Rifles, 5.56 (blanks only); grenades (smoke-producing only); simulators
RANGE FAN LIMITS**	N/A
BOUNDARIES**	From 6461 7817 to 6465 7822 to 6518 7841 to 6554 7825 to 6534 7798 to 6504 7819 to 6474 7817 to 6469 7819 to 6465 7814
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	N/A
ENVIRONMENTAL	Refer to chapter 2 of this Manual.
RANGE FACILITIES	Office building, bleachers, gas chamber, infiltration course, machine gun and artillery simulators
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-4067
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. NO AIR-DEPLOYED PRYO of any kind is allowed on this range. 2. This training facility is designated specifically for and limited to the Field Medical Service School. 3. Contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4805/4446 fourteen (14) days in advance to coordinate training scenarios. Units shall reconfirm ASB support two (2) working days prior to the planned training event.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. Ensure all weapons are cleared and inspected at the conclusion of training and prior to departing the facility.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-102
LOCATION	6444 8422
TYPE	Pistol Range (Known Distance)
ALLOWABLE WEAPONS	Pistols, .45 cal. and below
RANGE FAN LIMITS**	Left - from grid 6439 8420 at 322 degrees mag Right - from grid 6451 8425 at 322 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	7 yards
MAXIMUM RANGE**	50 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of wetland/drainage vegetation areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Range buildings; public address system; 72 targets; 7, 15, 25, and 50-yard firing lines; 50-yard line overhead cover; POV parking; ammo tables; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-3540
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Helicopters may over fly the area at 1,000' AGL and above. 2. All scheduling requests for R-102 shall be submitted via the Marksmanship Training Branch. POC is the SNCOIC at (760) 725-3436. 3. R-102 shall not be occupied between the 25-yard line and the pits when R-102A is in a hot status. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. When R-102 is in a hot status, R-102A shall not be occupied.

5. Ensure all weapons are cleared and inspected prior to departing the firing line.

6. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-102A
LOCATION	6456 8429
TYPE	Pistol/BZO Range
ALLOWABLE WEAPONS	Rifles, 5.56 only; pistols, .45 cal. and below
RANGE FAN LIMITS**	Pistol Range Left - from grid 6454 8428 at 310 degrees mag Right - from grid 6455 8429 at 310 degrees mag BZO Range Left - from grid 6456 8430 at 313 degrees mag Right - from grid 6458 8430 at 328 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	Pistol - 7 yards Rifle - 30 meters
MAXIMUM RANGE**	Pistol - 25 yards Rifle - 30 meters
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of wetland/drainage vegetation areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Range building; 25-yard line overhead cover; 7, 15 and 25-yard pistol firing lines; rifle 30-meter BZO firing line; POV parking; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCB
TELEPHONE	Nearest phone at R-102 [(760) 725-3540]
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. R-102A shall not be occupied when R-102 or R-103 are in a hot status. 2. The BZO range and pistol range may not be fired simultaneously. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

3. Pistol fire shall only be conducted on the pistol range; rifle fire only on the BZO range.

4. Firing is only authorized from designated firing points to corresponding targets which are perpendicular to the firing line; cross-firing is not authorized.

5. Prior to going hot on the R-102A BZO Range, the R-103 pit area must be cleared and a road guard shall be posted on R-103 at the junction of the 100-yard line and the target one pit access road. Positive communication shall be maintained, at all times, between the R-102A RSO and road guard.

6. During weekend shoots, all civilian gun clubs will be limited to firing between targets 73 and 143 on R-103 to allow the R-102A Pistol Range to operate simultaneously. Both the R-102A and R-103 RSOs shall coordinate prior to going hot to ensure no personnel from R-103 are firing on targets 1 to 72.

7. Helicopters may over fly the area at 1,000' AGL and above.

8. All weapons shall be cleared and inspected prior to departing the range.

9. All weapon malfunctions shall be corrected per the appropriate TM/FM and unit SOP.

RANGE	R-103
LOCATION	6516 8417
TYPE	Rifle Range (Known Distance)
ALLOWABLE WEAPONS	Rifles, 5.56 and below; M203 (pyrotechnics only); lasers
RANGE FAN LIMITS**	Left - from grid 6498 8402 at 307 degrees mag Right - from grid 6534 8432 at 307 degrees mag
BOUNDARIES**	From 6498 8402 to 6462 8444 to 6505 8467 to 6534 8432
MINIMUM RANGE**	100 yards
MAXIMUM RANGE**	600 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of wetland/drainage vegetation areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Range buildings; public address system; 146 firing points at the 100, 200, 300, 500, and 600-yard firing lines; bleachers; POV parking lot; armory facility; ammo tables; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-3436
	****RANGE REGS POSTED** **AT THE RANGE** **SUPERCEDE THIS MANUAL****
SPECIAL INSTRUCTIONS	1. Refer to chapter 8 of this Manual for authorized laser operations. 2. All scheduling requests for R-103 shall be submitted via the Marksmanship Training Branch. POC is the SNCOIC at (760) 725-3436.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

3. Helicopters may over fly the area at 1,000' AGL and above when firing 5.56mm and below. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

4. When the R-102A BZO Range is in a hot status, the R-103 pit area shall remain clear. Coordination shall be made with the R-102A RSO prior to moving into the pits.

5. During weekend shoots, all civilian gun clubs will be limited to firing between targets 73 and 143 on R-103 to allow the R-102A Pistol Range to operate simultaneously. Both the R-102A and R-103 RSOs shall coordinate prior to going hot to ensure no personnel from R-103 are firing on targets 1 to 72.

6. Ensure all weapons are cleared and inspected prior to departing the firing line.

7. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-104B
LOCATION	6550 8509
TYPE	Non-Lethal Range
ALLOWABLE WEAPONS	Shotguns (non-lethal only); M-203 (non-lethal only); rubber ball hand grenade
RANGE FAN LIMITS**	Left - from grid 6549 8506 at 250 degrees mag Right - from grid 6550 8510 at 270 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	5 meters
MAXIMUM RANGE**	50 meters
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual.
RANGE FACILITIES	5, 15, 30, and 50 meter firing lines; bleachers; ammo tables; saw horses; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond the target area
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Rubber ball hand grenades shall be employed by hand only.

2. DODIC A011 (“00” Buck Shot) is authorized for the MP Company Non-Lethal Course ONLY.

3. Ensure control measures (saw horse) are posted at both ends of the access road prior to requesting hot status.

4. The RSO SHALL WALK THE BERM ALONG THE RIGHT LATERAL LIMIT TO ENSURE NO PERSONNEL ARE IN THE IMPACT AREA.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

5. Helicopters may over fly the area at 1,000' AGL and above.

6. Ensure all weapons are cleared and inspected prior to departing the firing line.

7. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-107
LOCATION	6827 8672
TYPE	Skeet and Trap Range
ALLOWABLE WEAPONS	Shotguns, 7.5 or less birdshot only
RANGE FAN LIMITS**	Skeet Range #1 Left - from grid 6828 8674 at 274 degrees mag Skeet Range #1 Right - from grid 6824 8675 at 085 degrees mag Skeet Range #2 Left - from grid 6832 8673 at 274 degrees mag Skeet Range #2 Right - from grid 6828 8674 at 085 degrees mag Trap Range #1 Left - from grid 6833 8671 at 020 degrees mag Trap Range #1 Right - from grid 6832 8673 at 068 degrees mag Trap Range #2 Left - from grid 6831 8670 at 125 degrees mag Trap Range #2 Right - from grid 6833 8671at 163 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	300 yards
IMPACT AREA**	R-107 Impact Area
ENVIRONMENTAL	There is California Gnatcatcher habitat nearby. The gnatcatcher habitat is severely damaged by fire; therefore, extreme caution shall be used with open flame, heating elements, cigarettes, and pyrotechnics. Keep troops and vehicles out of the gnatcatcher habitat (brush areas). Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Range buildings, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-4832
	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL****
SPECIAL INSTRUCTIONS	1. Slug ammunition is not authorized. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

2. This range is operated by the Assistant Chief of Staff, Marine Corps Community Services.

3. All firing shall be supervised by a qualified Camp Pendleton RSO.

4. Trap Range #2 is a conflict with the pattern board location, simultaneous operations are not authorized.

5. The pattern board target holder shall be constructed of wood only and shall not be engaged at a distance less than 16 yards.

6. Maximum fan angle for the trap launcher shall be limited to a total of 45 degrees to the left and right of the angle created by lane #3 of the trap range.

7. The lateral limits for both skeet ranges shall be acquired from firing position #7 for the left limit and firing position #1 for the right limit.

8. The lateral limits for both trap ranges shall be acquired from the 27-yard line firing point on lane #1 for the left limit and the 27-yard line firing point on lane #5 for the right limit.

9. A safety brief shall be conducted by the RSO which covers, but is not limited to, weapons handling, range fan limits, range conflicts, emergency procedures, aircraft awareness and adjacent range activities.

10. Prior to requesting a hot status, the RSO shall ensure a barrier with an impact sign is placed at grid 6820 8670, a barrier with an impact sign is placed at grid 6840 8720, a range flag is raised at grid 6840 8720, and the impact area is clear of all personnel and aircraft.

11. An immediate “cease-fire” command shall be given when personnel or aircraft are identified within the impact area, which extends and arcs to 350 yards from the limits of each range, with a vertical hazard of 300 yards.

12. Dry firing is authorized from established range firing points only.

13. Shotguns shall be pointed down-range at all times while occupying a firing position on a range.

14. Shotguns shall not be loaded until the shooter is in a firing position and the down-range area is clear. Only one shooter at a time shall have his/her weapon loaded at any given time. All shooters participating in the course of fire shall be located at the same firing point while all remaining personnel remain clear of the range while firing is in progress.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

15. No personnel shall move forward of firing points #1, #7 and #8 on either skeet range while the adjacent skeet range in in a hot status.

16. Personnel on trap range #1 shall not move forward of the 16-yard line while skeet range #2 is in a hot status.

17. Empty shotgun shell casings shall be collected and properly disposed of immediately after firing.

18. Shooting is permitted at conventional targets (clay pigeons) only.

19. Ensure all weapons are cleared and inspected prior to departing the firing line.

20. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-109
LOCATION	6234 8943
TYPE	Hand Grenade Range
ALLOWABLE WEAPONS	Grenades
RANGE FAN LIMITS**	Left - from grid 6237 8944 at 125 degrees mag Right - from grid 6234 8942 at 130 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	10 meters
MAXIMUM RANGE**	40 meters
IMPACT AREA**	R-109 Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of wetland/drainage vegetation areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Four (4) live throwing bays, two (2) practice bays, observation tower, ammo issue point, bleacher, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area during hot status
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 763-0965

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SPECIAL INSTRUCTIONS

1. Dud sweeps on this range shall be conducted by qualified EOD personnel only.

2. HE grenades shall be thrown one at a time and into the impact area only.

3. Pit area - from 6234 8942 to 6227 8944 to 6239 8941 to 6236 8938

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. Holding point #1 is at the bottom of the stairs near the practice bay area. This is the limit of advance for all future relays. Personnel will remain at or behind this point until signaled to advance to the grenade issue point (holding point #2).

5. Holding point #2 is the grenade issue point designated by the wooden bunker. The only authorized personnel at this point are the grenade issue person and the next relay. This next relay of throwers will remain inside the bunker until directed to advance to the throwing pits.

6. In the event of a dud, training must cease. Notify LONGRIFLE for EOD support. Training shall not resume until authorized by LONGRIFLE.

7. Grenade ranges shall cease training one hour prior to sunset. In the event a dud grenade is not cleared before reduced light conditions, the using unit shall provide a guard force until the grenade can be cleared.

NOTE: EOD's minimum response time to grenade ranges is one hour.

8. All personnel not in the throwing bays, observation tower or holding point #2 shall be located no closer than holding point #1 or the practice-throwing bays while the range is in a hot status.

9. The RSO and COMM assets shall be inside the observation tower while in a hot status. Other authorized personnel in the tower are: OIC, and no more than four (4) observers.

10. Should bays #1 or #2 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #3 and #4.

11. Should bays #3 or #4 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #1 and #2.

12. If a dud is experienced on both sides of the range, all training shall stop until EOD has cleared the range.

13. Practice and non-lethal grenades shall be thrown in practice grenade bays only. The using unit shall police residue from these grenades.

14. Using units shall drag the impact area, to include the practice bays, with a raking device provided on site before departing the range.

15. The entire range is inside the 150 meter SDZ (frag pattern). Helmets, flak jackets, hearing protection and proper eye protection are required for all personnel, throwing grenades, waiting to throw

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

grenades, safety personnel, and all personnel in the practice bay area when the range is in a hot status, and HE grenades are being thrown.

16. All grenades impacting outside the designated impact area shall be reported to LONGRIFLE.

17. Range guards shall be posted at 6238 8963 and 6216 8938 with a "grenade training in progress" sign, and two-way radio communication with the RSO. No traffic/personnel shall enter the range without the RSO's permission.

18. No training shall be conducted when there is standing water or mud in the impact area.

19. Helicopters may over fly the area at 1,000' AGL and above.

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RANGE	R-111
LOCATION	6163 8868
TYPE	Transition Rifle Course
ALLOWABLE WEAPONS	Rifles, 5.56 and below; pistols, .45 cal. and below; shotguns; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6169 8872 at 105 degrees mag Right - from grid 6166 8869 at 127 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	3 meters (weapons dependent)
MAXIMUM RANGE**	350 meters
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	The willow trees, brush, and sandy wash areas behind the firing line of this range provide habitat for endangered Least Bell's Vireos. As long as the Fire Danger Rating (FDR) is adhered to, normal range operations will not affect minimal use of the wetland and river bottom vegetation areas to the extent practical from 15 March to 1 September. Do not clear vegetation outside range boundaries without prior approval from the Assistant Chief of Staff, Environmental Security. Endangered Stephens' Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling and heavy equipment operations are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Maneuver area, bleachers, control tower, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	None

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SPECIAL INSTRUCTIONS

1. The RSO shall maintain a constant watch for aircraft operating within the surface danger zone (SDZ). The RSO shall be responsible for cessation of fire.

2. Contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4805/4446 fourteen (14) days in advance to coordinate training scenarios. Units shall reconfirm ASB support two (2) working days prior to the planned training event.

3. At no time will personnel occupy the area of the berm between Ranges 111 and 112A.

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

6. Helicopters may over fly the area at 1,000’ AGL and above.

RANGE	R-112A
LOCATION	6155 8858
TYPE	Transition Rifle Course
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; shotguns, M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6156 8859 at 127 degrees mag Right - from grid 6154 8857 at 128 degrees mag
BOUNDARIES**	Maneuver area - from 6156 8859 to 6162 8852 to 6160 8851 to 6154 8857 Facade maneuver area - from 6162 8854 to 6163 8853 to 6163 8853 to 6162 8852 to 6161 8853
MINIMUM RANGE**	3 yards
MAXIMUM RANGE**	100 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	The willow trees, brush, and sandy wash areas behind the firing line of this range provide habitat for endangered Least Bell's Vireos. As long as the Fire Danger Rating (FDR) is adhered to, normal range operations will not affect minimal use of the wetland and river bottom vegetation areas to the extent practical from 15 March to 1 September. Do not clear vegetation outside range boundaries without prior approval from the Assistant Chief of Staff, Environmental Security. Endangered Stephens' Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling and heavy equipment operations are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	3, 5, 7, 15, 25, 50, and 100-yard firing lines; two (2) room facades; maneuver area; observation tower; weapons cleaning area; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	None

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SPECIAL INSTRUCTIONS

1. All scheduling of R-112A shall be coordinated through the Supervisor of Security Operations at the San Onofre Nuclear Generating Station (SONGS) at (949) 368-9304. SONGS shall submit TARs to the Range Scheduling Office for final approval.

2. At no time will personnel occupy the area of the berm between Ranges 111 and 112A.

3. Target carriages shall be placed with the angle iron facing towards the shooter.

4. The use of steel targets requires a certified SRT RSO and shall comply with SOUM 1-02.

5. Helicopters may over fly the area at 1,000' AGL and above. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

6. Vehicle parking is authorized to the rear of the range building located behind the 100-yard line only. All personally-owned vehicles require a pass issued by the Range Control Officer.

7. 7.62 rifle fire is authorized at the 100-yard line only.

8. Terrain mitigation is being utilized to reduce the surface danger zones associated with the allowable weapons. The muzzle of all direct-fire weapons shall not exceed an angle of 10 degrees above level zero.

9. <u>Static Firing Range Instructions</u>

a.. Lateral limits are taken from the left and right rear-most corners of the 100-yard line

b. All fires shall be conducted from the designated firing lines, on their associated firing points, to their assigned targets only.

c. No personnel shall be forward of any firing line in a hot status.

d. Rifles are authorized at the 15, 25, 50, and 100-yard lines only (exception is 7.62 authorized at the 100-yard line only).

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

10. Transition Course Instructions

a. Lateral limits are taken from the left and right rear-most corners of the 100-yard line.

b. Firing points may be established anywhere between the 15 and 100-yard lines when firing within the established lateral limits of the range. (7.62 authorized at the 100-yard line only.)

c. The OIC/RSO shall ensure the angle of fire to the targets does not impact yard line markers when firing positions are established, and does not impact the rebar target carriages at an angle other than from its direct front.

d. All rebar target carriages not supporting the training scenario shall be removed and staged behind the 100-yard line until training is completed.

e. Only one shooter at a time shall fire the transition course.

f. No personnel shall be forward of the shooter's position while in a hot status.

g. All moving target systems shall be emplaced forward of the 7-yard line and within the left and right lateral limits of the range.

h. A minimum stand-off distance of 15 yards shall be maintained while engaging the moving target system.

i. Dry runs shall be conducted prior to live-fire to ensure shooters have clearly identified the targets that may be engaged from each firing point to ensure engagements remain within the lateral limits of the range.

j. Weapons shall be on safe when transitioning from one position to the next.

11. Facade Room Clearing Instructions

a. The dimensions of the facade shall not be altered.

b. The facade shall be placed four (4) feet from the left edge and on line with the 15-yard line (illustration located in the range ammo can).

c. The lateral limits for the facade shall be taken from the inside edges of the forward-most points of the outside walls (illustration located in the range ammo can).

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

d. Left lateral limit: 065 degrees mag
Right lateral limit: 179 degrees mag

e. Only pistols are authorized in the facade.

f. Only one shooter at a time shall fire in the facade.

g. No personnel shall be forward of the static firing range 15-yard line while the facade is in a hot status.

h. Targets shall be emplaced in the designated target emplacement areas only (illustration located in the range ammo can).

i. The OIC/RSO shall ensure the angle of fire to the targets does not impact yard line markers when firing positions are established, and does not impact the rebar target carriages at an angle other than from its direct front.

j. All rebar target carriages not supporting the training scenario shall be removed and staged behind the 100-yard line until training is completed.

k. Targets shall be engaged from the designated firing point areas only (illustration located in the range ammo can).

l. Shooters shall not engage targets which are silhouetted by any portion of the facade.

m. Dry runs shall be conducted prior to live-fire to ensure shooters have clearly identified the targets that may be engaged from each firing point to ensure engagements remain within the lateral limits of the facade.

n. Weapons shall be on safe when transitioning from one position to the next.

o. All weapons shall be cleared and inspected prior to departing the range.

p. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-116A
LOCATION	6413 8902
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; M203 (pyrotechnics only)
RANGE FAN LIMITS**	800 and 700-yard lines Left - from grid 6430 8920 at 182 degrees mag Right - from grid 6427 8921 at 198 degrees mag 500-yard line forward Left - from grid 6420 8890 at 181 degrees mag Right - from grid 6399 8896 at 184 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 yards
MAXIMUM RANGE**	800 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range, and troops should avoid digging activity or removal of any artifacts found on the surface, or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent compacting the soil. Road grading, mechanical excavation/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Admin office; head facilities; firing towers; control gates; 50 firing points at the 100, 200, 300, and 500-yard lines; 40 firing points at the 600-yard line; 10 firing points at the 700 and 800-yard lines
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0103 or DSN 577-3556

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SPECIAL INSTRUCTIONS

1. All scheduling requests for R-116A shall be submitted via the Naval Special Warfare Command. The POC is the Scheduling OIC at (619) 437-4561.

2. Personnel shall proceed either on foot or by military vehicle to firing positions, targets, and range butts area. Civilian vehicles shall NOT be used for this purpose.

3. This range conflicts with Aliso Canyon. Helicopters may over fly the area at 1,000' AGL and above. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

4. The RSO shall ensure all access gates to R-117A are closed and locked when this range is in a hot status.

5. Range guards shall be posted, or gates shall be closed at access roads coming off of Basilone Road on the east and west sides of the range.

6. All shooters shall check in/out with the R-116A Complex staff.

7. The R-116A Complex LZ is located at grid 6430 8875. The coordination for use of this LZ shall be conducted with the Range Operations Officer.

8. Ensure all weapons are cleared and inspected prior to departing the firing line.

9. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-116B
LOCATION	6382 8884
TYPE	BZO Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; shotguns
RANGE FAN LIMITS**	Left - from grid 6384 8882 at 207 degrees mag Right - from grid 6381 8885 at 218 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	3 yards
MAXIMUM RANGE**	50 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range, and troops should avoid digging activity or removal of any artifacts found on the surface, or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent compacting the soil. Road grading, mechanical excavation/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Admin office; control tower; head facility; 25 firing points with pop-up targets at 3, 7, 15, 25 and 50-yard firing lines; control gate
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond impact berm
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0103 or DSN 577-3556

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SPECIAL INSTRUCTIONS

1. All scheduling requests for R-116A shall be submitted via the Naval Special Warfare Command. The POC is the Scheduling OIC at (619) 437-4561.

2. Personnel shall proceed either on foot or by military vehicle to firing positions, targets, and range butts area. Civilian vehicles shall NOT be used for this purpose.

3. This range conflicts with Aliso Canyon. Helicopters may over fly the area at 1,000' AGL and above. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

4. R-116C (270 Degree Moving Target Range) shall not be occupied when R-116B is in a hot status.

5. Firing points shall not be altered.

6. The R-116 Complex LZ is located at grid 6430 8875. The coordination for use of this LZ shall be conducted with the Range Operations Officer.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-116C
LOCATION	6365 8858
TYPE	270 Degree Multi-Target Combat Engagement
ALLOWABLE WEAPONS	Rifles, 5.56 only; pistols, .45 cal. and below; shotguns
RANGE FAN LIMITS**	Left - from grid 6365 8859 at 110 degrees mag Right - from grid 6365 8859 at 272 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	10 meters
MAXIMUM RANGE**	25 meters
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range, and troops should avoid digging activity or removal of any artifacts found on the surface, or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent compacting the soil. Road grading, mechanical excavation/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Tower, 30 pop-up targets, three (3) moving targets
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond impact berm
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0103 or DSN 365-0103

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SPECIAL INSTRUCTIONS

1. All scheduling requests for R-116A shall be submitted via the Naval Special Warfare Command. The POC is the Scheduling OIC at (619) 437-4561.

2. Personnel shall proceed either on foot or by military vehicle to firing positions, targets, and range butts area. Civilian vehicles shall NOT be used for this purpose.

3. This range conflicts with Aliso Canyon. Helicopters may over fly the area at 1,000' AGL and above.

4. This range shall not be occupied when R-116B (BZO Range) is in a hot status.

5. All firing shall be conducted from authorized firing points only.

6. Primary training focus supports advanced special operations (SO/SOC) individual and small unit combat engagement. This target system simulates multiple threats in an urban environment.

7. Serious injury may occur should a target system actuate when personnel are scoring targets or performing maintenance.

8. Range fan limits are identified from the left and right lateral markers and selected firing positions.

9. The User Element shall provide paraffin impregnated and paper overlay "E" silhouette targets for the training evolution.

10. Only authorized personnel are allowed in the control tower and pop- up target area.

11. The R-116 Complex LZ is located at grid 6430 8875. The coordination for use of this LZ shall be conducted with the Range Operations Officer.

12. Ensure all weapons are cleared and inspected prior to departing the firing line.

13. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-116D
LOCATION	6369 8895
TYPE	360 Degree Shooting House
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; demolitions, not to exceed ¼ lb. NEW
RANGE FAN LIMITS**	Contained within structure
BOUNDARIES**	Contained within structure
MINIMUM RANGE**	1 meter
MAXIMUM RANGE**	Scenario dependent
IMPACT AREA**	Contained within structure
ENVIRONMENTAL	Archaeological sites are located at this range, and troops should avoid digging activity or removal of any artifacts found on the surface, or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during periods when the soil is moist to prevent compacting the soil. Road grading, mechanical excavation/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Shooting house with multiple room adjustments, sniper hide (w/RCO approval)
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0103 or DSN 577-3556
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** **SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE**

SPECIAL INSTRUCTIONS

1. All scheduling requests for R-116A shall be submitted via the Naval Special Warfare Command. The POC is the Scheduling OIC at (619) 437-4561.

2. Demolitions are authorized for breeching only.

3. Personnel shall proceed either on foot or by military vehicle to firing positions, targets, and range butts area. Civilian vehicles shall NOT be used for this purpose.

4. SESAMS shall be employed as outlined in TECOM SOUM 1-02.

5. The R-116 Complex LZ is located at grid 6430 8875. The coordination for use of this LZ shall be conducted with the Range Operations Officer.

6. The sniper hide grid is located at 6380 8880.

7. Ensure all weapons are cleared and inspected prior to departing the shoot house.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

9. Helicopters may over fly the area at 1,000' AGL and above. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

RANGE AND TRAINING REGULATIONS

RANGE	R-117A
LOCATION	6491 8953
TYPE	Sniper Range (Known Distance and Unknown Distance)
ALLOWABLE WEAPONS	Rifle, 7.62 and below
RANGE FAN LIMITS**	Left - from grid 6492 8952 at 160 degrees mag Right - from grid 6490 8953 at 200 degrees mag
BOUNDARIES**	From 6490 8953 to 6492 8952 to 6490 8850 to 6460 8800 to 6414 8844
MINIMUM RANGE**	100 yards
MAXIMUM RANGE**	1,400 yards
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Tower, 10 targets, control gate, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-1008

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SPECIAL INSTRUCTIONS

1. The RSO shall conduct a face-to-face brief with R-116A personnel prior to occupying this range.

2. The RSO shall ensure the old R-117 access gate is secured, as well as the pitts gate to R-116A.

3. The RSO shall ensure the tower, old access gate, and the pits safety flags are posted.

4. A Condition 1 status on weapons is authorized on firing lines only.

5. Stalking: During sniper training, units are authorized to maneuver with weapons in a Condition 3.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

6. The RSO shall ensure the safety and security of all personnel training on this range.

7. This range conflicts with Aliso Canyon. Helicopters may over fly the area at 1,000' AGL and above. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

8. The R-116 Complex LZ is located at grid 6430 8875. The coordination for use of this LZ shall be conducted with the Range Operations Officer.

9. Ensure all weapons are cleared and inspected prior to departing the firing line.

10. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-127
LOCATION	6038 8409
TYPE	LAV Sub Caliber Gunnery Range
ALLOWABLE WEAPONS	LAV sub caliber 5.56 attachment only, lasers
RANGE FAN LIMITS**	Left - from grid 6038 8411 at 038 degrees mag Right - from grid 6040 8408 at 038 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	10 meters
MAXIMUM RANGE**	60 meters
IMPACT AREA**	R-127 Impact Area
ENVIRONMENTAL	There is California Gnatcatcher habitat nearby. The gnatcatcher habitat is severely damaged by fire; therefore, extreme caution shall be used with open flame, heating elements, cigarettes, and pyrotechnics. Keep troops and vehicles out of the gnatcatcher habitat (brush areas). Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Five (5) LAV firing points, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond impact berm
ASSIGNED TO	CG, MCB
TELEPHONE	None

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SPECIAL INSTRUCTIONS

1. Personnel shall ensure all rounds impact in the designated impact area.

2. The RSO shall ensure both range flags at grids 6055 8387 and 6037 8411 are raised during firing.

3. Constant communication shall be maintained between the RSO and the vehicle firing line.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. Range guards shall be posted at the junction of Reaper Road and the trail to R-127 (grid 6056 8398).

5. Units using tactical communication equipment should be prepared to establish communication links with LONGRIFLE via retrans/RC292/OE-254.

6. The only weapon to be fired on this range is the M-16A2 rifle mounted in the LAV SUB CALIBER ATTACHMENT to simulate main gun firing.

7. R-127 conflicts with the Oscar Two Training Area.

8. Refer to chapter 8 of this Manual for all laser operations

9. Ensure all weapons are cleared and inspected prior to departing the firing line.

10. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

11. Helicopters may over fly the area at 1,000’ AGL and above.

RANGE AND TRAINING REGULATIONS

RANGE	R-130 Complex
LOCATION	6179 8527
TYPE	Special Operations Training Complex
ALLOWABLE WEAPONS	Rifles, 7.62mm and below; pistols, .45 cal. and below; shotguns (lock buster only); grenades (concussion only); demolitions not to exceed 40 lbs. NEW tamped/untamped
RANGE FAN LIMITS**	Refer to the Range 130 SOP
BOUNDARIES**	From 6139 8610 to 6234 8610 to 6232 8583 to 6182 8544 to 6147 8556
MINIMUM RANGE**	Range/Weapon dependent
MAXIMUM RANGE**	The maximum range for any training evolution shall be that no fired rounds will leave the grid boundaries established above.
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	There is California Gnatcatcher habitat nearby. The gnatcatcher habitat is severely damaged by fire; therefore, extreme caution shall be used with open flame, heating elements, cigarettes, and pyrotechnics. Keep troops and vehicles out of the gnatcatcher habitat (brush areas). Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Two (2) close quarters battle shooting houses, two (2) rifle/pistol ranges, vehicle assault range, infantry squad assault course, special demolitions range, sniper BZO range, steel bay range, breaching facility; sniper hides, aerial platform, range buildings, classroom, RSL ammo containers, bivouac site, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Refer to the Range 130 SOP
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-2924 and 725-2547

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

SPECIAL INSTRUCTIONS

1. All certifications (except Camp Pendleton OIC/RSO) and scheduling are accomplished through the CG, I MEF, Special Operations Training Group (SOTG).

2. Requirements for individual ranges are contained in the Range 130 SOP, and may be coordinated with SOTG personnel at the range complex.

3. Ensure all weapons are cleared and inspected prior to departing the firing line.

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

5. Helicopters may over fly the area at 1,000' AGL. When firing 7.62mm an air sentry shall be designated to observe for aircraft entering into the range surface danger zone. In the event an aircraft enters the range surface danger zone, an immediate cease fire shall be conducted and LONGRIFLE notified. Firing shall not continue until cleared by LONGRIFLE.

RANGE AND TRAINING REGULATIONS

RANGE	R-131 Complex
LOCATION	6190 8490
TYPE	Military Operations in Urban Terrain (MOUT), MOUT Town Sections 1-4, and MOUT Assault Course (MAC) Stations 1-6
ALLOWABLE WEAPONS	Refer to the MOUT SOP (annex III of this appendix)
RANGE FAN LIMITS**	Refer to the MOUT SOP (annex III of this appendix)
BOUNDARIES**	Refer to the MOUT SOP (annex III of this appendix)
MINIMUM RANGE**	Refer to the MOUT SOP (annex III of this appendix)
MAXIMUM RANGE**	Refer to the MOUT SOP (annex III of this appendix)
IMPACT AREA**	X-Ray Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Refer to the MOUT SOP (annex III of this appendix)
TROOP PENETRATION LIMIT FROM FIRING LINE**	None
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0887/0888
	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL****
SPECIAL INSTRUCTIONS	1. Refer to the MOUT SOP (annex III of this appendix).

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RANGE	R-200 (Inactive)
LOCATION	5060 9480

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RANGE	R-200B (Inactive)
LOCATION	5090 9490

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RANGE AND TRAINING REGULATIONS

RANGE	R-201
LOCATION	5161 9765
TYPE	Field Firing /Pistol and Shotgun Familiarization Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; machine guns, 7.62 and below; shotguns; M203 (pyrotechnics and TP), SMAW (inert practice only), AT-4 (trainer only), mortars (illum only)
RANGE FAN LIMITS**	Field Firing Range Left - from grid 5161 9766 at 022 degrees mag Right - from grid 5163 9762 at 067 degrees mag Pistol/Shotgun Familiarizaton Range Left - from grid 5158 9767 at 033 degrees mag Right - from grid 5160 9765 at 033 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	Field Firing Range - 100 meters (weapon dependent) Pistol/Shotgun Familiarizaton Range - 3 meters
MAXIMUM RANGE**	Field Firing Range - 1,500 meters Pistol/Shotgun Familiarizaton Range - 25 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Bleachers, observation tower, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Ensure all weapons are cleared and inspected prior to departing the firing line. 2. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)	3. Shotgun area - from 5158 9767 to 5160 9765 to 5159 9768 to 5161 9765

RANGE	R-202
LOCATION	5248 9687
TYPE	Hand Grenade Range
ALLOWABLE WEAPONS	Grenades
RANGE FAN LIMITS**	Left - from grid 5246 9686 at 314 degrees mag Right - from grid 5249 9688 at 322 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	1 meter
MAXIMUM RANGE**	40 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Four (4) live-fire throwing bays; six (6) practice throwing bays, ammo issue bunker, observation tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond throwing bay area while the range is in a hot status
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7189

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Holding Point #1 is midway on the troop access trail designated by the red line across the path. This is the limit of advance for all future relays. Personnel shall remain at or behind this point until the next four (4) throwers are signaled to advance to the grenade issue point (Holding Point #2).

2. Holding Point #2 is the grenade issue point designated by the red line on the deck. This area is behind the observation tower under the staircase. The authorized personnel at this point are the grenade issue person and the next four (4) throwers. This next relay of throwers shall

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

remain inside the red line area until directed to advance to the throwing pits.

3. Dud sweeps on this range shall only be conducted by qualified EOD personnel.

4. In the event of a dud, training shall cease. Notify LONGRIFLE for EOD support. Training shall not resume until authorized by LONGRIFLE.

5. Pit area - from 5246 9685 to 5250 9688 to 5248 9692 to 5244 9690

6. HE grenades shall be thrown on at a time and into the impact area only.

7. Grenade ranges shall cease training one hour prior to sunset. In the event a dud grenade is not cleared before reduced light conditions, the using unit shall provide a guard force until the grenade can be cleared.

NOTE: EOD's minimum response time to grenade ranges is one hour.

8. Should bays #1 or #2 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #3 and #4.

9. Should bays #3 or #4 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #1 and #2.

10. If a dud is experienced on both sides of the range, all training shall stop until EOD has cleared the range.

11. The RSO and COMM assets shall be inside the reviewing tower during hot status. Other authorized personnel in the tower are the OIC, and no more than four (4) observers.

12. Using units shall drag the impact area, to include the practice bays, with a raking device provided on site before departing the range.

13. The entire range is inside the 150-meter SDZ (frag pattern). Helmets, flak jackets, hearing protection and proper eye protection are required for all personnel throwing grenades, waiting to throw grenades, safety personnel, and all personnel in the practice bay area when the range is in a hot status, and HE grenades are being thrown.

14. All grenades impacting outside of the designated impact area shall be reported to LONGRIFLE.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

15. Range guards shall be posted at grids 5230 9672 and 5267 9692 with a "grenade training in progress" sign, and two-way radio communication to the RSO. No traffic/personnel shall enter the range without the RSO's permission.

16. No training shall be conducted when there is standing water or mud in the impact area.

17. Practice and non-lethal grenades shall be thrown in practice grenade bays only. The using unit shall police residue from these grenades.

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RANGE	R-203
LOCATION	5266 9738
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; machine guns, .50 cal. and below; M203; MK19, 25mm; SMAW; AT-4; DRAGON
RANGE FAN LIMITS**	Left - from grid 5266 9740 at 028 degrees mag Right - from grid 5266 9737 at 063 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	150 meters (weapon dependent)
MAXIMUM RANGE**	600 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Use of 25mm DODIC A974 is not authorized. 2. All tire stacks and tire targets are for small arms only. All other weapon systems shall utilize hard targets. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-204B
LOCATION	5328 9689
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; machine guns, .50 cal. and below; MK19, 25mm; M257 smoke grenade launcher; mortars
RANGE FAN LIMITS**	Left - from grid 5326 9689 at 003 degrees mag Right - from grid 5329 9687 at 034 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	2,500 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Machine gun pits, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Use of 25mm DODIC A974 is not authorized.

2. Mortars shall be fired from a position to the right of the firing line at grid 5331 9686.

3. No ordnance shall impact on San Juan Road into Jardine Canyon.

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

6. Primary firing line - from 5326 9689 to 5329 9687
Lower firing line - from 5333 9689 to 5359 9688

7. The lower firing line area shall not be occupied when the primary firing line is in a hot status.

RANGE AND TRAINING REGULATIONS

RANGE	R-206
LOCATION	5517 9260
TYPE	BZO/Non-Lethal Familiarization Firing Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; shotguns, non-lethal, "00" buckshot, 9 shot; M-203 (non-lethal); rubber ball hand grenades
RANGE FAN LIMITS**	Left - from grid 5517 9259 at 250 degrees mag Right - from grid 5517 9261 at 275 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	5 meters (weapon dependent)
MAXIMUM RANGE**	25 meters
IMPACT AREA**	R-206 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Observation tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Rubber ball hand grenades shall be employed by hand only. 2. Ensure all weapons are cleared and inspected prior to departing the firing line. 3. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-207
LOCATION	5320 9418
TYPE	Demolition Range
ALLOWABLE WEAPONS	Demolitions, not to exceed two (2) lbs. NEW. Claymore mines (demonstrations only)
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	R-207 Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of the wetland/drainage areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Covered bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7431
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Helmets, flak jackets, and hearing protection shall be worn by all personnel while on this range. 2. All training material/trash shall be removed from this range upon completion of training. 3. All malfunctions shall be corrected per the approrpriate TM/FM, and unit SOP. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. A range guard shall be posted at 5341 6437 with a "demolition in progress" sign, and two-way radio communication to the RSO. No traffic/personnel shall enter the range without the RSO's permission.

5. All demolitions shall be detonated within the demo pit, from grid 5311 9419 to 5314 9417 to 5312 9414 to 5311 9419.

RANGE	R-207A
LOCATION	4982 9482
TYPE	Demolition Range
ALLOWABLE WEAPONS	Demolitions, not to exceed ½ lb. NEW
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	R-207A Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of the wetland/drainage areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Bleachers
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Helmets, flak jackets, and hearing protection shall be worn by all personnel while on this range. 2. All training material/trash shall be removed from this range upon completion of training. 3. Range guards shall be posted at grids 4994 9499 and 4956 9456 and 5008 9484 with a "demolition in progress" sign, and two-way radio communication with the RSO. No traffic/personnel shall enter the range without the RSO's permission.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. All malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

5. All demolitions shall be detonated within the demo pit, from grid 4984 9483 to 4985 9480 to 4981 9479 to 4981 9481 to 4984 9483.

RANGE	R-208C
LOCATION	5376 9616
TYPE	Offensive Combat Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; machine guns, 7.62 and below; M203 (pyrotechnics and TP); AT-4; SMAW; claymore mines; mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 5373 9622 at 000 degrees mag Right - from grid 5377 9614 at 036 degrees mag
BOUNDARIES**	Maneuver area - from 5373 9622 to 5374 9590 to 5422 9633 to 5420 9676 to beginning
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	400 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	There is Least Bell's Vireo habitat adjacent to this range in the willow trees and brush. Keep troops and vehicles out of the wetland/drainage areas. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Bleachers
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond boundaries of the range
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7747

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. A brief to the RCO is required at least fourteen (14) working days prior to the training evolution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammunition, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

2. M203 40mm (DODIC B519) only. HE and TP (B577) are not authorized on this range.

3. Range guards shall be posted at grids 5373 9589 and 5760 0119 with two-way radio communication with the RSO to prevent entry into the impact area. No traffic/personnel shall enter the range without the RSO's permission.

4. This range conflicts with training activities conducted within Jardine Canyon.

5. Prior to any live-fire, the RSO shall conduct at least one cold walk-through with all firing personnel. Target identification and proper limits of fire shall be fully briefed.

6. For PITS target support, contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4805/4446 fourteen (14) days in advance to coordinate training scenarios. Units shall reconfirm ASB support two (2) working days prior to the planned training event.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-210B (Inactive)
LOCATION	5514 9538

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RANGE	R-210C (Inactive)
LOCATION	5460 9550

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RANGE AND TRAINING REGULATIONS

RANGE	R-210D
LOCATION	5514 9538
TYPE	M203 Qualification Range
ALLOWABLE WEAPONS	M203, M79
RANGE FAN LIMITS**	HE Left - from grid 5515 9538 at 009 degrees mag Right - from grid 5520 9536 at 025 degrees mag TP Left - from grid 5510 9541 at 355 degrees mag Right - from grid 5520 9536 at 025 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	90 meters - Training practice (TP) 165 meters - High explosive (HE)
MAXIMUM RANGE**	400 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats live on this range. These rodents can be found on the firing lines between the firing lines and target areas, and along the dirt access roads. Normal range operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing of burrow areas should be limited during periods when the soil is very moist to prevent soil compaction. Road grading/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Sixteen (16) practice firing positions, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7847

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

SPECIAL INSTRUCTIONS

1. Cross-lane firing is prohibited when employing all firing positions.

2. Ranges 210E/F shall not be occupied when R-210D is in a hot status with HE.

3. R-210E/F may be occupied when R-210D is in a hot status with TP only.

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-210E
LOCATION	5564 9550
TYPE	Defensive Combat Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below; machine guns, .50 cal. and below; M203; 25mm; SMAW; AT-4; DRAGON; TOW; JAVELIN; mortars
RANGE FAN LIMITS**	Left - from grid 5565 9552 at 045 degrees mag Right - from grid 5565 9547 at 093 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	10 meters (weapon dependent)
MAXIMUM RANGE**	400 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats live on this range. These rodents can be found on the firing lines between the firing lines and target areas, and along the dirt access roads. Normal range operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing of burrow areas should be limited during periods when the soil is very moist to prevent soil compaction. Road grading/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
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SPECIAL INSTRUCTIONS

1. R-210E shall not be occupied when R-212TOW is in a hot status.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

2. R-210E shall not be occupied when R-210D is in a hot status with HE.

3. R-210E may be occupied when R-210D is in a hot status with TP only.

4. When employing weapons with a back blast area on R-210E, a range guard shall be posted at 5535 9539; an additional range guard shall be placed at 5562 9566 when R-210F is occupied.

5. Weapons with a back blast area closes the access road to R-210F, and requires coordination between both R-210E and R-210F RSOs for safe troop movement.

6. All range guard positions shall maintain positive two-way communication with the RSO at all times.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-210F
LOCATION	5563 9575
TYPE	BZO/Field Firing Range
ALLOWABLE WEAPONS	Rifles, 5.56 only; machine guns, 5.56 only
RANGE FAN LIMITS**	BZO Range Left - from grid 5557 9584 at 066 degrees mag Right - from grid 5558 9580 at 066 degrees mag Field Firing Range Left - from grid 5559 9589 at 053 degrees mag Right - from grid 5563 9570 at 065 degrees mag
BOUNDARIES**	BZO Range - from 5557 9584 to 5558 9580 to 5560 9584 to 5561 9580 to beginning Field Firing Range - from 5562 9577 to 5564 9573 to 5566 9579 to 5568 9575 to beginning
MINIMUM RANGE**	BZO Range: 36 meters Field Firing Range: 10 meters (weapon dependent)
MAXIMUM RANGE**	BZO Range: 36 meters Field Firing Range: 400 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats live on this range. These rodents can be found on the firing lines between the firing lines and target areas, and along the dirt access roads. Normal range operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing of burrow areas should be limited during periods when the soil is very moist to prevent soil compaction. Road grading/ blading, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Eight (8) field firing lines with maneuver up to 40 meters, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	BZO range: 36 meters Field firing range: 40 meters
ASSIGNED TO	CG, MCB
TELEPHONE	None

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. This range shall not be occupied when R-210D is in a hot status.

2. The R-210F and R-210E RSOs shall coordinate to identify if weapons with a back blast area will be fired; as weapons with a back blast area on R-210E closes the R-210F access road.

3. A corpsman shall be persent during all range maintenance activities involving digging or pounding stakes into the ground.

4. Troops may conduct fire and movement up through the first 40 meters. Movement from 40 meters to 400 meters for the purpose of target replacement requires approval by LONGRIFLE, and R-210E to be in a cold status.

5. All firing lanes shall remain abreast of one another; cross-lane firing is prohibited.

6. The BZO range and field firing range may not be fired simultaneously.

7. Ensure all weapons are cleared and inspected prior to departing the range.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM and unit SOP.

RANGE	R-210G (Pending certification)
LOCATION	5408 9586

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RANGE	R-211
LOCATION	5442 9515
TYPE	Demolition Range
ALLOWABLE WEAPONS	Demolitions, not to exceed fifteen (15) lbs. NEW
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Observation bunker, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	None
ASSIGNED TO	CG, MCB
TELEPHONE	None

SPECIAL INSTRUCTIONS

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

1. All personnel shall be in the designated safe area or the observation bunker when firing is in progress.

2. A range guard shall be posted at 5382 9427 with a “demolition in progress” sign, and with two-way radio communication with the RSO. No traffic/personnel shall enter the range without permission from the RSO.

3. All training material/trash shall be removed from this range upon completion of training.

4. Helmets, flak jackets, and hearing protection shall be worn by all personnel while on this range.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

5. The RSO shall check each shot hole, looking for unconsumed explosives prior to departing the range. The RSO shall also ensure all shot holes are filled and the debris is policed-up.

6. ALL unconsumed explosives shall be policed-up and consolidated for one last clean-up shot prior to the range going cold.

7. ALL unused blasting materials shall be retrieved upon completion of training, and shall be returned to the Las Pulgas ASP.

8. ALL target materials which were used (blown) during training shall be policed-up and taken back with the unit.

9. NO VEHICLES are permitted in the parking lot when firing is in progress.

10. A total of three (3) radios are needed to safely use this range.

11. The RSO is responsible for all charges, and ensuring all misfire procedures are in compliance with current directives.

12. All demolitions shall be detonated in the demo pit, from 5440 9517 to 5440 9514 to 5444 9513 to 5444 9517.

13. The area at 5430 9500 shall only be used to drop off or pick up materials used for the demo.

14. Personnel shall be at minimum stand-off distances, per MCO directives in the 3570 series, when firing is in progress.

15. All malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

16. Designated safe area located at grid 5430 9501

RANGE AND TRAINING REGULATIONS

RANGE	R-212A
LOCATION	5504 9422
TYPE	BZO/Non-Lethal Familiarization Firing Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below, machine guns, 7.62 and below; shotguns, non-lethal, "00" buckshot, 9 shot; M203 (non-lethal); rubber ball hand grenades
RANGE FAN LIMITS**	Left - from grid 5503 9423 at 013 degrees mag Right - from grid 5509 9426 at 022 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	7 yards
MAXIMUM RANGE**	50 yards
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Grassy hills along the east side of Basilone Road contain a proposed threatened plant species. Vehicular traffic to and from this range should remain on existing roads.
RANGE FACILITIES	30 static firing positions, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond impact berm
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Rubber ball hand grenades shall be employed by hand only. 2. Ensure all weapons are cleared and inspected prior to departing the firing line. 3. All weapon malfunctions shall be corrected per the appropriate TM/.FM, and unit SOP.

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RANGE R-212TOW [(Closed) - (Refer to annex II)]

LOCATION

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RANGE	R-213
LOCATION	5614 9414
TYPE	Pistol Range
ALLOWABLE WEAPONS	Pistols, .45 cal. and below
RANGE FAN LIMITS**	Left - from grid 5612 9414 at 307 degrees mag Right - from grid 5615 9416 at 328 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	7 yards
MAXIMUM RANGE**	25 yards
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Grassy hills along the east side of Basilone Road contain a proposed threatened plant species. Vehicular traffic to and from this range should remain on existing roads.
RANGE FACILITIES	Range building; public address system; 7, 15, and 25-yard firing lines; 20 firing points; POV parking; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7331
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for R-213 shall be submitted via the Marksmanship Training Branch. POC is the SNCOIC at (760) 725-3436. 2. Personnel leaving this range while firing is in progress on the 300 or 500-yard lines of R-214 shall use the road which exits south of the range. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-214
LOCATION	5653 9398
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; M203 (pyrotechnics only); lasers
RANGE FAN LIMITS**	Left - from grid 5642 9397 at 332 degrees mag Right - from grid 5664 9401 at 334 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 yards
MAXIMUM RANGE**	500 yards
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Grassy hills along the east side of Basilone Road contain a proposed threatened plant species. Vehicular traffic to and from this range should remain on existing roads.
RANGE FACILITIES	Range building; public address system; 100, 200, 300, and 500-yard firing lines; 72 firing points, bleachers, POV parking; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7331
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for R-214 shall be submitted via the Marksmanship Training Branch. POC is the SNCOIC at (760) 725-3436. 2. Refer to chapter 8 of this Manual for laser operations. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-215A
LOCATION	5677 9400
TYPE	Offensive Field Firing
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; machine guns, 7.62 and below; M203 (pyrotechnics and TP); SMAW (inert only); AT-4 (trainer only); mortars (illum only); M18A1 claymore mines
RANGE FAN LIMITS**	Left - from grid 5671 9404 at 356 degrees mag Right - from grid 5694 9395 at 013 degrees mag
BOUNDARIES**	Maneuver area - from 5671 9403 to 5694 9395 to 5726 9456 to 5722 9507 to 5716 9509 to 5717 9498 to 5707 9472 to 5693 9460 to 5679 9444 to 5671 9418
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	1,000 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Assembly area, control tower, operations office/storage building, classroom, ammunition distribution building, vaulted head facility, 30 Stationary Infantry Targets, 17 Moving Infantry Targets
TROOP PENETRATION LIMIT FROM FIRING LINE**	1,200 meters
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-0194 (tower) and 725-0195 (office)
	****RANGE REGS POSTED** **AT THE RANGE** **SUPERCEDE THIS MANUAL****
SPECIAL INSTRUCTIONS	1. 7.62 machine guns are only authorized to fire from 5721 9463 at a principle direction of fire of 012 degrees mag (cement bunker). 2. M203 pyrotechnics, smoke and TP (B519) shall be employed at the identified targets for this weapon system only.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

3. SMAWs/AT-4s shall be employed at the identified targets for these weapon systems only. The employment of HE rockets may be authorized by the RCO.

4. If dud mortar illumination rounds are encountered in the maneuver area, dud locations shall be marked. Notify LONGRIFLE for EOD support.

5. Claymore mines are only authorized to fire from 5700 9440 at a principle direction of fire of 011 degrees mag.

6. This range is a COMTS range. All units shall coordinate with the contractor at least 48 hours in advance to arrange for an in-brief and to develop a training scenario. Refer to paragraph 6004 in chapter 6 of this Manual.

7. Range fan limits are identified from the extreme left and right of the maneuver box. A four by four white sign marks the left limit. A four by four orange sign marks the right limit. A 14-foot striped pole in the center of the range, and in front of stationary infantry target (SIT) 101 represents the maximum angle of fire when within the first 300 meters of the range (FRONT OF TOWER), and should be used as a reference point. When maneuvering through the first 300 meters from the left side of the range, the 14-foot striped pole represents the right limit and NO weapons shall be pointed to the right of the pole; when maneuvering from the right side, it represents the left limit and NO weapons shall be pointed to the left of the pole.

NOTE: During night live training, all poles shall have chem-lites or other user-provided lights. The lights must be visible by all participating and safety personnel.

8. FMF units shall have priority use.

9. Coordination with the RCO is required when R-215A is occupied while R-218A is in a hot status.

10. When troop penetration goes beyond 200 meters from the firing line, R-216 and R-218A shall be in a cold status.

11. Ensure all weapons are cleared and inspected prior to departing the firing line.

12. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-216 (Inactive)
LOCATION	5730 9390

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RANGE AND TRAINING REGULATIONS

RANGE	R-217
LOCATION	5825 9367
TYPE	M203 Qualification Course
ALLOWABLE WEAPONS	M203, M79
RANGE FAN LIMITS**	Left - from grid 5822 9368 at 333 degrees mag Right - from grid 5827 9366 at 030 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	90 meters - Training practice (TP) 165 meters - High explosive (HE)
MAXIMUM RANGE**	400 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Grassy hills along the east side of Basilone Road contain a proposed threatened plant species. The trees, brush, and associated sandy wash areas between Basilone Road and this range provide habitat to endangered species. Normal range operations will not affect this habitat. Vehicles shall remain on existing roads, year-round, and minimize the use of undeveloped creek crossings during nesting season. Do not clear vegetation in these areas without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	10 firing positions
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Ensure all weapons are cleared and inspected prior to departing the firing line. 2. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	R-218A
LOCATION	5776 9362
TYPE	Infantry Squad Defensive & Offensive Firing Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below; machine guns, .50 cal. and below; M203 (pyrotechnics and TP); SMAW, AT-4; mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 5772 9362 at 328 degrees mag Right - from grid 5779 9360 at 18 degrees mag
BOUNDARIES**	Maneuver area - from 5764 9426 to 5796 9386 to 5813 9411 to 5816 9420 to 5837 9445 to 5827 9458 to 5791 9465 to 5777 9448 to 5771 9434 to 5762 9406 to 5753 9398 to 5738 9352 to 5780 9360
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	2,000 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	The trees, brush, and associated sandy wash areas between Basilone Road and this range provide habitat to endangered species. Normal range operations will not affect this habitat. Vehicles shall remain on existing roads, year-round, and minimize the use of undeveloped creek crossings during nesting season. Do not clear vegetation in these areas without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Control tower, vaulted head facility, ammo distribution building, covered bleachers, classroom building, range building, 96 stationary infantry targets, 12 infantry moving targets, 35 infantry hostile fire simulators, 44 infantry night muzzle flash simulators
TROOP PENETRATION LIMIT FROM FIRING LINE**	2,000 meters
ASSIGNED TO	CG, MCB
TELEPHONE	763-2192

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

SPECIAL INSTRUCTIONS

1. M203 pyrotechnics, smoke and TP (B519) shall be employed at the identified targets for this weapon system only.

2. SMAWs/AT-4s shall be employed at the identified targets for these weapon systems only. The employment of HE rockets may be authorized by the RCO.

3. If dud mortar illumination rounds are encountered in the maneuver areas, dud locations shall be marked. Notify LONGRIFLE for EOD support.

4. This range was originally built to satisfy infantry squad defensive standards; however, this range can be used as a squad offensive rnage upon a brief to the RCO. A brief to the RCO is required at least fourteen (14) working days prior to the training evolution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammuni- tion, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure.

5. This range is a COMTS range with thermal target capabilities. All units shall coordinate with the contractor at least 48 hours in advance to arrange for an in-brief and to develop a training scenario. Refer to paragraph 6004 in chapter 6 of this Manual.

6. The RSO shall post two range guards (one at each end of the range road - grids 5724 9346 and 5821 9359).

7. FMF units shall have priority use.

8. R-218A shall be in a cold status when troop penetration goes beyond 200 meters from the firing line on R-215A.

9. Ensure all weapons are cleared and inspected prior to departing the firing line.

10. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

11. Mine field training area located at grid 5745 9361

RANGE AND TRAINING REGULATIONS

RANGE	R-219
LOCATION	5940 9370
TYPE	Demolition Range
ALLOWABLE WEAPONS	Demolitions, not to exceed 50 lbs. NEW, claymore mines, bangalore, anti-personnel obstacle breaching system (APOBS), anti-tank mines
RANGE FAN LIMITS**	Left - from grid 5955 9390 at 342 degrees mag Right - from grid 5955 9390 at 064 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Bunkers, bleachers, control gate, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond range boundaries
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Helmets, flak jackets, and hearing protection shall be worn at all times while on this range.

2. A range guard shall be posted at 5886 9341 with a "demolition in progress" sign, and two-way radio communication with the RSO. No traffic/personnel shall enter the range without the RSO's permission.

3. The RSO shall check each shot hole, looking for unconsumed explosives prior to departing the range. The RSO shall also ensure all shot holes are filled and the debris is policed-up.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. ALL unconsumed explosives shall be policed-up and consolidated for one last clean-up shot prior to the range going cold.

5. ALL unused blasting materials shall be retrieved upon completion of training, and shall be returned to the Las Pulgas ASP.

6. ALL target materials which were used (blown) during training shall be policed-up and taken back with the unit.

7. Personnel shall be at minimum stand-off distances, per MCO directives in the 3570 series, when firing is in progress.

8. NO VEHICLES are permitted in the parking lot when firing is in progress.

9. A total of three (3) radios are needed to safely use this range.

10. The RSO is responsible for all charges, and ensuring all misfire procedures are in compliance with current directives.

11. All demolitions shall be detonated within the demo pit only, from 5954 9389 to 5962 9400 to 5967 9397 to 5959 9388 to 5954 9389.

12. The area at 5941 9369 shall only be used to drop off or pick up materials used for the demo.

13. Use of anti-tank mines require coordination with the RCO seven (7) working days prior to the training evolution. Unit must submit an ORM Worksheet and concept of operations brief outling additional safety control measures necessary to support the employment of anti-tank mines.

14. All malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-221
LOCATION	6005 9281
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; machine guns, .50 cal. and below, M203; 25mm; 257 smoke grenade launcher; MK19
RANGE FAN LIMITS**	Left - from grid 6000 9286 at 003 degrees mag Right - from grid 6012 9277 at 023 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	3,000 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Control tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7435
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. 25mm (M791/A974) ammunition is prohibited on this range. 2. Post a range guard at 5971 9282 to prevent entry onto Horno Ridge Road. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-222 (Inactive)
LOCATION	6080 9220

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RANGE	R-223A (Inactive)
LOCATION	6200 9150

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RANGE AND TRAINING REGULATIONS

RANGE	R-223B
LOCATION	6171 9167
TYPE	Multi-Purpose Machine Gun Range/Offensive Field Firing Range
ALLOWABLE WEAPONS	Rifles, .50 cal.and below; pistols, .45 cal and below; machine guns, .50 cal. and below; M203 (pyrotechnics and TP); SMAW; AT-4; mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 6167 9170 at 360 degrees mag Right - from grid 6181 9162 at 026 degrees mag NOTE: 50 cal. machine guns must maintain a right limit of 016 degrees mag.
BOUNDARIES**	Maneuver area - from 6167 9170 to 6167 9200 to 6178 9223 to 6191 9249 to 6208 9245 to 6213 9228 to 6209 9195 to 6181 9162
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	850 meters for target feedback 1,400 meters for static targets
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Control tower, vaulted head facility, covered bleachers, range building, ammo distribution building, indoor classroom, public address system
TROOP PENETRATION LIMIT FROM FIRING LINE**	1,400 meters
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 763-0690 and 725-4805

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS	1. M203 pyrotechnics, smoke and TP (B519) shall be employed at the identified targets for this weapon system only.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

2. SMAWs /AT-4s shall be employed at the identified targets for these weapon systems only. The employment of HE rockets may be authorized by the RCO.

3. If dud mortar illumination rounds are encountered in the maneuver areas, dud locations shall be marked. Notify LONGRIFLE for EOD support.

4. This range was originally built to satisfy infantry squad defensive standards; however, this range can be used as a squad offensive range upon a brief to the Range Control Officer. A brief to the RCO is required at least fourteen (14) working days prior to the training evlution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammunition, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure.

5. The using unit is responsible for policing and leveling of road surface when disturbed by vehicles.

6. Vehicles shall not exceed 10 mph while firing.

7. Free-gunning is NOT allowed on this range.

8. Keep muzzles pointed down-range at all times, especially while the vehicle is in motion.

9. The fire and maneuver course shall not be in operation when the fixed firing points are in a hot status (no simultaneous operations).

10. No vehicles are allowed on fixed firing point berms.

11. .50 cal. rifles/machine guns may not be employed when R-409A NFA is occupied.

12. This range is a COMTS range with thermal target capabilities. All units shall coordinate with the contractor at least 48 hours in advance to arrange for an in-brief and to develop a training scenario. Refer to paragraph 6004 in chapter 6 of this Manual.

13. Ensure all weapons are cleared and inspected prior to departing the firing line.

14. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-225
LOCATION	6195 9076
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, 5.56 and below; pistols, .45 cal. and below; machine guns, 7.62 and below; mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 6194 9079 at 012 degrees mag Right - from grid 6197 9073 at 046 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	650 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats have been found between this range and R-227. These rodents may also be found along the dirt access roads in this area. Normal range operations will not affect this habitat. Vegetation mowing is authorized, year-round, on this range, but tractor mowing of burrow areas should be limited during period when the soil is very moist to prevent soil compaction. Road grading/blading, mechanical excavating, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environment Security. Archaeological sites are located at this range and troops should avoid digging activity or removal of any artifacts found on the surface or as part of their activity. Off-road vehicle use should be limited to previously disturbed areas of dry soils to avoid severe rutting and subsequent erosion of soils, which leads to severe gullies.
RANGE FACILITIES	Control tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7835

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

SPECIAL INSTRUCTIONS	1. Ensure all weapons are cleared and inspected prior to departing the firing line. 2. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-227
LOCATION	6323 9049
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, 5.56 and below; machine guns 7.62 and below; M203; MK-19; SMAW; AT-4; mortars; lasers
RANGE FAN LIMITS**	Left - from grid 6320 9050 at 325 degrees mag Right - from grid 6324 9049 at 015 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	5,800 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats have been found between this range and R-225. These rodents may also be found along the dirt access roads in this area. Normal range operations will not affect this habitat. Vegetation mowing is authorized, year-round, on this range, but tractor mowing of burrow areas should be limited during period when the soil is very moist to prevent soil compaction. Road grading/blading, mechanical excavating, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environment Security.
RANGE FACILITIES	Control tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-4877
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Sniper rifles may not be employed on this range. 2. Refer to chapter 8 of this Manual for all laser operations. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

3. Tracked vehicles must stay clear from the prepared firing positions and are only permitted to conduct firing from the right side of the firing line.

4. Range guards are required on the road at 6298 9029 and 6338 9023 when firing weapon systems with back blast.

5. Back blast weapons shall be fired from the extreme right of the firing line only at grid 6325 9049.

6. Orange/White barriers outside the lateral limits are not authorized for engagement.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-300
LOCATION	4864 9756
TYPE	BZO/Non-Lethal Familiarization Firing Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below; pistols, .45 cal. and below; machine guns, 7.62 and below; shotguns (non-lethal); M203 (non-lethal); rubber ball hand grenades
RANGE FAN LIMITS**	Left - from grid 4867 9759 at 120 degrees mag Right - from grid 4862 9754 at 136 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	7 yards
MAXIMUM RANGE**	36 yards
IMPACT AREA**	R-300 Impact Area
ENVIRONMENTAL	The willow trees, brush, and sandy wash areas in the streambed adjacent to this range provide habitat for the endangered Least Bell's Vireo, Southwestern Willow Flycatcher, and Arroyo Southwestern Toad. Normal range operations will not affect this habitat. Troops and vehicles should avoid and minimize use of the wetland and river bottom vegetation areas, to the extent practical during nesting season. Do not clear vegetation outside the range boundaries without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	7, 10, 15, 25 and 36-yard firing lines, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Rubber ball hand grenades shall be employed by hand only.

2. Units shall provide and use only standard-issue targets on wood supports. No metal supports or targets are permitted on this range.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

3. Using units shall police all debris from targets and supports before departing from the range.

4. Range guards shall be posted on the road, on either side of the range in the vicinity of 4860 9755 and 4870 9760, when the range is in a hot status.

5. Ensure all weapons are cleared and inspected prior to departing the firing line.

6. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-307
LOCATION	5027 0152
TYPE	Hand Grenade Range
ALLOWABLE WEAPONS	Grenades
RANGE FAN LIMITS**	Left - from grid 5029 0150 at 206 degrees mag Right - from grid 5025 0153 at 198 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	1 meter
MAXIMUM RANGE**	40 meters
IMPACT AREA**	R-307 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Six (6) live throwing bays, six (6) practice throwing bays, control bunker, observation tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond throwing bay while the range is in a hot status
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Dud sweeps on this range shall be conducted by qualified EOD personnel only.

2. HE grenades shall be thrown one at a time and into the pit area only, from 5029 0150 to 5026 0146 to 5021 1050 to 5025 0153 to 5029 0150.

3. In the event of a dud, training shall cease. Notify LONGRIFLE for EOD support. Training shall not resume until authorized by LONGRIFLE

4. Grenade ranges shall cease training one hour prior to sunset. In the event a dud grenade is not cleared before reduced light conditions, the

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

using unit shall provide a guard force until the grenade can be cleared.

NOTE: EOD's minimum response time to grenade ranges is one hour.

5. Practice and non-lethal grenades shall be thrown in practice grenade bays only. The using unit shall police residue from these grenades.

6. Should bays #1, 2, or 3 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #4, 5, and 6.

7. Should bays #4, 5, or 6 experience a dud, training shall cease on that side of the range. Notify LONGRIFLE immediately. Training may continue in bays #1, 2, and 3.

8. If a dud is experienced on both sides of the range, all training shall stop until EOD has cleared the range.

9. Using units shall drag the impact area with a raking device provided on site before departing the range.

10. The practice bay area shall be raked before departing the range.

11. The entire range is within the SDZ (fragmentation pattern). Helmets, flak jackets, hearing protection and proper eye protection are required for all personnel in support of, participation in, or observing training while the range is in a hot status.

12. A range guard shall be posted at 5036 0710 with a "grenade training in progress" sign, and two-way radio communication with the RSO. No traffic/personnel shall enter the range without the RSO's permission.

13. No training shall be conducted when there is standing water or mud in the impact area.

14. All grenades impacting outside the designated impact area shall be reported to LONGRIFLE.

15. The RSO and COMM assets shall be inside the control tower during hot status. Other authorized personnel in the tower are the OIC and no more than four (4) observers.

RANGE R-312A (Inactive)

LOCATION 5060 9970

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RANGE	R-313A (inactive)
LOCATION	5060 9950

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RANGE	R-314
LOCATION	5145 9902
TYPE	Field Firing Range
ALLOWABLE WEAPONS	M203 (pyrotechnics and TP), MK19 (TP only), AT-4 (trainer only), mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 5148 9905 at 109 degrees mag Right - from grid 5143 9899 at 126 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	90 meters (weapon dependent)
MAXIMUM RANGE**	800 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	The sandy wash areas in the streambed adjacent to this range provide habitat for the endangered Arroyo Southwestern Toad. Normal range operations will not affect this habitat. Troops and vehicles should avoid and minimize use of the wetland and river bottom vegetation areas, with the exception of established road-type stream crossings, to the extent practical during breeding season. Do not clear vegetation outside the range boundaries without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Control tower, four (4) M203 pits, bleachers, POV parking; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7543
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. R-314 shall not be occupied when R-314A is in a hot status. 2. Movement beyond the firing line requires EOD support. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-314A
LOCATION	5133 9882
TYPE	BZO/Defensive Fire/Demonstration Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below; machine guns, .50 cal. and below; M203 (pyrotechnics and TP); MK19 (TP only); AT-4 (trainer only); mortars (illum only)
RANGE FAN LIMITS**	Left - from grid 5135 9889 at 072 degrees mag Right - from grid 5131 9874 at 111 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	600 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	The sandy wash areas in the streambed adjacent to this range provide habitat for the endangered Arroyo Southwestern Toad. Normal range operations will not affect this habitat. Troops and vehicles should avoid and minimize use of the wetland and river bottom vegetation areas, with the exception of established road-type stream crossings, to the extent practical during breeding season. Do not clear vegetation outside the range boundaries without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Control tower, bleachers, 50 BZO targets; lighted firing line, POV parking, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited beyond BZO targets
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7211

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. M203 TP DODIC (B519) only.
2. R-314A shall not be used when R-314C is in a hot status.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

3. R-314A shall not be used when R-314 is occupied.

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-314B (Inactive)
LOCATION	5160 9960

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RANGE	R-314C
LOCATION	5129 9857
TYPE	Offensive Combat Range
ALLOWABLE WEAPONS	Rifles, 5.56 and below; machine guns, 5.56 and below; M203 (pyrotechnics and TP)
RANGE FAN LIMITS**	Left - from grid 5131 9861 at 089 degrees mag Right - from grid 5128 9853 at 107 degrees mag
BOUNDARIES**	Maneuver area - from 5131 9860 to 5151 9856 to 5139 9845 to 5128 9853
MINIMUM RANGE**	25 meters
MAXIMUM RANGE**	400 meters
IMPACT AREA**	Quebec Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Bleachers, control tower; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	400 meters
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7211

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. M203 TP (B519) only.

2. This range is designed as a fire and movement course. It is for frontal assaults only.

3. Only one squad at a time is permitted on the range. A safety NCO shall accompany each fire team through the course.

4. R-314C shall not be used when R-314A is in a hot status.

5. The next squad shall not load their weapons until the previous squad is off the range.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

6. A brief to the RCO is required at least fourteen (14) working days prior to the training evolution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammunition, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

9. This range is a COMTS range. All units shall coordinate with the contractor at least 48 hours in advance to arrange for an in-brief and to develop a training scenario. Refer to paragraph 6004 in chapter 6 of this Manual.

RANGE AND TRAINING REGULATIONS

RANGE	R-401
LOCATION	6634 8003
TYPE	EOD Destruction and Test Range
ALLOWABLE WEAPONS	Demolitions, not to exceed forty (40) lbs. NEW
RANGE FAN LIMITS**	N/A
BOUNDARIES**	From 6630 8000 to 6680 7990 to 6740 8020 to 6740 8020 to 6690 8080 to 6630 8040
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	R-401 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Burning pan, steaming pad, range building, ordnance inerting workshop and bunker, personnel shelter bunker, boundary markers
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-3348

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. This range shall be used by qualified and authorized EOD personnel.

2. Controlled Firing Area (CFA) #1 shall be activated prior to using R-401.

3. All scheduling of R-401 shall be coordinated with the Base EOD Team by the requesting unit at (760) 725-5498.

4. All malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	R-403A
LOCATION	7232 8571
TYPE	Pistol/Shotgun Range
ALLOWABLE WEAPONS	Pistols, .45 cal. and below; shotguns
RANGE FAN LIMITS**	Left - from grid 7232 8573 at 055 degrees mag Right - from grid 7232 8569 at 065 degrees mag
BOUNDARIES**	From 7232 8573 to 7233 8573 to 7233 8570 to 7232 8569
MINIMUM RANGE**	1 yard for MCB PMO only 7 yards for all others
MAXIMUM RANGE**	25 yards
IMPACT AREA**	R-403 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	8 shooting positions; 7, 15, and 25-yard firing lines; port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-5081
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. R-403 series conflict with the Julliett Training Area 2. Due to inadvertent trespassing by joggers, hikers, etc., all gates shall be locked and range flags raised. Range 403A has three (3) gates, which shall be manned with range guards at grids 7233 8541, 7226 8593 and 7218 8606, and five (5) range flags, which shall be raised when in a hot status. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-403B
LOCATION	7233 8564
TYPE	Pistol/Shotgun Range
ALLOWABLE WEAPONS	Pistols, .45 cal. and below; shotguns
RANGE FAN LIMITS**	Left - from grid 7233 8567 at 070 degrees mag Right - from grid 7233 8560 at 079 degrees mag
BOUNDARIES**	From 7233 8567 to 7234 8568 to 7234 8560 to 7233 8560
MINIMUM RANGE**	7 yards
MAXIMUM RANGE**	20 yards
IMPACT AREA**	R-403 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Observation tower, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-5081

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Only one shooter (in a Condition 1 status) shall be on the course at one time. All other shooters shall remain behind the firing line when firing is in progress.

2. Due to inadvertent trespassing by joggers, hikers, etc., all gates shall be locked and range flags raised. Range 403B has three (3) gates, which shall be manned with range guards at grids 7233 8541, 7226 8593 and 7218 8606, and five (5) range flags, which shall be raised when in a hot status.

3. R-403 series conflicts with the Julliett Training Area.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-403C
LOCATION	7236 8557
TYPE	Pistol/Shotgun Range
ALLOWABLE WEAPONS	Pistols, .45 cal. and below; shotguns
RANGE FAN LIMITS**	Left - from grid 7235 8559 at 079 degrees mag Right - from grid 7235 8556 at 095 degrees mag
BOUNDARIES**	From 7235 8558 to 7237 8558 to 7237 8555 to 7234 8556
MINIMUM RANGE**	10 yards
MAXIMUM RANGE**	25 yards
IMPACT AREA**	R-403 Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond target area
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-5081

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Only one shooter (in a Condition 1 status) shall be on the course at one time. All other shooters shall remain behind the firing line when firing is in progress.

2. Due to inadvertent trespassing by joggers, hikers, etc., all gates shall be locked and range flags raised. Range 403A has three (3) gates, which shall be manned with range guards at grids 7233 8541, 7226 8593 and 7218 8606, and five (5) range flags, which shall be raised when in a hot status.

3. R-403 series conflicts with the Julliett Training Area.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. Ensure all weapons are cleared and inspected prior to departing the firing line.

5. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE R-403D (Inactive)

LOCATION 7234 8554

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RANGE AND TRAINING REGULATIONS

RANGE	R-407
LOCATION	6473 9125
TYPE	Field Firing Range and Small Arms Air Defense Training
ALLOWABLE WEAPONS	Rifles, 50 cal. and below; machine guns, .50 cal. and below; M203; 25mm; M257 smoke grenade launcher; MK19; SMAW; AT-4; TOW; AVENGER; DRAGON; JAVELIN; tanks (TP only), artillery direct-fire; mortars; lasers
RANGE FAN LIMITS**	Left - from grid 6468 9120 at 295 degrees mag Right - from grid 6477 9131 at 327 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	3,800 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range and troops should avoid digging activity or removal of any artifacts found on the surface or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during period when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environment Security
RANGE FACILITIES	Observation tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS	1. 25mm M791/A974 is prohibited on this range.

SPECIAL INSTRUCTIONS CONTINUED NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

2. AVENGER – The stinger missile shall not be fired on this range. The MP3 .50 cal. machine gun is authorized for use on this range to track and fire on a drone plane. The AVENGER System may only be fired from a stationary position with the rear of the vehicle-oriented down-range. R-407A/B may be occupied, but shall not be in a hot status when the AVENGER System is in a live-fire status. Left and right lateral limits shall be established when the system is emplaced. The drone plane shall not be flown above the horizon. This will aid in limiting the vertical angle of muzzle to avoid down-range conflicts. The instructor shall observe the aiming point on the video monitor and maintain positive override control with the remote control panel.

3. Range guards are required on the road at 6458 9095 and 6482 9128 when firing weapon systems with back blast.

4. The tank cannons shall not be fired at elevations in excess of five (5) degree quadrant elevation.

5. This range is closed when the R-407 Tank/LAV Gunnery Range is in operation.

6. TOW missile wire shall be cut and recovered after firing is secured. DO NOT GO PAST THE ESTABLISHED FIRING LINE.

7. **CAUTION** – The WHITE/ORANGE MARKERS (jersey bouncers) identify the indirect-fire/CAS impact area line and support the fixed-wing CAS release point only. DO NOT BRIEF THEM as the LEFT LATERAL LIMIT marker FOR R-407.

8. Refer to chapter 8 of this Manual for all laser operations.

9. Ensure all weapons are cleared and inspected prior to departing the firing line.

10. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-407A
LOCATION	6505 9161
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, 50 cal. and below; machine guns, .50 cal. and below; M203; 25mm; M257 smoke grenade launcher; MK19; SMAW; AT-4; TOW; AVENGER; DRAGON; JAVELIN; tanks (TP only); mortars
RANGE FAN LIMITS**	Left - from grid 6501 9156 at 290 degrees mag Right - from grid 6508 9167 at 324 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	3,800 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range and troops should avoid digging activity or removal of any artifacts found on the surface or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during period when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security
RANGE FACILITIES	Port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. 25mm M791/A974 is prohibited on this range.

2. AVENGER – The stinger missile shall not be fired on this range. The MP3 .50 cal. machine gun is authorized for use on this range to

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

track and fire on a drone plane. The AVENGER System may only be fired from a stationary position with the rear of the vehicle-oriented down-range. R-407A/B may be occupied, but shall not be in a hot status when the AVENGER System is in a live-fire status. Left and right lateral limits shall be established when the system is emplaced. The drone plane shall not be flown above the horizon. This will aid in limiting the vertical angle of muzzle to avoid down-range conflicts. The instructor shall observe the aiming point on the video monitor and maintain positive override control with the remote control panel.

3. Range guards are required on the road at 6154 9165 and 6491 9140 when firing weapon systems with back blast.

4. This range is closed when the R-407 Tank/LAV Gunnery Range is in operation.

5. TOW missile wire shall be cut and recovered after firing is secured. DO NOT GO PAST THE ESTABLISHED FIRING LINE.

6. Ensure all weapons are cleared and inspected prior to departing the firing line.

7. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-407B
LOCATION	6442 9080
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, 50 cal. and below; machine guns, .50 cal. and below; M203; 25mm; M257 smoke grenade launcher; MK19; SMAW; AT-4; TOW; AVENGER; DRAGON; JAVELIN; mortars
RANGE FAN LIMITS**	Left - from grid 6440 9080 at 305 degrees mag Right - from grid 6444 9082 at 335 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	13 meters (weapon dependent)
MAXIMUM RANGE**	4,000 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Archaeological sites are located at this range and troops should avoid digging activity or removal of any artifacts found on the surface or as part of their activity. Endangered Stephen's Kangaroo Rats live on and around this range. Normal range firing operations will not affect this habitat. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during period when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security
RANGE FACILITIES	Bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	13 meters
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. 25mm M791/A974 is prohibited on this range.

2. AVENGER – The stinger missile shall not be fired on this range. The MP3 .50 cal. machine gun is authorized for use on this range to

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

track and fire on a drone plane. The AVENGER System may only be fired from a stationary position with the rear of the vehicle-oriented down-range. R-407A/B may be occupied, but shall not be in a hot status when the AVENGER System is in a live-fire status. Left and right lateral limits shall be established when the system is emplaced. The drone plane shall not be flown above the horizon. This will aid in limiting the vertical angle of muzzle to avoid down-range conflicts. The instructor shall observe the aiming point on the video monitor and maintain positive override control with the remote control panel.

3. Range guards are required on the road at 6455 9084 and 6440 9059 when firing weapon systems with back blast.

4. This range is closed when the R-407 Tank/LAV Gunnery Range is in operation.

5. TOW missile wire shall be cut and recovered after firing is secured. DO NOT GO PAST THE ESTABLISHED FIRING LINE.

6. R-407B may be occupied, but shall not be in a hot status when the MP3 .50 cal. machine gun is attached to the AVENGER System and is in a live-fire status on R-407 with a drone plan.

7. Ensure all weapons are cleared and inspected prior to departing the firing line.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

9. Units may penetrate 13 meters beyond the firing line to establish targets for machine gun qualification firing only.

RANGE	R-407 (Tank/LAV Gunnery Range)
LOCATION	6473 9125
TYPE	Tank/LAV Gunnery Range
ALLOWABLE WEAPONS	Machine guns, .50 cal. and below; MK19; 25mm;M257 smoke grenade launcher; tank (TP only); mortars
RANGE FAN LIMITS**	Left - from grid 6468 9120 at 315 degrees mag Right - from grid 6508 9166 at 325 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	100 meters (weapon dependent)
MAXIMUM RANGE**	3,800 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Observation tower, bleachers, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Prohibited
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. 25mm A974/M791 ammunition is prohibited on this range.

2. Range guards are required at grid 6455 9094 and grid 6514 9165.

3. The Tank Gunnery Range includes R-407 and R-407A.

4. Two (2) range flags shall be raised while the range is manned [one (1) at R-407A and one (1) at R-407B].

5. The tank cannons shall not be fired at elevations in excess of five (5) degree quadrant elevation.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

6. The chamber of the main gun may be loaded while maneuvering from the left limit to the right limit.

7. Tanks/LAVs shall maintain constant radio communication with LONGRIFLE and the RSO.

8. The firing line/route for vehicles shooting while on the move is from R-407 to R-407A. A safety NCO or RSO Assistant shall be with each vehicle to ensure firing is within safety fan limits and that other safety precautions are adhered to.

9. Range fan limits are identified as the left lateral limit marker for R-407 and right lateral limit marker for R-407A.

10. Ensure all weapons are cleared and inspected prior to departing the firing line.

11. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-408
LOCATION	6660 9300
TYPE	Offensive Combat Range (platoon)
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below; machine guns, .50 cal. and below; M203; MK19; SMAW; AT-4; APOBS; bangalores; MICLICs; mortars; claymore mines
RANGE FAN LIMITS**	Left - from grid 6663 9260 at 266 degrees mag Right - from grid 6701 9325 at 271 degrees mag
BOUNDARIES**	Maneuver area - from 6663 9260 along Roblar Road to 6701 9325 to 6600 9350 to 6600 9270
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	2,500 meters
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Endangered Stephen's Kangaroo Rats live on and around this range. These rodents are found between the firing line and target areas, in the target areas, and along the dirt roads leading to the target areas. Normal range firing operations will not affect this habitat. Archaeological sites are located at this range and troops should avoid digging activity or removal of any artifacts found on the surface or as part of their activity. Vegetation mowing is authorized year-round on this range, but tractor mowing should be limited during period when the soil is moist to prevent soil compaction. Road grading/blading, mechanical excavation, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chie of Staff, Environmental Security
RANGE FACILITIES	Control tower
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond posted markers at 6600 9350 to 6600 9270
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-3756

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

SPECIAL INSTRUCTIONS

1. A brief to the RCO is required at least fourteen (14) working days prior to the training evolution. The brief shall include a written concept operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammuni- tion, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure.

2. For PITS target support, contact the Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4805/4446 fourteen (14) days in advance to coordinate training scenarios. Units shall reconfirm ASB support two (2) working days prior to the planned training event.

3. The area east of Roblar RD shall not be used for live-fire. Loaded weapons shall not be permitted in that sector.

4. Small arms shall be fired at authorized targets only.

5. There shall be one (1) safety NCO per maneuver or supporting element. This includes each MG team, assault team, or mortar position.

6. Using units shall have organic communication assets with the RSO. They shall provide one (1) radio with an operator for the RSO on R-408, and one (1) radio with an operator for the safety NCO on mortar location.

7. If dud mortar illum rounds are encountered in the maneuver areas, dud locations shall be marked. Notify LONGRIFLE for EOD support.

8. There shall be no troop movement in front of AFA-32 when it is occupied with artillery.

9. Night assaults require continuous illumination or appropriate night vision devices.

10. Ensure all weapons are cleared and inspected prior to departing the firing line.

11. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-409A
LOCATION	6834 9339
TYPE	Multi-Purpose Range Complex
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below; machine guns, .50 cal. and below; shotguns; M203; 25mm; 20mm; SMAW; AT-4; TOW; mortars; aerial gunnery 2.75 inch and 5 inch rockets
RANGE FAN LIMITS**	N/A
BOUNDARIES**	6883 9359 to 6883 9360 to 6856 9390 to 6873 9562 to 6853 9619 to 6697 9849 to 6511 9782 to 6507 9702 to 6612 9618 to 6619 9257 to 6708 9264 to 6835 9336 to 6850 9319 to 6885 9319
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	2,000 meters
IMPACT AREA**	R-409A and Zulu Impact Areas
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Office building, ammunition loading dock, control tower with remote control station (RCS), three (3) stabilization runs, nineteen (19) stationary armor targets, four (4) moving armor targets, thirty-one (31) stationary infantry targets, thirteen (13) infantry moving targets
TROOP PENETRATION LIMIT FROM FIRING LINE**	2,500 meters (from tower to target 99)
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-3394

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. This range is under the direct supervision of a Range NCO and is contractor-operated. All units shall coordinate with the contractor at least 48 hours in advance to arrange for an in-brief, and to develop a training scenario. Refer to paragraph 6004 in chapter 6 of this Manual.

2. For all live-fire and maneuver training, and training not approved within these special instructions, a brief to the RCO is required at least

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

fourteen (14) working days prior to the training evolution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammunition, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure. Target mechanisms and associated cabling must be considered when developing a scheme of maneuver for desired weapon systems.

3. This range is identified as a high fire danger area. When Very High and Extreme fire conditions exist, the use of tracers and/or pyrotechnics may be limited and/or prohibited.

4. Prior to requesting to go hot, the OIC shall ensure complete visibility of the range, range guards are in position, and a sweep for unauthorized personnel within the boundaries of the range has been conducted.

5. This range is not equipped for the use of indirect lighting. Using units shall provide their own system for use with passive sights.

6. Lateral limits shall be illuminated via chem lites or other mechanisms during night live-fire. Lights shall be seen by the naked eye by all safety personnel.

7. Figure C-1 on page C-155 outlines the approved range fan limits and armor targets for each hull down position for all rifles, machine guns, 20mm and 25mm weapon systems.

8. Figure C-2 on page C-156 outlines the approved range fan limits and infantry targets for each hull down position for all rifles and machine guns.

9. Figure C-3 on page C-157 outlines the approved stabilization runs for 25mm.

10. Ammunition Restrictions

a. The types of ammunition listed below are extremely sensitive once they have been fired and have failed to explode (dud state). Access must be controlled, as they pose a serious threat to life safety of maneuvering troops. Any use of these ammunition types require careful evaluation and specific authorization from the Range Control Officer prior to use.

(1) TOW high explosive anti-tank (HEAT)

(2) AT-4 HEAT

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

(3) All HEAT ammunition

b. Only TOW inert missiles and 2.75 inch, and 5 inch inert rockets are authorized.

c. M203 40mm HE/HEDP and TP (B577) are not authorized within the boundaries of this range.

d. 25mm may only fire the M793-TPT or the M910-TPDS-T.

e. 20mm may only fire M220 TP-T or the M55A2 TP.

f. All HE rounds shall impact within the Zulu Impact Area, outside the R-409A NFA, and beyond the boundaries of R-409A.

11. The employment of all weapons, including overhead and flanking fire, shall be conducted in strict compliance with directives in the MCO 3570 series, MCWP 3-15-.1, and appropriate TMs/FMs and unit SOPs.

12. Weapons shall not be loaded until forward of the control tower or occupying a hull down position.

13. Personnel within 50 meters of a target pit shall not fire directly at the pit, or the target mechanism therein. This prevents damaging target mechanisms.

14. M203 firing shall not be directed at the automated targets.

15. Free-gunning is not authorized.

16. Units are responsible for supplying all additional target materials, and shall ensure targets are placed in cleared areas to reduce ricochet hazards. Only soft targets shall be used.

17. Helicopter firing shall be conducted at an altitude which allows for firing at targets only. Target mechanisms shall not be engaged/fired upon.

18. Dry rehearsals shall be conducted prior to the live-fire exercise. These rehearsals shall be under the same conditions as the planned live-fire exercise (i.e., night rehearsal for night live-fire exercise).

19. The OIC shall ensure all personnel are thoroughly briefed on the scheme of maneuver and all applicable safety regulations and controlling measures.

20. Each element of the scheme of maneuver requires a Safety NCO who is a non-participant, and has direct communication with the RSO at all times.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

21. The safety NCOs shall enforce applicable safety regulations and controlling measures, including inspection of each weapon upon completion of firing.

22. The RSO and/or his/her designated Safety NCOs shall maintain constant observation of the maneuver elements, and the direct and indirect fire impacts at all times.

23. Night assaults require continuous illumination or appropriate night vision devices when lunar illumination is below 50 percent in clear weather. The commander shall be responsible for determining effects of weather. All safety personnel shall have night vision devices available during all period of darkness.

24. Two (2) range guards shall be posted at each location/grid listed below.

a. 6393 9863 - Case Spring Road

b. 6663 9260 - Roblar Road

c. 6861 9337 - DeLuz Canyon Road

25. Range guards shall maintain two-way communication with the RSO at all times. The Case Springs and Roblar Roads positions shall position a roadblock with sawhorse and blinking light for night operations to prevent unauthorized access of the R-409A Impact Area.

26. Ensure all weapons are cleared and inspected prior to departing the firing line.

27. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

28 Access to all targets west of Roblar Road requires coordination and approval from LONGRIFLE to ensure live-fire training on R-408 is not a conflict.

29. The Roblar Road Access Schedule listed below reflects the authorized times for units to transit through R-409A enroute to and from Case Springs.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

TIME	SCHEDULE
0001 - 1000	Open for transit (Real time coordination with RSO as required)
1000 - 1800	Closed to all through traffic except emergency vehicles (Real time coordination with RSO as required)
1800 - 1900	Open for transit (Real time coordination with RSO as required)
1900 - 2359	Closed to all through traffic except emergency vehicles (Real time coordination with RSO as required)

30. Infantry Manuever Areas

BOX 1	
GRIDS	67486 93907 to 67407 94115 to 67619 94400 to 67816 94182 to 67486 93907
LIMITS	Left from grid 67486 93907 at 289 degrees mag Right from grid 67816 94182 at 303 degrees mag
SUPPORT POSITIONS	E, F, K, L

BOX 2	
GRIDS	67162 93802 follow the road to 67289 94197 to 67142 94350 to 67074 94223 to 66844 93987 to 67162 93802
LIMITS	Left from grid 67162 93802 at 289 degrees mag Right from grid 67289 94197 at 303 degrees mag
SUPPORT POSITIONS	K, L

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ARMOR TARGETS (Distance to targets in meters)

HP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
GRID	6806 9320	6850 9344	6853 9352	6844 9368	6725 9358	6732 9364	6741 9392	6748 9403	6770 9422	6776 9433	6787 9452	6788 9462	6674 9452	6681 9464	6706 9482	6718 9506	6719 9521
LIMITS (Mag)	L 291 R 310	L 284 R 303	L 283 R 302	L 281 R 301	L 294 R 317	L 292 R 314	L 286 R 312	L 383 R 307	L 277 R 304	L 274 R 302	L 269 R 297	L 264 R 295	L 277 R 319	L 272 R 316	L 215 R 307	L 257 R 299	L 253 R 295
70																	
71		745	729														
72		1174															
73																	
74								270									
75										265							
76		1751	1738	1590			606	580									
77		1721						575	633								
79		2010	1990	1834			893	853	920	932							
80			1927					810	848	850							
81		1881	1851	1682					767	740	755						
82									761								
83					1615												
84		2901	2880	2722	1923	1916	1766	1740	1804	1800	1825	1800		832	961		
85	2570	2723	2700	2539	1793	1778	1609	1573	1619	1609	1626	1599		666	763	821	836
86	2997	3115	3085	2916				1992	2001	1972	1951	1905			1122	1085	1035
87	3168	3332	3310	3148		2357	2207	2177	2228	2215	2222	2187			1364		
88	3087	3297	3282	3130	2243	2251	2360	2126	2219	2225	2262	2241	1243	1235	1400	1474	
89	3294	3533	3522	3376	2430			2360	2474	2488	2539	2523	1481	1492	1681		
90																	
96	922	1018	1000														
97																	
98		1910	1885	1723					804	801							
99					1712												

Figure C-1

INFANTRY TARGETS

HP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
GRID	6806 9320	6850 9344	6853 9352	6844 9368	6725 9358	6732 9364	6741 9392	6748 9403	6770 9422	6776 9433	6787 9452	6788 9462	6674 9452	6681 9464	6706 9482	6718 9506	6719 9521
LIMITS (MAG)	L 291 R 310	L 284 R 303	L 283 R 302	L 281 R 301	L 294 R 317	L 292 R 314	L 286 R 312	L 383 R 307	L 277 R 304	L 274 R 302	L 269 R 297	L 264 R 295	L 277 R 319	L 272 R 316	L 215 R 307	L 257 R 299	L 253 R 295
1-2																	
3-4		X															
5-6																	
7-9																	
10-12									X								
13-16																	
18-20																	
21-24							X	X									
25-27								X									
28-29																	
30-32								X									
40																	
42																	
44																	
46		X															
48									X								
50									X								
52																	
54							X										
56							X										
58							X										
60																	
62									X								
64																	

Figure C-2

25MM STABILIZATION RUNS

TARGETS	70	71	72	73	74	75	76	77	79	80	81	82	83	84	85	86	87	88	89	90	96	*Note*
STABILIZATION RUN # 1																						
START 6835 9353		X																			X	1
PL BLUE 6824 9345	X			X	X																X	1
PL YELLOW 6779 9381					X				X	X			X	X	X	X	X	X	X			
PL WHITE 6759 9389									X	X			X	X	X	X	X	X	X			
STOP 6731 9422																						
STABILIZATION RUN # 2																						
START 6835 9353		X	X	X	X																X	1
PL BLUE 6799 9384			X	X	X		X	X	X	X	X											
PL GREEN 6786 9405						X		X	X	X	X	X			X							
PL YELLOW 6769 9431						X			X	X	X	X		X	X							
PL WHITE 6759 9443										X	X	X		X	X							
STOP 6755 9447																						
STABILIZATION RUN # 3																						
COURSE 6730 9423 to 6755 9448 to 6762 9440 to 6742 9412 to 6730 9423										X				X	X							

Note 1: Armor Target 96 is authorized to be fired as a stationary target located at the furthest left point of the track only.

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RANGE	R-501
LOCATION	6089 8210
TYPE	Field Firing Range
ALLOWABLE WEAPONS	Rifles, 5.56 and below; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6082 8220 at 026 degrees mag Right - from grid 6099 8200 at 060 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	600 meters
IMPACT AREA**	Edson Impact Area
ENVIRONMENTAL	Several vernal pool complexes exist within the range. Off-road driving (especially during high soil moisture conditions) may impact these pools. Vehicular traffic should remain on existing roads to the extent practical. Off-road vehicle use should be limited to previously disturbed areas of dry soils to avoid severe rutting and subsequent erosion of soils which leads to severe gullies. Troops and vehicles should minimize and avoid activity within the upland brush and creek bottom willow vegetation which support endangered and threatened species. Extreme caution shall be used with open flame, heating elements, cigarettes, and pyrotechnics. Do not clear vegetation without prior approval from the Assistant Chief of Staff, Environmental Security. Normal range operations are authorized per the Fire Danger Rating. Several large archaeological sites are located within this range area. Road grading/ blading, mechanical excavation, filling, and heavy equipment operation are prohibited without prior approval from the Assistant Chief of Staff, Environmental Security.
RANGE FACILITIES	Control tower, bleachers, electronically-controlled targets, lighted firing line, sixteen (16) defensive firing positions, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	600 meters
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-2760

SPECIAL INSTRUCTIONS LISTED ON NEXT PAGE

****RANGE REGS POSTED****
****AT THE RANGE****
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SPECIAL INSTRUCTIONS

1. All scheduling requests for R-501 shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726.

2. The RSO shall ensure all firing is directed at targets and weapons are not elevated above them.

3. Ensure all weapons are cleared and inspected prior to departing the firing line.

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

5. Helicopters may over fly the area at 1,000' AGL and above.

RANGE	R-503 (Inactive)
LOCATION	6199 8044

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RANGE	R-505
LOCATION	6179 8028
TYPE	Infiltration Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below (blanks only); machine guns, 7.62 and below (blanks only); simulators
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	N/A
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Control tower, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-2382

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. All scheduling requests for R-501 shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726.

2. This range shall only be operated by Range Operations Division personnel.

3. Ensure all weapons are cleared and inspected prior to departing the firing line.

4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-505A
LOCATION	6216 8029
TYPE	Infiltration Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below (blanks only); machine guns, 7.62 and below (blanks only); simulators
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	N/A
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7163
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for R-501 shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726. 2. The course shall start from 6219 8044 and run southwest to 6211 8016. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-505B
LOCATION	6255 7997
TYPE	Infiltration Range
ALLOWABLE WEAPONS	Rifles, 7.62 and below (blanks only); machine guns, 7.62 and below (blanks only); simulators
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	N/A
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7163
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for R-501 shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726. 2. The course shall start from 6273 8006 and run southwest to 6241 7984. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	R-600
LOCATION	6210 9840
TYPE	Demolition Range
ALLOWABLE WEAPONS	Demolitions, not to exceed 200 lbs. NEW untamped and 600 lbs. NEW tamped; MICLIC; bangalores; APOBS
RANGE FAN LIMITS**	N/A
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Range sign, MEDEVAC procedure sign, allowable weapon sign, hearing protection sign, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond range boundary limits
ASSIGNED TO	CG, MCB
TELEPHONE	(760) 725-7163

****RANGE REGS POSTED****
****AT THE RANGE****
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SPECIAL INSTRUCTIONS

1. Helmets, flak jackets, and hearing protection shall be worn by all personnel while on this range.

2. All training material/trash shall be removed from this range upon completion of training.

3. Range guards shall be posted at grid 6249 9922 and 5762 0120 with a “demolition in progress” sign, and two-way radio communication to the RSO. No traffic/personnel shall enter the range without the RSO’s permission.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

4. The RSO shall check each shot hole, looking for any unconsumed explosives prior to departing the range.

5. ALL unconsumed explosives shall be policed-up and consolidated for one last clean-up shot prior to the range going cold.

6. ALL unused blasting materials shall be returned to the Las Pulgas ASP.

7. ALL target materials which were used (blown) during training shall be policed-up and carried to AFA-17. LONGRIFLE maintains the gate key for AFA-17.

8. Certain real time atmospheric and/or weather conditions may preclude live-fire training.

9. NO DEMOLITION TRAINING is authorized during, or on approach of, electric or severe dust storms.

10. A volt-ohmmeter shall be used to check for stray electromagnetic energy per directives in the MCO 3570 series, prior to using a line charge.

11. Personnel shall be at minimum stand-off distances, per directives in the MCO 3570 series, when firing is in progress.

12. All malfunctions shall be corrected per the approrpriate TM/FM, and unit SOP.

13. All demolitions shall be detonated within the demo pit only, from grid 6200 9860 to 6180 9840 to 6210 9820 to 6220 9840 to 6200 9860.

RANGE AND TRAINING REGULATIONS

RANGE	R-800
LOCATION	6039 0094
TYPE	Company Live-Fire and Maneuver Range
ALLOWABLE WEAPONS	Rifles, .50 cal. and below; pistols, .45 cal. and below, machine guns, .50 cal. and below; shotguns; M203; 25mm; MK19; SMAW; AT-4; TOW; DRAGON; JAVELIN; APOBS; bangalore; MICLIC; mortars; grenades; demolitions, not to exceed 27 lbs. NEW
RANGE FAN LIMITS**	Refer to Special Instructions #34 and #35 (below)
BOUNDARIES**	Maneuver area - from 6039 0094 to 6069 0094 then following Case Springs Road to 6195 0020 to 6004 9950 to 5984 9993
MINIMUM RANGE**	25 meters (weapon dependent)
MAXIMUM RANGE**	1,625 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Three (3) linear defensive objectives with grenade bunkers, trench lines, twelve (12) SBF position signs, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	5984 9993 to 6004 9950
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. A brief to the RCO is required at least fourteen (14) working days prior to the training evolution. The brief shall include a written concept of operations, a scheme of maneuver overlay, an ORM Worksheet, and any indirect fire SDZs. Ensure the concept of operations covers a detailed plan of maneuver and fire support; a list of weapons, ammunition, pyrotechnics or smokes, and chemicals to be used; unit control measures, including means of communication; and a breakdown of activity dates from arrival to range repair/police and departure. A

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

minimum of 48 hours shall be scheduled for the purpose of rebuilding and policing the range.

2. This range conflicts with training activities conducted in the training areas listed below.

DZ Case Springs	CALSITE 8 to CALSITE 10
TERF Case	IP Case and IP Bridge
Door Gunners #1 and #2	LFAM D709 to LFAM D711
Ranges 210E, 210F, 212TOW (Air Launched), 215A, 218A, 219, and 600	MFA 5 to MFA 9, MFA9A, and MFA 15
MP 3 and MP 3A	AFA 40 to AFA 43
OP J and OP M	Jardine Canyon
Echo and Yankee Training Areas	Whiskey Impact Area

3. The areas listed below may be deconflicted for simultaneous operations based upon approved scenarios by the Range Control Officer. It is the using unit's responsibility to deconflict areas for scheduled training dates. This range will not be approved for use until the deconfliction is completed.

CALSITE 8 and CALSITE 10	TERF Case
IP Case and IP Bridge	Door Gunners #1 and #2
Ranges 210E, 210F, 215A, 218A, 219, 220, and 600	MFA 9, MFA 9A, and MFA 15
LFAM D711	AFA 40 and AFA 41
OP M	Jardine Canyon
Echo and Yankee Training Areas	

4. Helmets, body armor, and hearing protection are required whenever live-fire is being conducted and/or high explosives are being utilized.

5. Personnel using R-800 shall remain within specified boundaries. Troop movement into the dedicated Whiskey Impact Area, outside the boundaries of R-800, requires authorization from LONGRIFLE and an EOD escort.

6. All personnel participating in the exercise shall receive an unexploded (UXO) brief by Explosive Ordnance Disposal (EOD) personnel prior to commencement of training. Scheduling of this brief is the responsibility of the training unit.

7. RSOs shall report any duds found/experienced within the limits of the range to LONGRIFLE immediately for EOD support. Unexploded ordnance shall not be destroyed, moved, or tampered with in any

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

manner by anyone other than EOD personnel. If the dud is located in close proximity to any troop movement (within the bursting radius of the ordnance), troop maneuver will be adjusted to avoid the bursting radius area until the dud has been removed by EOD. In the event of dud ordnance at night, units will be required to provide a guard within a safe distance from the dud to prevent personnel from entering the danger area. The guard will remain throughout the hours of darkness. EOD will not clear dud ordnance until the following morning. (Refer to Special Instruction #26 for additional grenade procedures.)

8. The employment of all weapons and demolitions, to include overhead and flanking fire, shall be conducted in strict compliance with directives in the MCO P3570 series, MCWP 3-15.1, and appropriate TMs/FMs and unit SOPs.

9. Dry rehearsals shall be conducted prior to the live-fire exercise. These rehearsals shall be under the same conditions as the live-fire exercise (i.e., night rehearsal for night live-fire exercise).

10. The RSO is responsible for maintaining positive communication with LONGRIFLE at all times.

11. The RSO shall ensure all personnel are thoroughly briefed on the scheme of maneuver and all applicable safety regulations and controlling measures.

12. Anyone observing an unsafe condition during firing exercises shall give the command, “cease-fire” by the most expedient method available.

13. Each element of the scheme of maneuver requires a safety NCO who is a non-participant and has direct communications with the RSO at all times.

14. The safety NCOs shall enforce applicable safety regulations and controlling measures, to include inspecting each weapon upon completion of firing.

15. The RSO and his/her safety NCO shall maintain constant observation of the maneuver elements, and the direct and indirect fire impacts at all times.

16. Small arms limits of fire shall be strictly observed. When an envelope right is used on objective #2, the enveloping force shall not advance beyond the maneuver boundary/sign. This ensures all direct fire is within range limits.

17. All personnel shall ensure small arms fire is directed only at targets in and around the objectives. Firing in trench lines shall only be conducted in the wood reinforced trenches adjacent to the grenade

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

bunkers. During firing, maneuver will never allow personnel to converge on a target or groups of targets from different directions in the trenches or anywhere on the range.

18. Night assaults require continuous illumination or appropriate night vision devices when lunar illumination is below 50 percent in clear weather. The commander shall be responsible for determining effects of weather. All safety personnel shall have night vision devices available during all periods of darkness.

19. Ensure all weapons are cleared and inspected prior to departing the range.

20. All malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

21. EOD support is required under the conditions listed below.

a. When firing mortars on OP "J"

b. When UXO is found or a dud is experienced

c. During clean-up of residue when HE/TP is utilized.

22. Ammunition Restrictions

a. The types of ammunition listed below are extremely sensitive once they have been fired and have failed to explode (dud state). Access must be controlled, as they pose a serious threat to life safety of maneuvering troops. Any use of these ammunition types require careful evaluation and specific authorization from the Range Control Officer prior to use.

(1) TOW high explosive anti-tank (HEAT)

(2) AT-4 HEAT

(3) All HEAT ammunition

b. Only TOW inert or missiles equipped with the Enhanced Missile Ordnance Inhibit Circuit (EMOIC) are authorized.

c. Only MK-19 40mm TP is authorized within the boundaries of this range.

d. M203 40mm HE/HEDP and TP (B577) are not authorized within the boundaries of this range.

e. 25mm may only fire the M793-TPT (A976) or the M910 TPDS-T.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

f. Only one M67 (G881) fragmentation grenades shall be thrown into a designated bunker at a time.

g. Only mortar TP is authorized on the objectives.

h. All indirect HE rounds shall impact within the Whiskey Impact Area and beyond the boundaries of R-800.

i. Dud-producing ordnance shall not be fired into AFA 43.

23. Fragmentation hand grenades shall only be thrown into the designated bunkers located at the grids listed below. (No more than 50 fragmentation hand grenades shall be thrown into each bunker per unit training evolution.)

Objective 1 - 6035 9987
Objective 2 - 6018 9981
Objective 3 - 6000 9966

24. The RSO shall inspect the bunkers, to include the exterior sandbags, prior to use to ensure they have not been damaged and will facilitate the employment of fragmentation grenades. Grenades shall not be thrown into mud or standing water.

25. Only one (1) grenade at a time shall be thrown into the bunkers, directly supervised by a qualified RSO (E-6 or above). All personnel not directly involved with the clearing of the bunker will be located in the trenches behind the throwing position. The thrower shall sound off with, “grenade!” before the grenade is thrown to signal all personnel to take cover in the trenches. No personnel shall be exposed to any portion of the interior of the bunker once the grenade has been thrown. When a dud grenade is experienced, all activities on that objective shall stop. Personnel will remain in a safe area for a minimum of five (5) minutes and then evacuate the area until EOD clears the dud.

26. DUD sweeps of the grenade bunkers shall be conducted by qualified EOD personnel only.

27. In the event of dud ordnance at night, training shall cease if within the bursting radius of the dud. Notify LONGRIFLE immediately. Units will be required to provide guards within a safe distance from the dud to prevent personnel from entering the danger area. EOD will clear dud ordnance the following morning.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

28. Units are responsible for supplying all target materials, and will ensure targets are placed outside the trench lines and in cleared areas to minimize damage to existing bunkers and to reduce the risk of ricochets. Only soft targets shall be used for all fires. Burst bunkers comprised of sandbags are the only authorized target for rockets. The permanent bunkers located at each objective shall not be utilized as targets.

29. After requested training dates have been approved, units desiring automated target support shall contact the NCOIC, Automated Support Branch (ASB), Range Operations Division (ROD) at (760) 725-4446. Coordination shall be made at least fourteen (14) working days prior scheduled training to discuss the training scenario.

30. Using units shall disassemble and remove all targets immediately upon completion of live-fire training.

31. It is the responsibility of the CO/OIC to ensure the range has been properly rebuilt and policed. A final inspeection shall be conducted with Range Control personnel to ensure all rebuild and police tasks have been completed satisfactorily prior to being released from the range. Coordination can be made with Range Maintenance at (760) 725-4444 to assist in the delivery of unit-provided materials.

a. Rebuilding of the range includes trench lines, permanent bunkers, and repair of tactical wiring.

b. Police of the range consists of removing and properly disposing of all materials brought to the range in support of training. All direct and indirect fire residues shall be cleared by EOD prior to being policed. Coordination shall be made with Range Maintenance to drop off all residues at AFA 17. The using unit is responsible for coordinating all support.

32. Two (2) range guards shall be posted at EACH location/grid.

a. 5350 9574 - Bottom of Jardine Canyon Road

b. 5762 016 - Junction of San Mateo Canyon and Jardine Canyon Roads

c. 6070 0095 - West R-800 access road

d. 6194 0020 - East R-800 access road

e. 6250 9923 - Junction of R-600 Road and Case Springs Road

33. Range guards shall maintain two-way radio with the RSO at all times, and will direct traffic in the Case Springs area to remain north of

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

the main road. Additionally, range guard positions a, b, and e (above) shall position a roadblock with sawhorse, and blinking light for night operations, to prevent unauthorized access of the R-800 impact area. The RCO issues this equipment.

34. Movement boxes with range fan limits are listed below (all directions are magnetic).

OBJ 1 MOVEMENT BOX	OBJ 2 MOVEMENT BOX	OBJ 3 MOVEMENT BOX	5.56MM RIGHT ENVELOPMENT		5.56MM/7.62MM FRONTAL	
			LLL	RLL	LLL	RLL
*6046 9987	6033 9976	6018 9959			166	
*6031 0006	6020 9992	5997 9984	128			246
6024 9999	6013 9958	*5990 9981		246	** Movement Box for frontal attack*	
6039 9979	6023 9970	*6004 9950			*Use of 7.62 impacts Jardine Canyon.*	

The 1st three columns provide the grids for each objective movement box.

The remaining columns provide the lateral limits for each objective based on a right envelopment or frontal attack scenario.

The limits are established from the grids within the same row as the directions provided for each scenario.

35. Support by fire positions with range fan limits and allowable weapons are listed below (all directions are magnetic).

SBF	GRID	LLL	RLL	ALLOWABLE WEAPONS					CONFLICTS
				5.56	7.62	40MM	.50	25MM	
1	6039 0094	161	189	X	X	X	X	X	
2	6010 0040	146	183	X	X	X	X	X	.50 CAL - R-218A, R-219
3	6040 0050	157	205	X	X	X	X	X	.50 CAL - R-215A, R-218A, TGT INSERT R-210E/F
4	6020 0020	142	210	X	X	X			
5	6090 0070	192	213	X	X	X	X	X	
6	6070 0040	187	220	X	X	X	X	X	.50 CAL - R-215A, R-218A, TGT INSERT R-210E/F
7	6050 0010	168	243	X	X	X			7.62 - JARDINE CANYON RD
8	6130 0060	213	232	X	X	X	X	X	.50 CAL - JARDINE CANYON RD

(Continued on next page)

SBF	GRID	LLL	RLL	ALLOWABLE WEAPONS					CONFLICTS
				5.56	7.62	40MM	.50	25MM	
9	6100 0040	213	230	X	X	X	X	X	.50 CAL - JARDINE CANYON RD
10	6080 0000	216	241	X	X	X	X	X	JARDINE CANYON (.50 CAL - TARGET INSERT R-210F)
11	6060 9990	217	248	X	X	X			JARDINE CANYON
12	6130 0000	234	243	X	X	X	X	X	JARDINE CANYON

Any additional firing positions shall be coordinated with and approved by the Range Control Officer during the range brief.

There shall be no .50 cal. firing points established forward of the line created from SBF 2 to SBF 10.

RANGE AND TRAINING REGULATIONS

RANGE	Edson Pistol Range
LOCATION	6031 8110
TYPE	Pistol Range
ALLOWABLE WEAPONS	Pistols, .45 cal. and below
RANGE FAN LIMITS**	Left - from grid 6011 8110 at 326 degrees mag Right - from grid 6023 8114 at 326 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	7 meters
MAXIMUM RANGE**	50 meters
IMPACT AREA**	Edson Range Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	80 targets, port-a-johns
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCRD, San Diego
TELEPHONE	(760) 725-2726
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for this range shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726. 2. Helicopters may over fly the area at 1,000 feet AGL. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/ FM and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	Edson Range A
LOCATION	6068 8051
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 5.56; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6072 8071 at 19 degrees mag Right - from grid 6085 8063 at 19 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	50 yards
MAXIMUM RANGE**	500 yards
IMPACT AREA**	Edson Range Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	50 targets, head facilities
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCRD, San Diego
TELEPHONE	(760) 725-2726
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for this range shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726. 2. Helicopters may over fly the area at 1,000 feet AGL. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/ FM and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	Edson Range B
LOCATION	6082 8042
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 5.56; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6086 8062 at 019 degrees mag Right - from grid 6098 8055 at 019 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	50 yards
MAXIMUM RANGE**	500 yards
IMPACT AREA**	Edson Range Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	50 targets, head facilities
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCRD, San Diego
TELEPHONE	(760) 725-2726
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. All scheduling requests for this range shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726. 2. Helicopters may over fly the area at 1,000 feet AGL. 3. Ensure all weapons are cleared and inspected prior to departing the firing line. 4. All weapon malfunctions shall be corrected per the appropriate TM/ FM and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	Edson Range C
LOCATION	6096 8034
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 5.56; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6095 8046 at 019 degrees mag Right - from grid 6107 8038 at 019 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	50 yards
MAXIMUM RANGE**	600 yards
IMPACT AREA**	Edson Range Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	50 targets, head facility
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCRD, San Diego
TELEPHONE	(760) 725-2726

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. All scheduling requests for this range shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726.

2. Helicopters may over fly the area at 1,000 feet AGL.

3. Ensure all weapons are cleared and inspected prior to departing the firing line.

4. All weapon malfunctions shall be corrected per the appropriate TM/ FM and unit SOP.

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RANGE AND TRAINING REGULATIONS

RANGE	Edson Range D
LOCATION	6109 8026
TYPE	Rifle Range
ALLOWABLE WEAPONS	Rifles, 5.56; M203 (pyrotechnics only)
RANGE FAN LIMITS**	Left - from grid 6109 8037 at 019 degrees mag Right - from grid 6121 8030 at 019 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	50 yards
MAXIMUM RANGE**	500 yards
IMPACT AREA**	Edson Range Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	50 targets, head facility
TROOP PENETRATION LIMIT FROM FIRING LINE**	Not beyond pit area
ASSIGNED TO	CG, MCRD, San Diego
TELEPHONE	(760) 725-2726

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. All scheduling requests for this range shall be submitted via Weapons Field Training Battalion. POC is the S-3 SNCOIC at (760) 725-2726.

2. Helicopters may over fly the area at 1,000 feet AGL.

3. Ensure all weapons are cleared and inspected prior to departing the firing line.

4. All weapon malfunctions shall be corrected per the appropriate TM/ FM and unit SOP.

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APPENDIX C

ANNEX II - AVIATION RANGES

RANGE	Door Gunner #1 (Inactive)
LOCATION	From hilltop at 5841 0051 to the hilltop at 6001 0001 (within R-250B)

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RANGE AND TRAINING REGULATIONS

RANGE	Door Gunner #2
LOCATION	From hilltop at 6170 9950 to the hilltop at 6341 9791 (within R-2503B)
TYPE	Helicopter Door Gunner Range
ALLOWABLE WEAPONS	Machine guns, .50 cal. and below
RANGE FAN LIMITS**	Between 246 degrees mag and 212 degrees mag – toward Whiskey Impact Area
BOUNDARIES**	From 6260 9730 to 6130 9620 to 5950 9860 to 6120 9880
MINIMUM RANGE**	500 meters
MAXIMUM RANGE**	2,150 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	N/A
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Aircraft shall check in with LONGRIFLE when entering Camp Pendleton airspace, describe mission, ordnance aboard, obtain permission, and clear route to the range. 2. Pilots and gunners shall be familiar with the impact area, firing limits, danger zones, and safety regulations for this range. 3. Communication shall be maintained at all times between the aircraft and LONGRIFLE on UHF 301.9/VHF123.2. Firing shall be suspended immediately upon loss of communication. **SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE**

SPECIAL INSTRUCTIONS (continued)

4. Prior to use of this range, aircraft shall make a thorough recon of R-600, OP M, and MFAs 9/9A prior to asking LONGRIFLE to go "hot."

5. R-600, OP M, and MFAs 9/9A cannot be occupied when Door Gunner #2 is in use.

6. The maximum altitude when firing shall not exceed 2,000' AGL.

7. All rounds shall impact within the impact area boundaries of this range.

8. A maximum of two aircraft may occupy the firing area at one time. The pilots and gunners must understand that the entire area in front of the gun and throughout the impact area shall be clear PRIOR TO EACH FIRING.

9. Notify LONGRIFLE when use of the range is complete, with ordnance expended.

10. Ensure all weapons are cleared and inspected upon completion of training on the range.

11. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE AND TRAINING REGULATIONS

RANGE	R-212TOW (Air Launched)
LOCATION	5590 9520
TYPE	AH1 Range
ALLOWABLE WEAPONS	20mm, TOW
	Left - 5501 9581 at 020 degrees mag Right - 5571 9471 at 040 degrees mag
RANGE FAN LIMITS FOR TOW**	Eastern-most firing position: Left - 030 degrees mag Right - 045 degrees mag
	Western-most firing position: Left - 030 degrees mag Right -045 degrees mag
FIRING AREA FOR TOW	Refer to Special Instruction #5 (below)
FIRING AREA FOR 20MM	Refer to Special Instruction #1 (below)
TARGET AREA**	5960 9820 to 6010 9690 to 5660 9520 to 5620 9650
MINIMUM RANGE**	600 meters
MAXIMUM RANGE**	3,750 meters
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	Emergency LZ at R-212TOW, firing line/point markers
START FIRING LINE**	Straight line from 5500 9580 to 5570 9470
CEASE FIRING LINE**	Straight line from 5610 9640 to 5670 9520
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS LISTED ON THE NEXT PAGE

SPECIAL INSTRUCTIONS

1. Due to surface danger zone restrictions, TOW firing can only be allowed from the following positions: 5600 9520 through 5600 9530, or from 5550 9520, 5550 9530, or 5540 9530. Any point along this line is permissible for firing.

2. When helicopters are firing TOWs, the following ranges MUST BE UNOCCUPIED: R-210E, R-210D, R-210C and R-210B. Helos must recon these ranges to ensure the ranges and adjacent areas are clear of personnel prior to firing and report this via radio to LONGRIFLE.

3. TOW firing (impact area) shall be confined to targets located along the fire break starting at 5680 9660 eastward to the hilltop at 5850 9730, and the targets on fingers just south of the fire break in the vicinity of 5760 9670.

4. Range fan limits for 20mm are defined by two criteria, BOTH OF WHICH MUST BE MET:

a. Firing weapons shall impact within the target area.

b. Weapons shall be trained in line with the down-range axis of the target area vice across it to prevent rounds and ricochets from exiting the sides of the target area at oblique angles.

5. CONFLICTS – Helicopters SHALL NOT occupy any of the airspace mentioned in this Manual when any of the following ranges are in a hot status: R-210E, R-212T, R-213, or R-214

6. When firing guns, OP J, MP3, MP3A, R-600, R-800, Door Gunner #1, and Door Gunner #2 MUST BE UNOCCUPIED.

7. Safety precautions shall be adhered to as prescribed in NATOPS and directives in the MCO 3570 series.

8. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

RANGE	R-220
LOCATION	Area bounded by 5690 9720, 6090 9720, 6090 9920, 5690 9920, and back to 5690 9720
TYPE	Aircraft Strafing Range
ALLOWABLE WEAPONS	Machine guns, .50 cal. and below; 40mm; 30mm; 20mm; 5.00 rockets and below
RUN IN HEADING**	080 – 180 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	Whiskey Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	N/A
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	None
SPECIAL INSTRUCTIONS	****RANGE REGS POSTED**** ****AT THE RANGE**** ****SUPERCEDE THIS MANUAL**** 1. Refer to chapter 4 of this Manual for use of this range. 2. One cold pass is required prior to dropping/firing live ordnance. 3. Air priority days/times: Monday through Friday, 1400 - 1700 and 2000 - 2300 4. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

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RANGE	R-440
LOCATION	Area bound by 6090 9280, 6090 9420, 6510 9650, 6590 9600, 6590 9270, 6390 9120, and back
TYPE	Aircraft Bombing and Strafing Range
ALLOWABLE WEAPONS	Machine guns, .50 cal. and below; 40mm; 30mm; 20mm; 5.00 rockets and below; bombs, 500 lbs. or less; TOW; lasers
RUN IN HEADING**	305 – 030 degrees mag
BOUNDARIES**	N/A
MINIMUM RANGE**	N/A
MAXIMUM RANGE**	N/A
IMPACT AREA**	Zulu Impact Area
ENVIRONMENTAL	Refer to chapter 2 of this Manual
RANGE FACILITIES	N/A
TROOP PENETRATION LIMIT FROM FIRING LINE**	N/A
ASSIGNED TO	CG, MCB
TELEPHONE	None

****RANGE REGS POSTED****
****AT THE RANGE****
****SUPERCEDE THIS MANUAL****

SPECIAL INSTRUCTIONS

1. Refer to chapter 4 of this Manual for use of this range..

2. Controlling agencies [TACP or Rotary Wing FAC(A)] shall select targets to ensure maximum safety to adjacent manned positions from the normal fragmentation pattern of the ordnance being used.

3. One cold pass is required prior to dropping/firing live ordnance or lasers.

4. The impact of all lasers shall be contained within the Zulu Impact Area and below the horizon. Refer to chapter 8 of this Manual for specific lasing points.

SPECIAL INSTRUCTIONS CONTINUED ON NEXT PAGE

SPECIAL INSTRUCTIONS (continued)

5. TOW missile operations shall be briefed to the RCO 48 hours prior to the training event.

6. Air priority usage days: Wednesday and Thursday, 1st three (3) weeks of each month.

7. All weapon malfunctions shall be corrected per the appropriate TM/FM, and unit SOP.

APPENDIX C

ANNEX III

MILITARY OPERATIONS IN URBAN TERRAIN FACILITY STANDING OPERATING PROCEDURES (MOUT SOP)

Overview This annex provides a description of Range 131, Military Operations in Urban Terrain (MOUT) Facility, range check-in and check-out procedures, range operations, and additional information relative to training at the facility.

Topic	See Page
1. General	C-203
2. Training Area Description	C-203
3. Scheduling	C-206
4. Check-In Procedures	C-206
5. Authorized Weapons & Ammunitions	C-207
6. Range Operations	C-211
7. Check-Out Procedures	C-216
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C-1 MOUT Facility	C-219
C-2 MOUT Assault Course	C-220
C-3 MOUT Town Training Area	C-221
C-4 MOUT Town Sewer System Trainer	C-222
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C-10 MOUT Bivouac Site	C-228

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APPENDIX C

ANNEX III - MOUT SOP

1. GENERAL

The purpose of this annex is to provide additional information relative to training at the MOUT Facility, Marine Corps Base, Camp Pendleton. It describes the training areas, identifies available training support, and outlines safety regulations. It is the responsibility of all Officers in Charge (OICs) and Range Safety Officers (RSOs) to be thoroughly familiar with this annex prior to training at the Facility.

2. TRAINING AREA DESCRIPTION

a. Overview

The MOUT Facility is a combat town training facility designed and organized to support training in warfighting skills required for operations in an urban environment. The 27-acre facility consists of a live-fire training area [the MOUT Assault Course (MAC)] and a blank-fire training area [the MOUT Town. (Refer to figure C-1.)] The MAC is used to teach basic urban warfighting techniques at the individual and small unit (squad) levels. The Town reinforces training received at the MAC and incorporates platoon/company/battalion-level urban warfare tactics.

b. MOUT Assault Course (MAC)

The MAC consists of six independent live-fire stations. Each station is separated from the other by a system of berms and log walls. The first four stations are equipped with automated targets and observation-control panels. All six stations may be in a hot status simultaneously, provided all safety requirements are met (refer to figure C-2). The stations are listed below.

(1) Station 1 (Vault and Fight). A single-story wooden building. Contains six automated targets in two rooms. Initial entry is through a pre-constructed mouse hole.

(2) Station 2 (Clearing Techniques). Single-story wooden building. Contains six automated targets in three rooms. Initial entry may be made through either of two windows or a door.

(3) Station 3 (Dodge City). A two-story and a single-story building. The two-story building contains eight automated targets in four rooms over two floors. Initial entry to the two-story building is through a pre-constructed mouse hole. The single-story building contains two automated targets in one of two rooms. Initial entry to the single-story building may be made through a window or doorway.

(4) Station 4 (Destiny Doorway). A single-story wooden building with a building facade in front. Contains five automated targets in three rooms. Initial entry is made through one of four doorways with subsequent entry to the rooms with the targets through either a window or doorway.

(5) Station 5 (Urban Defense). A two-story, partially rubbled, concrete block and steel building with a two-story, wooden building facade, located approximately 200 meters down-range. The building facade has steel-plate silhouettes hanging in the windows. Designed for defensive fires with small arms and 40mm training practice grenades. This station is also used as a Close Combat Rifle Course by Division Schools and as an Urban Obstacle Course by School of Infantry only.

(6) Station 6 (Grenade House). A single-story structure constructed of steel, concrete, and sand-filled tires. Contains six rooms. The first and last rooms only may be used for training with fragmentation grenades. Small arms fire may be used throughout the house.

---

c. MOUT Town

The MOUT Town was designed to resemble a small 3rd world town that may be encountered in many countries throughout the world. MOUT Town consists of 29 buildings (one, two- and three-story), 14 that are intact and 15 that have been partially rubbled. In addition, there are nine ghost buildings to simulate buildings which have been completely destroyed (refer to figure C-3). The town has been divided into four training areas.

(1) AREA I. Area I is primarily the residential section of the town with one- and two-story buildings. It has a gas station, houses, apartment buildings, a school, and a playground. It has seven buildings intact, five partially rubbled, and four ghost buildings.

(2) AREA II. Area II is the central business district consisting of a hotel, office buildings, and a town square. It has four buildings intact, four partially rubbled, and one ghost building.

(3) AREA III. Area III is a combination of business and housing development. It has office buildings, apartments, and a school. It has two buildings intact, six partially rubbled, and three ghost buildings.

(4) AREA IV. Area IV consists of the sewer system trainer and one intact building which provides access to the sewer system trainer. The sewer system trainer consists of nearly one-half mile of 3 1/2 foot sewer pipe. Access to the sewer system trainer may be obtained through 16 street grates located throughout the Town, a manhole cover in Area III, and an animal grate located outside the Town (refer to figure C-4).

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d. MOUT Building Features

MOUT Town has several specially designed features to facilitate training and add realism.

(1) Walls/Mouse holes/Loopholes. Interior and exterior walls are of concrete block construction. The buildings are designed with pre-constructed mouse holes providing

access between interior rooms and firing ports to engage targets. Pre-constructed loopholes have been placed in the exterior walls to serve as observation and firing ports.

(2) Roofs. MOUT Town buildings are designed with both flat and pitched roofs. All multiple story buildings are accessible by stairs, ladders, or cupolas. The pitched roofs are shingled, and the flat roofs have a brushed concrete surface.

(3) Doors. All buildings have external doors of wooden construction. Several of the buildings have internal doors also constructed of wood. The doors have been designed with kick panels and spring loaded rollers requiring personnel to use force to kick them open.

(4) Windows/Grappling Hook Anchor Points. Many upper floor windows have wooden sills and metal frames to accommodate training with grappling hooks (refer to figure C-5). Ground floor windows have wooden shutters and frames.

(5) Rappel Anchor Points. Many of the flat-roofed, multi-story buildings possess reinforced anchor points specifically designed for attaching rappel ropes.

(6) Elevator Shafts. Buildings 1 and 2 have elevator shafts that can be accessed from all three floors. The safety rails in the elevator shafts are reinforced and will support rappel training.

(7) Safety Rails. Rubbled buildings have many areas where personnel could fall, especially during periods of reduced visibility. By design, there are few safety rails. All pitched roofs have safety rails that can accommodate rappelling (refer to figure C-5).

(8) Furniture. Furniture consisting primarily of desks, sofas, chairs, and tables is available in Areas II and III of the MOUT. This furniture is provided to enhance the training environment for using units. Additional furniture is available upon user request to the MOUT Staff. Using units are responsible for placement and removal of the additional requested furniture. Use of all furniture must be coordinated with the MOUT Facility Staff prior to beginning training.

(9) Concrete Streets. The roads within the Town are made of reinforced concrete and will withstand the weight of a M1A1 Tank. Tracked vehicles must have track pads, are not to veer off the concrete streets, and are not allowed in the alley. The concrete streets are lined with curbs, telephone poles, streetlights, and sidewalks.

(10) Gravel Roads. The roads leading to and surrounding the MOUT Town and the MAC are gravel. MAC Road and Grenade House Road are connected with a concrete bridge capable of withstanding 15 tons. Vehicles with a width greater than that of a HumVee will not fit on the bridge.

e. MOUT Facility Landing Zones

The R-131 MOUT Facility has two (2) landing zone (LZ) locations. The primary LZ is located at the R-131 bivouac site within the 6083 grid square and the alternate LZ is located at grid 6226 8497 in the vicinity of MAC 5. Coordination for use of these LZs shall be conducted with the Range Operations Officer prior to the training event.

3. SCHEDULING

a. General

(1) The six stations of the MOUT Assault Course (MAC) and Areas I - III may be scheduled independently by one or more units, or collectively by one unit. Area IV (Sewer System Trainer) must be scheduled in conjunction with Area II or Area III. Any combination of MAC stations and MOUT Areas may be scheduled. Units desiring to schedule the MOUT Facility will submit a Range/Training Area Request to the Range Scheduling Office per chapter 3 of this Manual. Scheduling one area of the MOUT or MAC does not guarantee use of any other areas. If a unit desires to use an additional MOUT or MAC area, which has not been previously scheduled, must request the area through the Range Scheduling Office, and coordinate with the MOUT Staff.

(2) It should be noted that Aliso Canyon Road, which leads to and runs along side the MOUT and the X-Ray Impact area are not part of the MOUT Facility. Units desiring to train in these areas must schedule them concurrently with the Range Scheduling Office.

b. Specialized Training

Units desiring to conduct specialized training (sniper firing from the MOUT Town into the MAC, live-fire (CQB in the MOUT, etc.) will annotate this on the Range/Training Area Request. In addition, a waiver request shall be submitted to the Assistant Chief of Staff, Operations and Training (ROD), Marine Corps Base no later than thirty (30) days prior to the date of intended use (refer to chapter 3 of this Manual).

4. CHECK-IN PROCEDURES

a. General

(1) The RSO for the MOUT must be an E-5 or above. The RSO for MAC Stations 1 through 5 must be an E-5 or above; Station 6 requires an E-6 or above. RSOs for the MOUT and MAC must have a valid Range Safety Certification Course Card issued by Marine Corps Base (required to train at any Camp Pendleton Range/Training Area). The OIC for all MOUT/MAC training must be an E-6 or above, with the exception of MAC Station 6, which must be an E-7 or above.

(2) Upon arrival at the MOUT Training Facility, the **OIC and RSO** will receive the MOUT Facility Training and Safety Brief from the MOUT Facility NCOIC (or his designate). After this brief is given to the OIC, RSO, and any other Marine in a supervisory role, the MOUT NCOIC (or his designate) will also give a general "Do's & Don'ts of the MOUT Facility Brief" to the remainder of the personnel conducting training. After the briefing, the OIC and RSO will review the MOUT SOP (appendix C-annex III of this Manual).

Note: *The briefing by the MOUT Facility NCOIC* ***DOES NOT*** *relieve the RSO of his overall safety responsibilities per chapter 1 of this Manual.*

(3) Upon completion of the Training and Safety Brief, and MOUT SOP review, the **OIC and RSO** will conduct a pre-training inspection with MOUT Staff. A check-in sheet will be completed. Any and all discrepancies will be annotated on the check-in sheet. A copy of the MAC Station Check-In Sheet and MOUT Check-In/Out Sheet are provided in figures C-6 & C-7, respectively.

(4) Range regulations and range flags will be issued by the MOUT Staff at Building 17.

b. MOUT Town

Areas I - IV require a single RSO per training unit; however, the RSO must be augmented with one safety supervisor **per** area.

c. MAC

(1) Stations one through five require a single RSO per training unit; however, the RSO must be augmented with one safety supervisor **per** station.

(2) Station six, the Grenade House, requires a separate RSO, corpsman, and safety vehicle to supervise the training.

5. AUTHORIZED WEAPONS AND AMMUNITION

a. General

(1) High explosive and live-fire small arms ammunition of any kind is prohibited in the MOUT Town.

(2) Simmunitions (red and blue) projectiles and "non-lethal" munitions are authorized in the MOUT Town.

(3) SESAMS shall be employed as outlined in SOUM 1-02. Exclusive use of R-131 is required.

b. MOUT Town Authorized Ammo

Authorized ammunition for the MOUT Town is listed on the next page.

DODIC	DESCRIPTION
A075	5.56 LINK BLANK
A080	5.56 BLANK
A111	7.62 LINK BLANK
AA12	9MM FX RED MARKING CARTRIDGE, SIMMUNITION
	Continued on next page

*Will not be used inside MOUT buildings or sewer system trainer

DODIC	DESCRIPTION
AA21	9MM FX BLUE MARKING CARTRIDGE, SIMMUNITION
AA21	9MM FX BLUE MARKING CARTRIDGE, SIMMUNITION
AA29*	12 GAUGE BEANBAG
AA30*	12 GAUGE BLANK LAUNCHING
AA31*	12 GAUGE FIN STAB RUBBER
BA07*	40MM FOAM RUBBER BATON
BA08*	40MM RUBBER BALL
BA09*	40MM WOOD BATON
B535*	40MM WHITE STAR PARACHUTE
CWDC*	12 GAUGE INERT
DWBS	CHG DIVERSIONARY/FLASHBANK
G811	GRENADE BODY PRACTICE
G878	GRENADE PRACTICE FUSE
G895*	GRENADE HAND ILLUMINATION
G924*	GRENADE HAND RIOT CS PACK 1 M25A2
G930*	GRENADE HAND SMOKE HC
G940*	GRENADE HAND SMOKE GREEN
G945*	GRENADE HAND SMOKE YELLOW
G950*	GRENADE HAND SMOKE RED (EMERGENCY ONLY)
G963*	GRENADE HAND CS
GGO4*	GRENADE RUBBER BALL
K867*	SMOKE POT FLOATING HC M4A2
L225*	SIGNAL AIRCRAFT RED (EMERGENCY ONLY)
L226*	SIGNAL AIRCRAFT YELLOW
L275*	SIGNAL ILLUMINATION/SMOKE MARINE
L306*	SIGNAL RED STAR CLUSTER (EMERGENCY ONLY)
L307*	SIGNAL WHITE STAR CLUSTER
L312*	SIGNAL WHITE STAR PARACHUTE
L314*	SIGNAL GREEN STAR CLUSTER
	Continued on next page

*Will not be used inside MOUT buildings or sewer system trainer

DODIC	DESCRIPTION
L324*	SIGNAL GREEN STAR PARACHUTE
L495*	TRIP FLARE
L596*	SIMULATOR ARTILLERY FLASH
L598*	SIMULATOR BOOBY TRAP FLASH
L599*	SIMULATOR BOOBY TRAP ILLUMINATION
LX21*	SIMULATOR (SMAW) NOISE CARTRIDGE

*Will not be used inside MOUT buildings or sewer system trainer

c. MAC Authorized Weapons The following table and accompanying notes show the authorized weapons for the MAC, the location they may be fired, and the method of employment permitted.

MAC STATION	M16A2 (Note 1)	SAW (Note 2)	12 GAUGE SHOTGUN (Note 3)	M9, M1911A1, .38 PISTOLS	M40A1 SNIPER RIFLE	M203 (Note 5)	GRENADES
1	X	X	X	X		X	
2	X	X	X	X		X	
3	X	X	X	X		X	
4	X	X	X	X		X	
5	X			X (Note 4)	X	X (Note 6)	
6	X			X			X

Note 1: The M16A2 service rifle may be fired in all MAC stations. When firing the M16A2, the selector switch shall be placed on the semi-automatic setting. Burst fire is not authorized.

Note 2: The Squad Automatic Weapon (SAW) may only be employed for suppressive fire at MAC Stations 1-4. At no time is fire from the SAW to be directed at the buildings.

Note 3: Twelve gauge shotguns may only use "00" buckshot.

Note 4: Close Combat Rifle Course by Division Schools and Urban Obstacle Course by School of Infantry only.

Note 5: Illumination rounds only.

Note 6: B519 Training Practice rounds only.

d. MAC Authorized Ammo Authorized ammunition for the MAC is listed below.

DODIC	DESCRIPTION
---	.40 CAL. BALL
A011	12 GAUGE “00” BUCKSHOT
A059	5.56MM BALL
A062	5.56MM BALL LINKED
A071	5.56MM BALL 10/CLIP
A075	5.56MM BLANK LINKED
A363	9MM BALL
A400	.38 CAL. BALL
A404	.38 CAL. WADCUTTER
A475	.45 CAL. BALL
A482	.45 CAL. WADCUTTER
AA12	9MM FX RED MARKING CARTRIDGE, SIMMUNITION
AA21	9MM FX BLUE MARKING CARTRIDGE, SIMMUNITION
B519	CARTRDIGE, 40MM PRACTICE
B535*	40MM WHITE STAR PARACHUTE
G811	GRENADE BODY, PRACTICE
G878	GRENADE FUZE, PRACTICE
G880	GRENADE, FRAGMENTATION
G895	GRENADE HAND, ILLUMINATION
G930	GRENADE HAND, HC
G940	GRENADE HAND SMOKE GREEN
G945	GRENADE HAND SMOKE YELLOW
G950	GRENADE HAND SMOKE RED (EMERGENCY USE ONLY)
G963	GRENADE HAND CS
K867	SMOKE POT FLOATING HC M4A2
L225	SIGNAL (AIRCRAFT) RED (EMERGENCY USE ONLY)
L226	SIGNAL (AIRCRAFT) YELLOW
	Continued on next page

*Commander’s intent, concept of operations, and an operational risk management worksheet must be briefed to and approved by the Range Control Officer prior to the actual training date.

Note: Magnum ammunition is not authorized for use in the MOUT Facility.

DODIC	DESCRIPTION
L306	SIGNAL RED STAR CLUSTER (EMERGENCY USE ONLY)
L307	SIGNAL WHITE STAR CLUSTER
L312	SIGNAL WHITE STAR PARACHUTE
L314	SIGNAL GREEN STAR CLUSTER
L324	SIGNAL GREEN STAR PARACHUTE
L495	TRIP FLARE
L596*	SIMULATOR ARTILLERY FLASH
L598*	SIMULATOR BOOBY TRAP FLASH
L599*	SIMULATOR BOOBY TRAP ILLUMINATION
LX21	SIMULATOR SMAW NOISE CARTRIDGE

*Commander's intent, concept of operations, and an operational risk management worksheet must be briefed to and approved by the Range Control Officer prior to the actual training date.

Note: Magnum ammunition is not authorized for use in the MOUT Facility.

5. Weapons & Ammo Waivers Requests to employ weapons or ammunition other than those listed will be submitted to the Assistant Chief of Staff, Operations and Training (ROD), Marine Corps Base no later than 30 days prior to the date of intended use, per chapter 3 of this Manual.

6. RANGE OPERATIONS

a. RSO Duties (1) Prior to Training

(a) Present a safety brief to all unit personnel participating in MOUT/MAC training.

(b) Ensure a corpsman or civilian equivalent and safety vehicle are present.

(c) Ensure a red range flag is placed on the pole by the MOUT Facility Administration Building to alert personnel of training being conducted in the MOUT Town; or place a red flag on the pole provided at the entrance of each MAC station if the station is being used.

(d) Post an air sentry at the intersection of Aliso Canyon Road and MAC Road to sound cease-fire in the event of aircraft over flying the MAC impact area if using the MAC. The air sentry must have positive communication with his RSO.

(e) Ensure the surface danger zone (SDZ) is clear.

(f) Establish radio communication with LONGRIFLE (FM 49.00 or 30.35), and request permission to go 'HOT'.

(g) Maintain and coordinate safety personnel in their assigned areas.

(h) Inventory and account for all mouse hole covers in assigned MOUT Town sections. Inventory and account for all requested furniture to be placed in the building during the unit's training evolution. Place the furniture within the buildings as required by the unit's training scenario using the unit's resources (manpower and material). Under no circumstances will furniture be placed in any MAC station. The MOUT Staff will not place or move furniture within the buildings.

(2) <u>During Training</u>

(a) Maintain communication at all times with LONGRIFLE, and conduct radio checks every 30 minutes.

(b) Ensure all personnel wear flak jackets, helmets, and hearing protection.

(c) Ensure only authorized ammunition and weapons are used.

(d) Report all accidents, injuries and/or fires immediately to LONGRIFLE and to the MOUT Facility Staff, and ensure a Range Incident Report is completed.

(e) Ensure smoke and CS grenades are not used in the sewer system trainer or inside buildings.

(f) Ensure weapons are not fired within five meters of an opposing force.

(g) Ensure practice grenades are not thrown directly at an opposing force.

(h) Ensure that units incorporating aviation assets into their training have coordinated their air operations with the Range Operations Officer at (760) 725-4277 24 hours prior to planned training.

(i) Ensure units at each station conduct a minimum of one non live-fire rehearsal prior to conducting the live-fire exercise at the MAC.

(j) Ensure personnel keep weapons in Condition 4 when not participating in a live-fire scenario.

(k) Ensure weapons are in Condition 3 only when personnel are in a position down-range from the observation/control station at the MAC.

(l) Ensure weapons are placed in Condition 1 while maneuvering.

(m) Ensure all suppressive live-fire used during the scenario is offset from the buildings, to prevent excessive damage to the structures.

(n) Ensure the surface danger zone is monitored and no personnel are permitted to maneuver beyond the furthest end of the berms, at any time. Helicopters may over fly the area at 1,000' AGL and above.

(o) Ensure that the only target engaged during live-fire are the targets attached to the automated target mechanisms. Placing targetry in other than the built-in emplacements is prohibited without written authorization from the Range Control Officer.

(p) Ensure mouse hole covers are in place and closed at all times, except when actually being used as part of a training scenario.

(q) Ensure unit personnel exercise appropriate precaution over the emplaced furniture to ensure the furniture is not damaged during training. The RSO and unit are directly responsible for the condition of the furniture at the end of the unit's training evolution. Training Incident Reports will be filed with the using unit's parent command for replacement or reimbursement of damaged furniture.

(3) After Training is Completed

(a) Conduct a weapons inspection and ensure all weapons are clear and placed on safe.

(b) Notify LONGRIFLE that the MAC stations/MOUT areas are going into a "cold" status.

(c) Conduct a good police call, ensuring all brass, trash, and debris from demolitions and booby traps are removed from the range.

(d) Ensure no hazardous material/waste is left on the range.

(e) Conduct a post-exercise inspection with the OIC and the MOUT Facility Staff.

(f) Ensure all mouse hole covers are accounted for, in good condition, and closed.

(g) Ensure any additional requested furniture is removed from the buildings, in proper quantity, and in good condition. Furniture will be returned to a drop-off point designated by the MOUT Staff.

(h) Complete a Facility Check-Out Sheet. Note any deficiencies/problems with the facilities. A copy of the MOUT Check-In/Out Sheet, and MAC Station Check-Out Sheet are provided in figures C-7, and C-8, respectively.

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b. Additional Regulations

(1) Trenches or fighting holes will not be dug due to buried electrical cables.

(2) Open fires are prohibited (to include squad stoves).

(3) Privately owned vehicles (POVs) are prohibited from entering the MAC/ MOUT Town unless prior coordination is made with the Range Control Officer that the vehicle will play a role in a scenario.

(4) Portable toilets will be used vice field expedient heads.

(5) Creation of additional mouse holes in buildings is prohibited.

(6) Helicopters are prohibited from landing on rooftops.

(7) Additional targets shall not be placed in the MAC stations.

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c. Demolitions

(1) The maximum charge permitted is ¼ pound of TNT/C-4 or six feet of detonating cord.

(2) Charges will be placed in pits specifically designed for the use of demolitions. No other location will be authorized for demolitions without written approval from the Range Control Officer.

(3) Under no circumstances will demolitions be placed in the buildings.

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d. Grenade House (MAC 6) Special Instructions

(1) Grenade House Road, within the SDZ, shall be closed when the Grenade House is in a hot status.

(2) A road guard shall be posted at the bridge to ensure all traffic is stopped until cleared by the RSO.

(3) Radio or field telephone communication shall be established between the RSO and the road guard at all times when the Grenade House is in use.

(4) If Stations One through Five are operated concurrently with the Grenade House, an additional RSO, corpsman and safety vehicle dedicated to the Grenade House is <u>required</u>.

(5) During live-fire training at the Grenade House, all personnel within the SDZ shall wear a flak jacket, helmet, hearing protection, and ballistic eye protection.

(6) All personnel shall conduct a non live-fire rehearsal prior to conducting live-fire scenarios.

(7) During the conduct of live-fire training, only the RSO, personnel executing the live-fire scenario, and a <u>maximum</u> of two squads in the staging area are permitted within the SDZ.

(8) The RSO will accompany personnel as they execute both the rehearsal and the live-fire scenario.

(9) Fragmentation grenades shall be thrown <u>IN THE FIRST AND LAST ROOMS ONLY</u>, and only to the opposite corner of the stack position. (Refer to figure C-9).

(10) No grenade shall be thrown if there is standing water or mud in the Grenade House.

(11) Only one grenade shall be thrown at a time.

(12) Once a pin is pulled on a fragmentation grenade, it will not be reinserted into the grenade.

(13) No sandbags are permitted in the Grenade House, except on the sewer grates.

(14) Once a grenade is thrown, all personnel executing the scenario and the RSO shall be against the protective walls, with no portion of their bodies exposed to the room into which the grenade was thrown.

(15) A dud fragmentation grenade will be reported immediately to LONGRIFLE and the MOUT Facility Staff. A cease-fire will go into effect immediately. Accurately note the time of the dud, as Explosive Ordnance Disposal personnel must wait thirty minutes prior to clearing the dud. At no time is a second grenade to be thrown in an effort to dispose of a dud grenade.

(16) After throwing <u>four</u> fragmentation grenades, the sand floors will be restored by replacing sand and raking the floor. Rakes are available from the MOUT Staff in Building 17.

(17) Small arms fire shall be kept below the red line marked on the interior walls of the Grenade House.

(18) Only practice grenades are permitted in rooms containing access to the Grenade House Sewer System Trainer.

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e. Booby Traps

(1) Booby trap simulators are to be placed below knee-level.

(2) The RSO must ensure all booby trap devices are removed when training is completed and inform the OIC when accomplished.

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f. Rappelling/ Fastrope

(1) All rappelling/fastrope training is conducted under the supervision of a certified HRST Master. Rappelling only, may also be conducted under the supervision of a certified SRST, per chapter 1 of this Manual and MCRP 3-11.4A, or certified Assault Climber, per MCO 1510.87B.

(2) Grappling hooks are used only on windows designed for their use (refer to figure C-5).

(3) Collateral equipment for the MOUT (grappling hooks, ropes, concertina wire, etc.) is the responsibility of the using unit. “What you bring to train with will leave with you.”

7. CHECK-OUT PROCEDURES

a. General

Users of the MOUT Facility are expected to police the facility prior to the unit leaving. The MOUT Staff will be the final authority on what constitutes a satisfactory facility clean-up. The MOUT Staff is authorized to withold RSO/MOUT/MAC cards until clean-up is satisfactory. Questions relative to the standard of police for the MOUT Facility should be directed to the Automated Support Branch SNCOIC at (760) 725-4446.

b. Facility Clean-up

(1) Upon completion of the final police call, the OIC and RSO will accompany a member of the MOUT Facility Staff for a final inspection.

(2) Upon satisfactorily passing the final inspetion, a MOUT Check-Out Sheet will be completed.

(3) Return range regulations and range flags to the MOUT Staff in Building 17.

8. ADDITIONAL INSTRUCTIONS

a. Utilities

The only building with electricity is the administration building (Building 17). Units are free to set up computers, typewriters, etc., in the conference room, which has electrical outlets. There is a Class C telephone located in the administration building. This telephone is primarily for the use of the MOUT Staff. Units may use the telephone in the conference room if the room is not in use by a scheduled unit.

b. Bivouacking

Bivouacking within the MOUT and the immediate vicinity is prohibited. An administrative bivouac site for units training in the MOUT Facility has been established in grid square 6083, located northwest of Aliso Canyon Road (refer to figure C-10). Use of this bivouac site must be separately scheduled.

c. Potable Water

(1) Potable Water is not available at the MOUT Facility and must be provided by the using unit. Aliso Creek will not be used as a water source.

(2) Portable toilets are provided; however, battalion-size units will need to request additional toilets through the Assistant Chief of Staff, Logistics, Marine Corps Base.

d. MOUT Classroom

(1) The classroom in the administration building will accommodate up to 300 personnel and is complete with a terrain model. The administration building also has a conference room which can be used for briefing small groups, or as an

administrative command post during battalion-size training evolutions. Scheduling of a training area within the MOUT Facility does not guarantee use of the classroom or conference room. The classroom and the conference room must be scheduled separately through the SNCOIC, Automated Support Branch at 725-4446. Units are requested to reconfirm their intent to actually use the classroom or conference room no later than 48 hours prior to their scheduled training.

(2) Units are encouraged to conduct classroom training in the MOUT Classroom. Buildings in the MOUT Town may be used as "on-the-spot" classrooms by the RSO, provided it is coordinated with the MOUT Staff prior to use. There is no electricity in the MOUT Town, so holding classes in the town buildings after dusk will not be approved due to safety reasons.

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e. Training Aids

(1) A covered terrain model of the MOUT Facility is located in the classroom of the administration building. The terrain model is an excellent resource for briefings and issuing operation orders. Users will not remove the model cover.

(2) Use of the Multiple Integrated Laser Engagement System (MILES) equipment adds an element of realism to the MOUT, and enhances training. MILES equipment is available through the Combat Visual Information Center.

(3) Collateral equipment for the MOUT (grappling hooks, ropes, concertina wire, etc.) is the responsibility of the using unit. "What you bring to train with will leave with you."

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f. Hazardous Material Spills

Should a hazardous material spill occur at the MOUT Facility, the RSO will follow procedures outlined in chapter 2 of this Manual. Additionally, the RSO will immediately advise the MOUT Staff that a spill has occurred. The RSO is directly responsible for cleaning up any hazardous material spills using his unit's resources (manpower and materials), and for submitting any required spill reports to the Assistant Chief of Staff, Environmental Security.

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g. MOUT/ MAC Safety Brief

Copies of the MOUT/MAC Safety Briefs as presented by the MOUT Facility Staff can be viewed electronically via the internet on the Camp Pendleton Home Page at www.cpp.usmc.mil; major commands, Marine Corps Base, Operations and Training (listed in the matrix), ROD (on top green menu bar), MOUT. The inclusion of these briefs is for informational planning purposes only. The information on the web site will always be superseded by the actual brief presented by the MOUT Staff.

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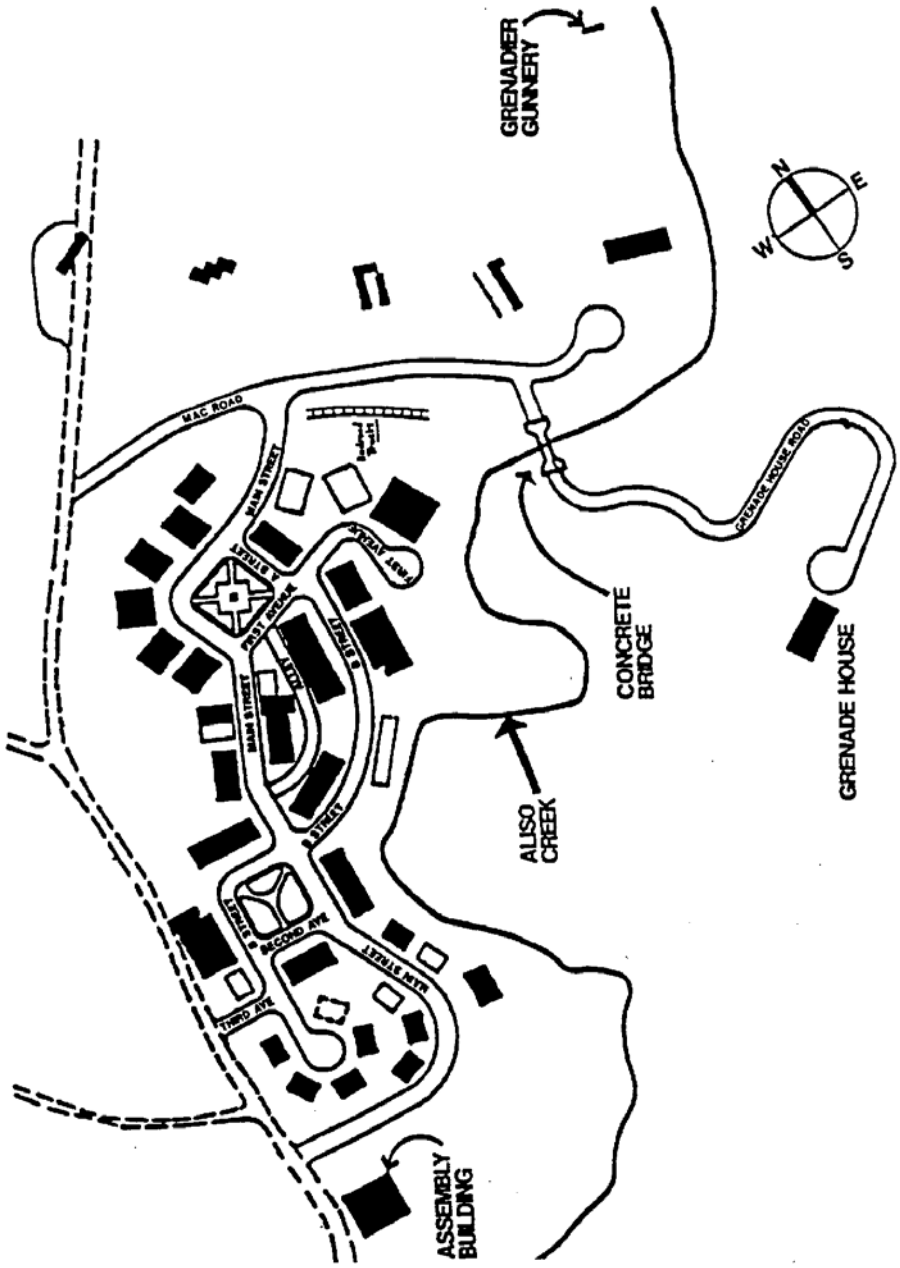
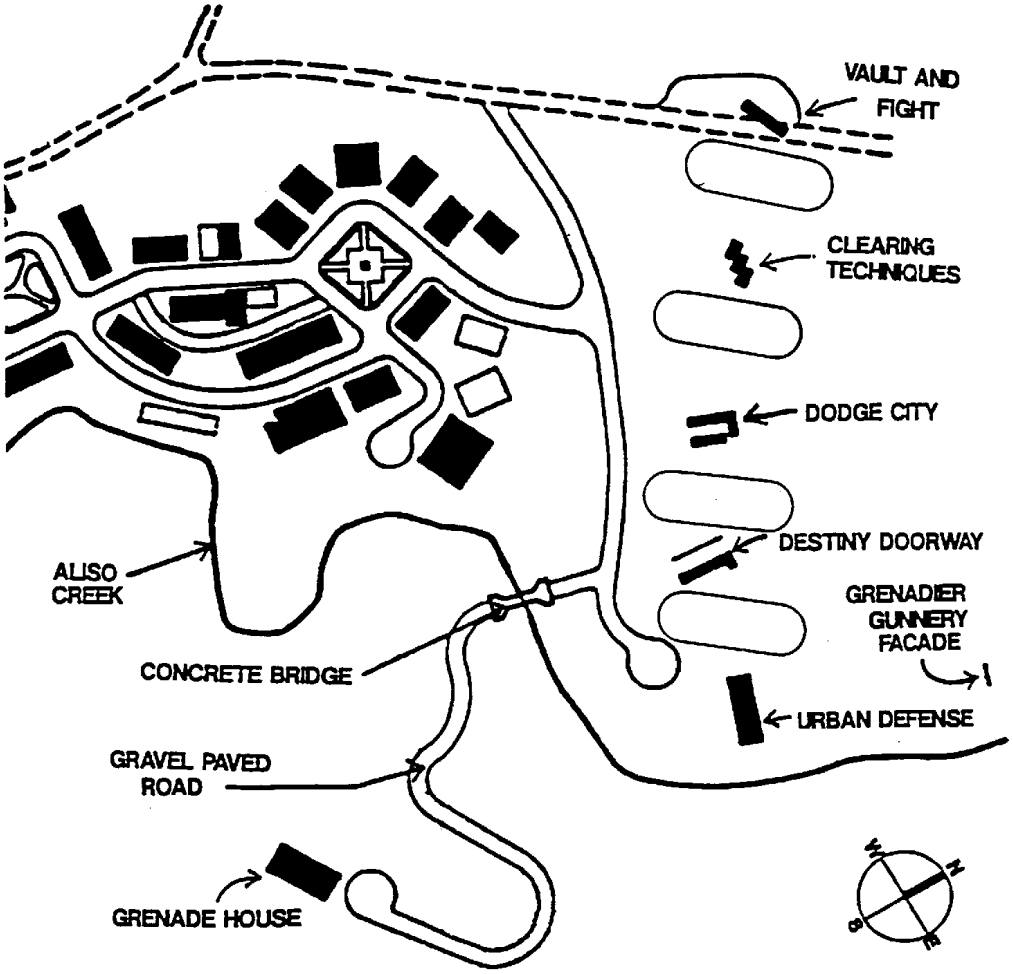
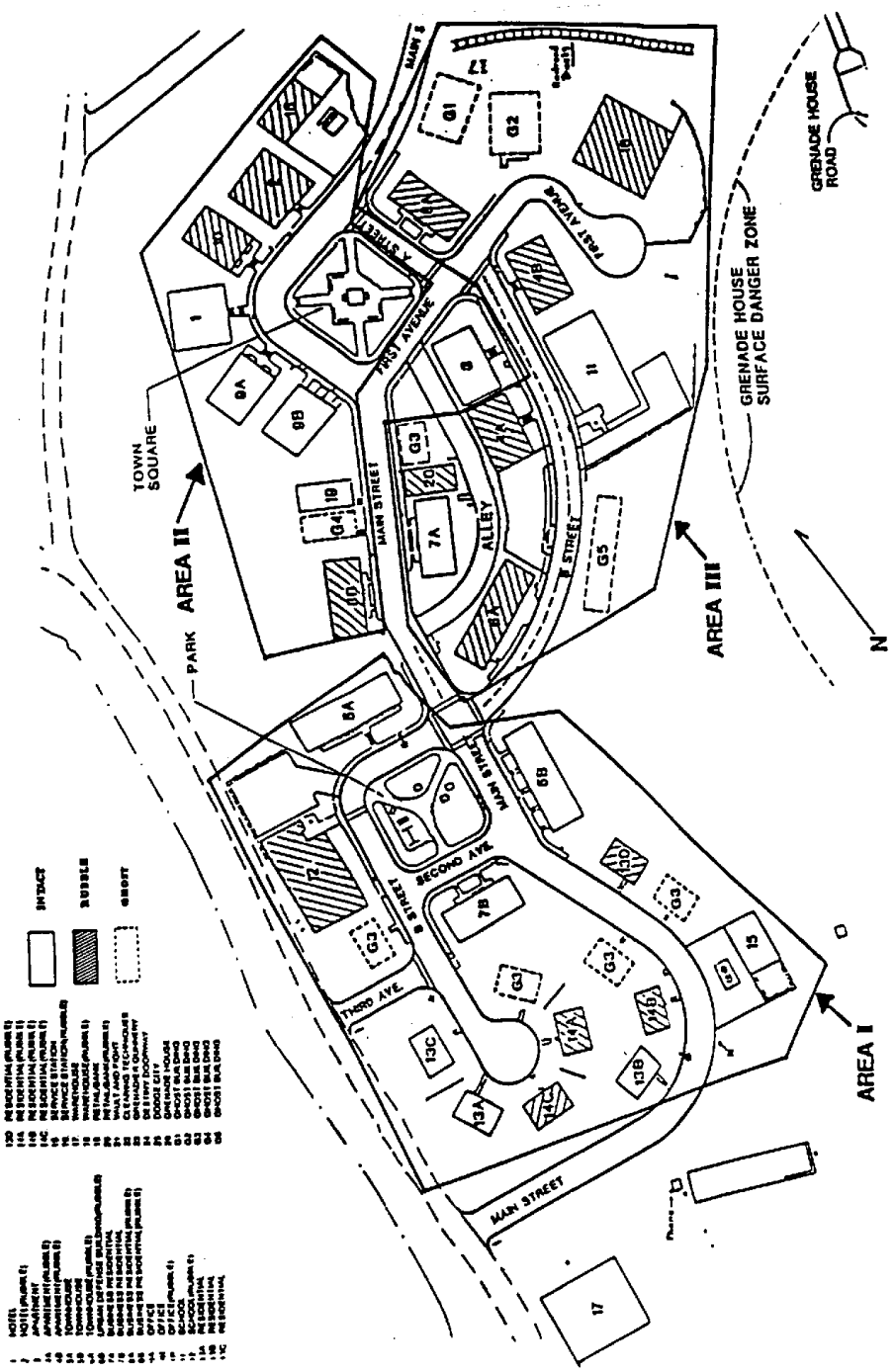


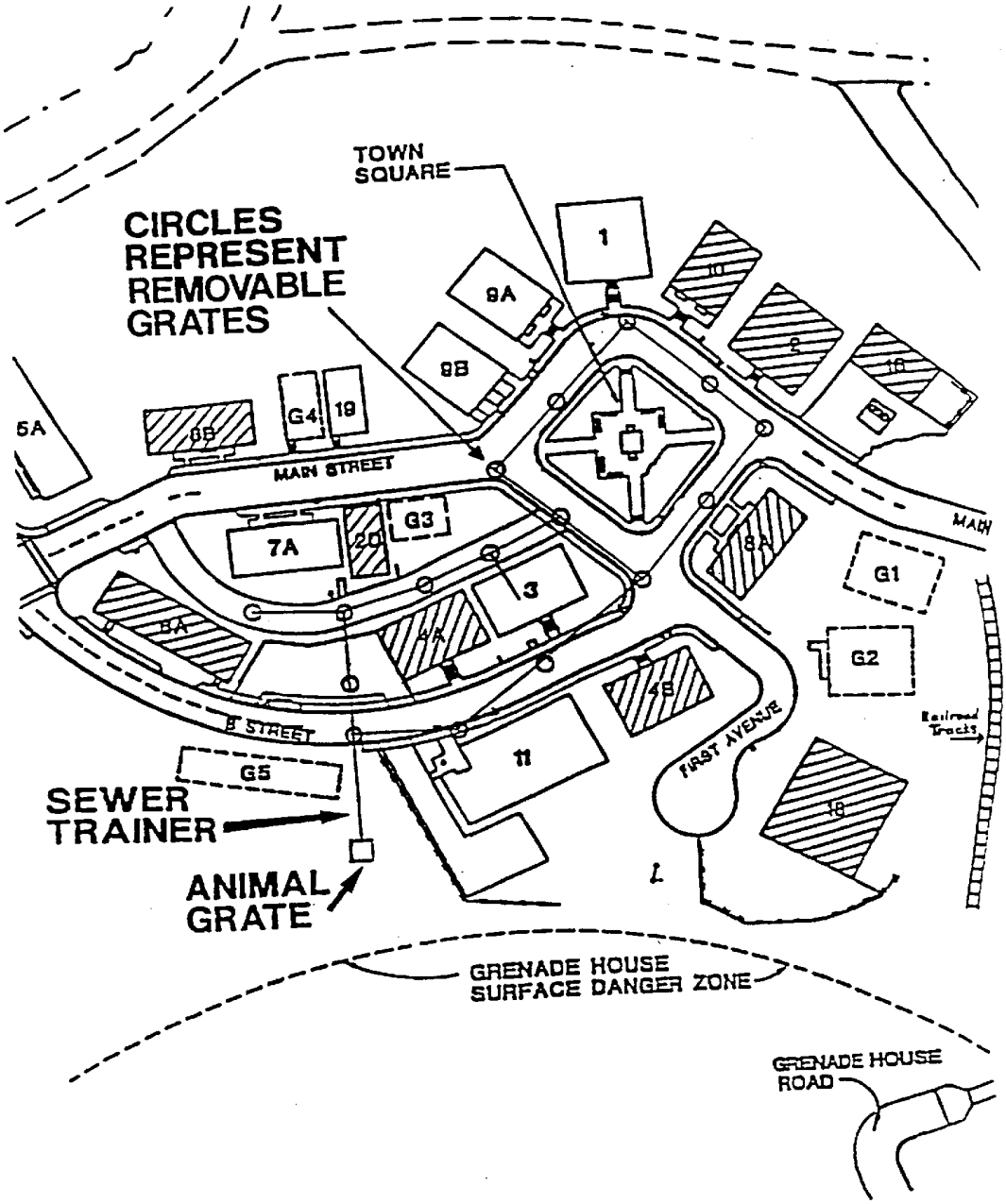
MOUT Facility
Figure C-1



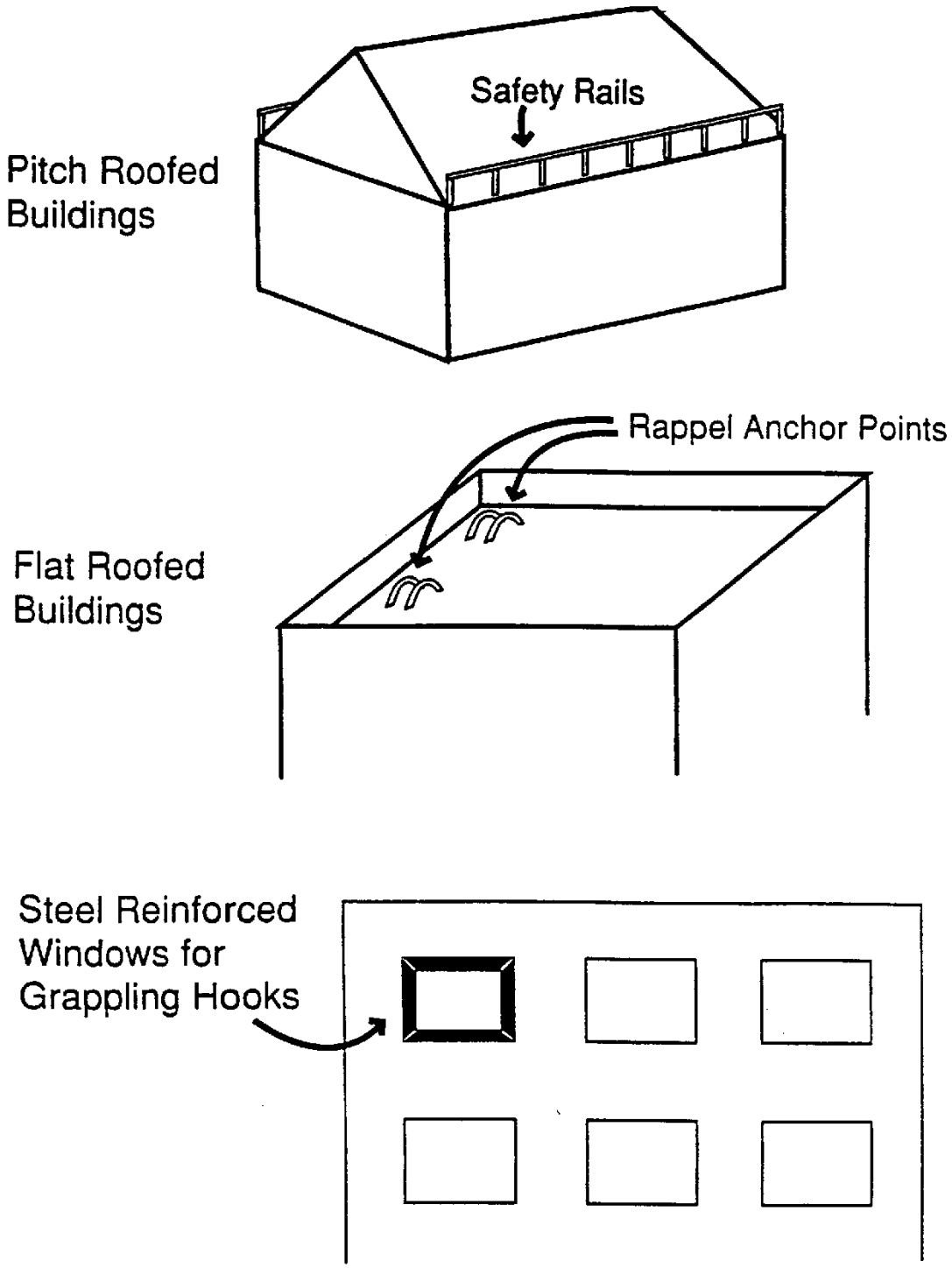
MOUT Assault Course (MAC)
Figure C-2



MOUT Town Training Areas
Figure C-3



MOUT Town Sewer System Trainer
Figure C-4



Rappel/Grappling Hook Anchor Points, Safety Rails
Figure C-5

MAC STATION CHECK-IN

CHECK-IN

DATE _____

- ❑ UNIT_____ PHONE # _____
- ❑ OFFICER IN CHARGE_____
- ❑ RANGE SAFETY OFFICER (MCBCP Range Safety Certification Course Card & MAC RSO Card)_____

  - ❑ STATION 1: MOUT INSTRUCTOR _____ (VAULT & FIGHT)
  - ❑ STATION 2: MOUT INSTRUCTOR _____ (CLEARING TECHNIQUES)
  - ❑ STATION 3: MOUT INSTRUCTOR _____ (DODGE CITY)
  - ❑ STATION 4: MOUT INSTRUCTOR _____ (DESTINY DOORWAY)
  - ❑ STATION 5: MOUT INSTRUCTOR _____ (URBAN DEFENSE)
  - ❑ STATION 6: RANGE SAFETY OFFICER_____ (REQUIRES ADDITIONAL RSO, SAFETY VEHICLE, CORPSMAN) (GRENADE HOUSE) MOUT INSTRUCTOR _____

- ❑ FIRE DANGER RATING_____
- ❑ TYPE OF AMMUNITION FIRING_____

RANGE SAFETY OFFICER'S UNDERSTANDING

- ❑ ALL CAMP PENDLETON RSO, MAC RSO, MOUT INSTRUCTOR, HRST AND ANY OTHER CARDS, REQUIRED FOR TRAINING, WILL BE KEPT IN THE MOUT STAFF OFFICE UNTIL POLICE CALL HAS BEEN INSPECTED.

- ❑ I HAVE READ AND UNDERSTAND SECTIONS OF BASE ORDER P3500.1_ PERTAINING TO THE MOUT FACILITY. I ALSO HAVE READ AND UNDERSTAND THE MOUT SOP. I HAVE HAD THE MAC BRIEF READ TO ME BY THE MOUT STAFF AND UNDERSTAND WHAT IS REQUIRED FOR CONDUCT OF SAFE TRAINING AND A SATISFACTORY POLICE OF THE FACILITY. I UNDER-STAND THAT ANY VIOLATION OF THE RANGE REGULATIONS OR MOUT SOP WILL RESULT IN A RANGE INCIDENT REPORT BEING FORWARDED TO THE RANGE CONTROL OFFICER.

- ❑ SIGN: OIC_____ RSO_____
  MAC INST. 1._____ 2._____
  3._____ 4._____
  5._____ 6._____

MAC Station Check-In Sheet

Figure C-6

MOUT CHECK-IN/OUT SHEET

1. CHECK-IN

A. UNIT_____ PHONE #_____

B. OFFICER IN CHARGE_____

C. RANGE SAFETY OFFICER (MCBCP Range Safety Certification Course Card & MOUT INST. or MAC RSO Card)

MOUT 1_____ MOUT INST. NCO_____
MOUT 2_____ MOUT INST. NCO_____
MOUT 3_____ MOUT INST. NCO_____
MOUT 4_____ MOUT INST. NCO_____

D. NUMBER OF PERSONNEL TRAINING:_____

E. FIRE DANGER RATING_____ (LONGRIFLE will brief ACCEPTABLE PYRO)

F. UTILIZING SMOKE_____ PYRO_____ CS_____

G. MOUT STAFF CHECKING THE UNIT IN:_____

H. AREAS SCHEDULED (CIRCLE)

MOUT 1 BLDGS - 5A, 5B, 7B, 12, 13A-D, 14A-C, 15, AND PARK
MOUT 2 BLDGS - 1, 2, 8B, 9A, 9B, 10, 16, 19, AND TOWN SQUARE
MOUT 3 BLDGS - 3, 4A, 4B, 6A, 7A, 8A, 11, 18, 20, AND RR TRACKS
MOUT 4 BLDG - SEWER TRAINER
CLASSROOM

I. RANGE SAFETY OFFICER UNDERSTANDING

(ALL CAMP PENDLETON RSO, MAC RSO, MOUT INSTRUCTOR, HRST AND ANY OTHER CARDS, REQUIRED FOR TRAINING, WILL BE KEPT IN THE MOUT STAFF OFFICE UNTIL POLICE CALL HAS BEEN INSPECTED.)

I HAVE READ AND UNDERSTAND SECTIONS OF BASE ORDER P3500.1_ PERTAINING TO THE MOUT FACILITY. I ALSO HAVE READ AND UNDERSTAND THE MOUT SOP. I HAVE HAD THE MOUT BRIEF READ TO ME BY THE MOUT STAFF AND UNDERSTAND WHAT IS REQUIRED FOR THE CONDUCT OF SAFE TRAINING AND A SATISFACTORY POLICE OF THE FACILITY. I UNDERSTAND THAT ANY VIOLATION OF THE RANGE REGULATIONS OR MOUT SOP WILL RESULT IN A RANGE INCIDENT REPORT BEING FORWARDED TO THE RANGE CONTROL OFFICER.

RSO SIGNATURE: MOUT 1_____ MOUT 2_____
MOUT 3_____ MOUT 4_____

2. CHECK-OUT

A.	Buildings Swept	❑	G.	Bleachers Clean	❑
B.	Brass	❑	H.	Trash Emptied	❑
C.	Trash	❑	I.	Bldg. 17 Policed (if used)	❑
D.	Doors ClosedTrash	❑	J.	Parking Lot Policed	❑
E	Shutters Closed	❑	K.	Police of Bivouac Area by Bldg. 17	❑
F.	Classroom Vacuumed	❑			

MOUT Check-In/Out Sheet

Figure C-7

MAC STATION CHECK-OUT

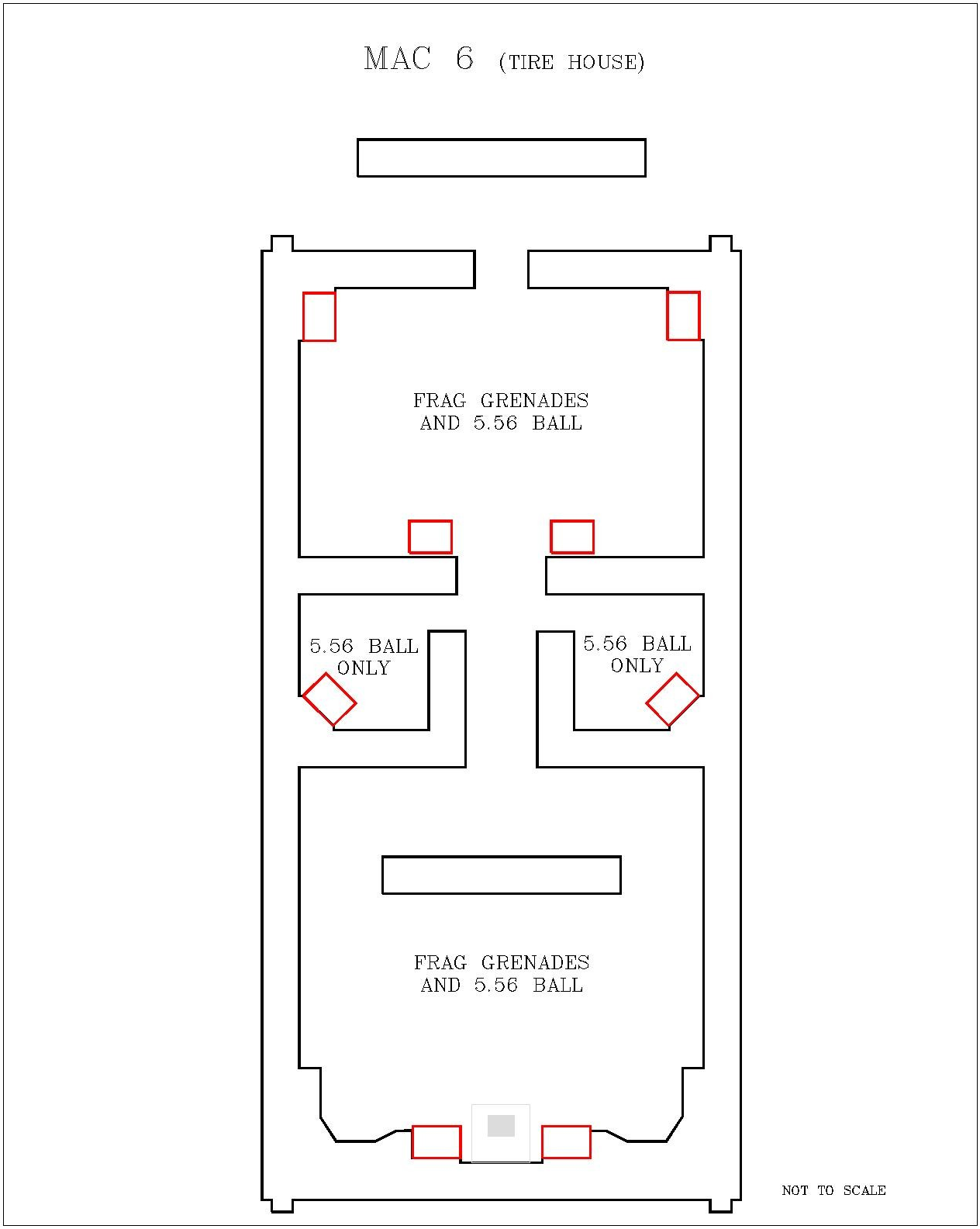
POLICE CALL OF THE MAC SITES

- ❑ **MAC 1:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BRASS AND TRASH: SAT or UNSAT
  ANY DAMAGE TO TARGETS: _____
  SAND BAGS: SAT or UNSAT
- ❑ **MAC 2:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BRASS AND TRASH: SAT or UNSAT
  ANY DAMAGE TO TARGETS: _____
  SAND BAGS: SAT or UNSAT
- ❑ **MAC 3:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BRASS AND TRASH: SAT or UNSAT
  ANY DAMAGE TO TARGETS: _____
  SAND BAGS: SAT or UNSAT
- ❑ **MAC 4:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BRASS AND TRASH: SAT or UNSAT
  ANY DAMAGE TO TARGETS: _____
  SAND BAGS: SAT or UNSAT
- ❑ **MAC 5:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BUILDING SWEPT: SAT or UNSAT
  BRASS AND TRASH: SAT or UNSAT
- ❑ **MAC 6:**
  ANY NEW STRUCTURAL DAMAGE: _____
  BRASS AND TRASH: SAT OR UNSAT
  GRENADE: SAT or UNSAT

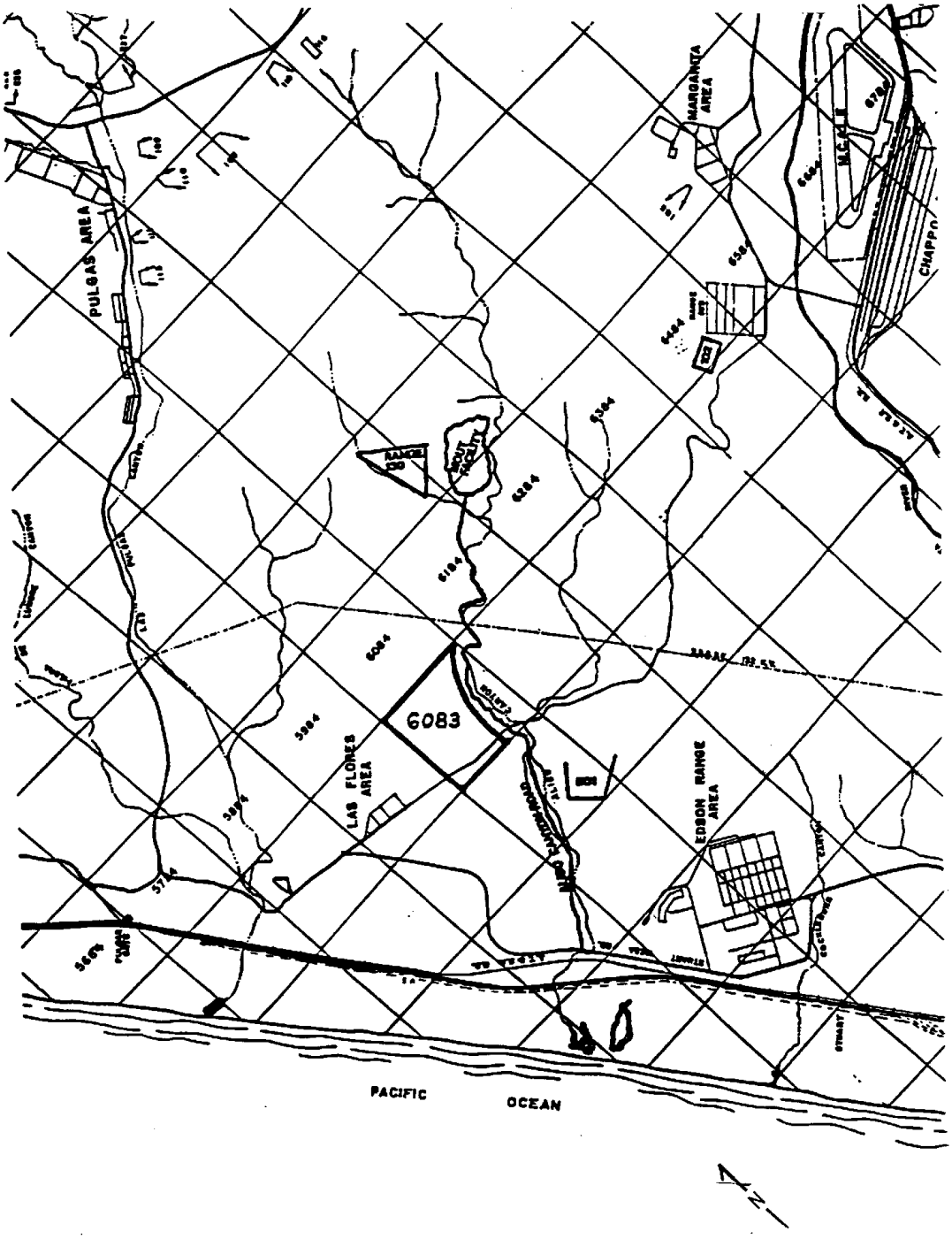
❑ **MOUT STAFF**: I CERTIFY THAT THE ABOVE HAS BEEN COMPLETED TO A SATISFACTORY LEVEL.

SIGN:_____

MAC Station Check-Out Sheet
Figure C-8



Grenade House (MAC 6)
Figure C-9



MOUT Bivouac Area
Figure C-10

APPENDIX D

ARTILLERY FIRING AREAS

Overview

This appendix provides details regarding the Artillery Firing Areas aboard MCB, Camp Pendleton, and the procedures for their use.

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	D-3
2. Procedures For Firing From Artillery Firing Areas	D-3
3. Firing Precautions	D-5
4. Safety Personnel	D-6
5. Communication	D-6
6. Coordination Between Artillery and Air Assets	D-6
7. Special Instructions for Firing Improved Conventional Munitions (ICM)	D-7
8. FASCAM	D-8
9. Direct-Fire Procedures	D-8
10. Artillery Firing Areas (AFAs)	D-8

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APPENDIX D

ARTILLERY FIRING AREAS

1. GENERAL

a. Ammunition Handling Ammunition shall be handled per the provisions in TM 43-001-28, the applicable Weapons Operations Manual, and handling procedures per BO P8000.2.

b. Safety Requirements A corpsman, with first aid equipment and a safety vehicle, shall be present at all times when firing is in progress.

2. PROCEDURES FOR FIRING FROM ARTILLERY FIRING AREAS

a. General The Artillery Firing Areas (AFAs), indicated in the 11th Marines Survey on pages D-8, D-9, D-10, and D-11 are authorized for use by units conducting indirect-fire aboard Camp Pendleton.

b. Preparation All AFAs require reconnaissance by survey, and preparation of a surface danger diagram prior to occupation and live-firing. The geographic center of the AFA is surveyed to fourth order accuracy, and marked by a concrete monument witnessed by a yellow cassonite marker. Each AFA is also marked by a sign, which denotes the AFA number, and a hearing hazard zone.

c. Vehicle Operations All vehicle operations, in conjunction with the use of AFAs, shall comply with the provisions of paragraph 6030 of this Manual.

d. Radar/ Registration Points Radar positions, observation posts for High Burst/Mean Point Impact (HB/MPI) registration, and registration points shall be surveyed to fifth order accuracy.

e. Orienting Station/End of Orienting Line

Firing units must survey an Orienting Station (OS) and establish an End of Orienting Line (EOL) for each firing position per FM 6-2.

---

f. Artillery Impact Area

The Zulu and Whiskey Impact Areas have been combined into one common impact area and redefined for artillery firing purposes. A green-dotted line on the Camp Pendleton Military Installation Map depicts the impact area for artillery-delivered ordnance fires. The area is bound by grids 5770 0000 to 5590 9960 to 5490 9620 to 5890 9420 to 5990 9420 to 6090 9270 to 6290 9120 to 6390 9070 to 6590 9270 to 6590 9600 to 6350 9730 to 6150 9940 to the beginning.

---

g. SDZ Diagram Construction and Safety Cards

Using the surveyed OS as the firing point, firing units shall construct a SDZ diagram per directives in the MCO 3570 series and a Range Safety Card per unit Safety SOPs for each AFA to be used. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. All portions of the SDZ diagram from the up-range edge of Area C and forward must fall within the limits of the artillery impact area as defined in paragraph 2.f. above, and may not impede on established NFAs as defined in appendix B of this Manual. The artillery battalion commander (or his designated representative) shall approve safety cards prior to firing; and all SDZs prior to submitting them to the Range Control Officer for final approval.

---

h. SDZ Diagram Locations

SDZs shall be maintained at the Fire Direction Center (FDC) of the firing unit and the observer locations. The SDZ diagram shall also be provided to the Range Scheduling Office no later than ten (10) working days in advance. When the artillery firing exercise (FIREX) is battalion size or larger, a copy of the SDZs will be maintained at the controlling unit's FDC.

---

i. Target Area

The target area, as depicted in the SDZ diagram, will be communicated to LONGRIFLE prior to the unit going into a hot status.

---

j. SDZ Preclusions

SDZs shall be constructed to preclude firing over Base cantonment areas, Ammunition Supply Points (ASPs) and Field Ammunition Supply Points (FASPs). The diagrams and range cards will remain valid as long as the battery center, determined upon occupation of the AFA, is within 200 meters of the surveyed OS.

---

k. Non-Designated AFAs

Use of an AFA not designated in this Manual shall be made by a special request, accompanied by a SDZ diagram. Forward requests to the Commanding General, MCB (Assistant Chief of Staff, Operations and Training) thirty (30) days prior to the proposed firing date. Establishment of an AFA, not described in this Manual, shall also require an environmental review. Please refer to chapter 2 of this Manual for environmental documentation requirements.

---

l. Coordinates The 11th Marines Survey data on pages D-9, D-10, and D-11 provides a listing of the coordinates, elevation (to the nearest tenth of a meter), and coordinating instructions for each approved AFA.

m. Consolidated AFA Booklet The Commanding Officer, 11th Marines has prepared a consolidated AFA booklet, with survey data cards, for each AFA. Each data card provides survey data, directions to, and a sketch of each AFA. The AFA booklets are on file with the Range Scheduling Office and 11th Marines. Artillery battalion S-3s should also have a copy of the AFA booklet.

n. Surveys Contact 11th Marines Regimental Survey for any information regarding surveys aboard Camp Pendleton.

o. Special Use Airspace Dimensions and operational characteristics of Special Use Airspace (SUA), required to support artillery live-fire, are discussed in detail in paragraph 4001 in chapter 4 of this Manual.

3. FIRING PRECAUTIONS

a. Overhead-Fire When firing over training areas, roadways, maneuver units or occupied positions, ammunition cleared for overhead-fire is required.

b. No Fire Areas No Fire Areas are listed in appendix B of this Manual, which shall be accounted for in the SDZ diagram construction.

c. Powder Burning (1) Powder burning shall be conducted in AFAs during FDRs of LOW, MODERATE, and HIGH. In order to reduce the potential for costly wildland fires, when the FDR is VERY HIGH or EXTREME, the unit conducting training shall burn powder at AFAs 16, 31 and 43 only, unless coordinated with LONGRIFLE. During all powder burning activities, powder shall be burned in areas cleared to mineral earth, and no closer than 200 feet to vegetation. Powder shall be burned in single or double rows, not to exceed 12 inches in width, and not to exceed a total of 40 increments (bags).

(2) Units shall have fire extinguishers, water, and shovels at the burn site. Units shall contact LONGRIFLE for permission prior to burning. During FDRs of VERY HIGH and EXTREME, units shall remain at the burn site for 30 minutes after the last burn, ensuring no fires have been started in the surrounding vegetation.

4. SAFETY PERSONNEL

Safety personnel and their responsibilities are detailed in chapter 3 of JtRegtO P3570.2B.

5. COMMUNICATION

a. FIREXs

When an artillery firing exercise (FIREX) is battalion size or larger, a Base RSO from the organization conducting the exercise may check out all the AFAs assigned to the organization conducting the FIREX. Communication shall be established and monitored between LONGRIFLE and each firing unit occupying an AFA, prior to and during all firing. The controlling headquarters shall conduct all normal traffic between the controlling unit and LONGRIFLE. Subordinate units shall monitor the Range Safety Net, entering the net only when called, or in the event of an emergency, MEDEVAC, etc. This procedure is designed to reduce traffic on the Range Control Net, and provide positive communication with each firing unit in case of emergencies. When a unit calls LONGRIFLE, they shall identify themselves as the (unit) Fire Direction Center, and not the alphanumeric unit callsign. The controlling headquarters shall advise LONGRIFLE of the current location of all firing units involved in the FIREX.

b. Check-Firing

All personnel shall be briefed to immediately command, "Check-fire" upon observing any unsafe condition, and to state the reason check-firing is announced. Once the problem is corrected, the OIC of Firing shall contact LONGRIFLE for permission to cancel check-firing. Upon approval, he will command, "Cancel check- fire."

6. COORDINATION BETWEEN ARTILLERY AND AIR ASSETS

a. "Priority Use"

To increase training efficiency, a "Priority Use" scheduling system has been implemented. This does not preclude any other unit from scheduling training on an air or ground day. "Priority Use" only means a "priority" for range and airspace utilization. For details, refer to paragraph 3001 in chapter 3 of this Manual.

b. Unit Coordination

(1) Close coordination is required when air and ground units schedule a range simultaneously. When a ground unit wants to schedule training on an Air Priority day, the following coordination will be required.

(a) Prior to shooting, the firing unit must contact the unit controlling the aircraft and agree upon the coordination procedures to be used on Air Priority days.

(b) The firing unit shall collocate a Liaison Officer/Forward Observer (LNO/FO) with the Forward Air Controller (FAC).

(c) With LONGRIFLE concurrence, the LNO/FO shall receive approval from the AO/FAC for any live-fire after LONGRIFLE has passed control of the aircraft to the AO/FAC. The LNO/FO ensures firing units conduct missions only when aircraft are out of the impact area, above maximum ordinate, or are operating within formal or informal Air Coordination Areas (ACAs).

(d) Any artillery unit may schedule a live-fire exercise on an air priority day, but that unit shall accept being put in a "check-fire" status when a scheduled aircraft checks in with LONGRIFLE. On ground priority days, air activity will be suspended pending completion of conflicting artillery training. Firing units will not be placed in a "check-fire" status unless it is required to preclude a serious safety violation.

(2) When aviation activities are scheduled on ground priority days, the responsibility for completing the coordination process described above rests with the aviation unit.

---

7. SPECIAL INSTRUCTIONS FOR FIRING IMPROVED CONVENTIONAL MUNITIONS (ICM)

---

a. Firing Conditions

ICM shall be fired under the conditions listed below.

(1) With the approval of a special request to the Assistant Chief of Staff, Operations and Training

(2) From AFAs 10, 31, 32, and 33, unless otherwise authorized

(3) Into the firing box created by the following grids: 62920 93196 to 62920 94196 to 63920 94196 to 63920 93196

(4) When the OIC of Firing has ensured all areas along the gun target line are clear of personnel, he/she shall be granted permission to fire by LONGRIFLE.

---

b. Firing Procedures and Safety Precautions

Special firing procedures and safety precautions applicable to ICM are contained in directives in the MCO 3570 series.

---

c. EOD Notification The firing unit shall inform EOD of the designated impact grid when ICM is fired into the impact area.

8. FASCAM

The firing of scatterable mine munitions is prohibited.

9. DIRECT-FIRE PROCEDURES

a. Direct-Fire Shoots Direct-fire shoots shall be conducted per current unit safety SOPs, appropriate Weapons Technical Manual and FM 6-50. SDZ diagram construction shall be completed prior to firing. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. The SDZ diagram will be constructed per MCO 3570 series

b. Direct-Fire Ranges Ranges 407 and 407A are designated for direct-fire.

c. SDZ Diagrams (SDZs) Prior to conducting a direct-fire shoot, SDZs shall be submitted to the Range Scheduling Office ten (10) working days prior to the event.

10. ARTILLERY FIRING AREAS (AFAs)

The AFAs aboard MCB, Camp Pendleton are listed below.

ARTILLERY FIRING AREAS (AFAs)
CAMP PENDLETON
11TH MARINES SURVEY

STATION	ORD	EASTING	NORTHING	HEIGHT	REMARKS
AFA 01	4TH	454243.28	3702922.60	175.5	
AFA 02	4TH	453757.86	3702569.94	179.5	
AFA 03	4TH	450731.92	3700849.76	224.8	
AFA 04	4TH	450231.56	3699901.63	169.1	
AFA 06	4TH	449584.98	3699499.62	137	

(Continued on next page)

ARTILLERY FIRING AREAS (AFAs)
CAMP PENDLETON
11TH MARINES SURVEY
(Continued)

STATION	ORD	EASTING	NORTHING	HEIGHT	REMARKS
AFA 07	4TH	447851.75	3699520.30	165.8	
AFA 08	4TH	457860.16	3692884.37	232.6	
AFA 09	4TH	459294.67	3692553.07	199.4	Area E Concerns
AFA 10	4TH	460337.30	3692047.41	205.1	
AFA 11	4TH	459194.70	3691658.99	149.6	Whiskey Only
AFA 12	5TH	457510.2	3691608.1	215.3	DZ Horno/Whiskey Only
AFA 13	4TH	459668.27	3690442.08	138.6	DZ Papa 3/Whiskey Only
AFA 14	4TH	455725.30	3686786.63	61.2	Whiskey Only Firing from 0001 to 0600 requires activation of CFA 4. Firing from 0600 to 2400 requires activation of CFA 4 & MOAs. Low angle fire only
AFA 15	4TH	456412.71	3686007.26	43.7	Whiskey Only Firing from 0001 to 0600 requires activation of CFA 4. Firing from 0600 to 2400 requires activation of CFA 4 & MOAs. Low angle fire only
AFA 16	4TH	457274.22	3685468.93	42.4	Whiskey Only Firing from 0001 to 0600 requires activation of CFA 4. Firing from 0600 to 2400 requires activation of CFA 4 & MOAs. Low angle fire only
AFA 17	4TH	462361.86	3690437.32	100.9	
AFA 18	4TH	462731.09	3689952.14	90.3	
AFA 19	4TH	464541.19	3689425.98	119.7	

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ARTILLERY FIRING AREAS (AFAs)
CAMP PENDLETON
11TH MARINES SURVEY
(Continued)

STATION	ORD	EASTING	NORTHING	HEIGHT	REMARKS
AFA 21	4TH	465118.14	3690303.36	129.7	Area E/R-407/R-407B
AFA 22	4TH	466445.30	3687394.06	61.0	DZ Basilone
AFA 23	4TH	467361.72	3688919.35	105.2	Area E Concerns
AFA 24	4TH	468005.74	3689453.47	131.7	
AFA 25	4TH	466622.19	3690300.02	142.7	Area E Concerns
AFA 26	4TH	466865.98	3690568.13	162.3	
AFA 27	4TH	467375.99	3690465.59	136.9	
AFA 28	4TH	468228.22	3690949.75	208.6	
AFA 29	4TH	467974.15	3691400.75	184.5	
AFA 30	4TH	466224.23	3690839.08	166.2	
AFA 31	4TH	466706.59	3691638.19	221.3	
AFA 32	4TH	466979.99	3692693.85	282.9	
AFA 33	4TH	467384.01	3692463.87	239.2	
AFA 34	4TH	470370.51	3692375.67	105.1	
AFA 35	4TH	470480.55	3693078.03	99.2	
AFA 36	5TH	468262.7	3693648.9	288.5	Special Request
AFA 37	5TH	467244.9	3694427.3	297.2	Special Request
AFA 38	5TH	467784.9	3694457.7	312.8	Special Request
AFA 39	4TH	472135.72	3696225.10	230.7	DZ DeLuz/39 N & S
AFA 40	4TH	463798.93	3698918.91	767.9	
AFA 41 II	4TH	462828.30	3699311.51	753.8	
AFA 42	4TH	462600.54	3700434.60	748.4	
AFA 43	4TH	460282.32	3700359.75	645.3	
AFA 44 II	4TH	461097.0	3701602.2	680	
AFA 45 II	4TH	461041.75	3702249.00	720.7	
AFA 46	4TH	458793.50	3701803.63	597.9	
AFA 90	5TH	473649.1	3687416.6	144.1	
AFA 91	5TH	474396.7	3685915.9	159.7	

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ARTILLERY FIRING AREAS (AFAs)
CAMP PENDLETON
11TH MARINES SURVEY
(Continued)

STATION	ORD	EASTING	NORTHING	HEIGHT	REMARKS
AFA 92	5TH	473045.0	3685158.5	163.9	
AFA 93	5TH	465448.7	3681551.6	18.7	
AFA 94	5TH	467990.0	3680906.9	77.1	
AFA 95	5TH	466431.2	3679501.7	17.6	
AFA A	PADS	455469.3	3703242.9	121.6	
AFA C	PADS	461394.1	3700198.2	718.8	
AFA D	PADS	461614.1	3700935.8	735.6	
AFA F	PADS	471235.9	3694408.5	242.7	
AFA G	PADS	459031.7	3690037.0	126.1	
AFA H	PADS	451874.7	3700085.4	80.1	
AFA I	PADS	452764.0	3701078.6	88.3	
AFA J	PADS	457298.6	3693650.6	148.3	Area E/R-218A

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APPENDIX E

MORTARS

Overview

This appendix provides details regarding the mortar positions (MPs) and mortar fire areas (MFAs) on board MCB, Camp Pendleton, and the procedures for their use.

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	E-3
2. Procedures for Firing from Mortar Positions	E-4
3. Procedures for Firing from Mortar Firing Areas (MFAs)	E-5
4. Procedures for Firing Mortars from Outside Mortar Positions/ MFAs	E-7
5. Surface Danger Zones	E-8
Figure	
E-1 SDZ Example	E-11

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APPENDIX E

MORTARS

1. GENERAL

The following procedures shall be used when firing mortars anywhere on MCB, Camp Pendleton.

a. Ammunition Handling

Ammunition shall be handled per the provisions in TM 43-001-28, the applicable Weapon Operations Manual, and ammunition handling procedures in BO P8000.2B.

b. Safety Requirements

A corpsman, with first aid equipment and a safety vehicle, shall be present, at all times, when firing is in progress.

c. Communication

Communication with LONGRIFLE shall be conducted per the provisions in this Manual.

d. Restrictions

Firing mortars over the heads of unprotected troops is prohibited. Overhead-fire is allowed when troops are in tanks with hatches closed located 100 meters or more from the line of fire. Requests to fire from other than established sites shall be submitted via the waiver process described in paragraph 1006 in chapter 1 of this Manual.

e. Direct Observation

The impact of all rounds fired shall be under direct observation. The RSO shall ensure qualified observers are present.

f. Removal of Increments and Powder Burning

(1) Increments removed before firing shall be placed in a metal or wooden covered container located outside the firing position at a safe separation distance (i.e., 25m).

(2) Powder burning shall be conducted within MPs and MFAs during FDRs of LOW, MODERATE and HIGH. In order to reduce the potential for costly wildland fires when the FDR is VERY HIGH or EXTREME, the unit conducting training shall burn powder at AFA 43, MP 1, MP 6 and MFA 14 (cleared area at R-221) only, unless coordinated with LONGRIFLE. During all powder burning activities, powder shall be burned in areas cleared to mineral earth, and no closer than 200 feet to vegetation. Powder shall be burned in single or double rows not to exceed 12 inches in width.

(3) Units shall have fire extinguishers, water and shovels at the burn site. Units shall contact LONGRIFLE for permission prior to burning. During FDRs of VERY HIGH and EXTREME, units shall remain at the burn site for 30 minutes after the last burn to ensure no fires have been started in the surrounding vegetation.

g. Deflection Limits and Quadrant Elevations

The RSO shall calculate, by charge for each mortar tube, the left and right deflection limits and the minimum and maximum quadrant elevations that can safely be fired from that position.

h. Calculated Safety Information

The OIC of Firing shall ensure the Fire Direction Center and each Gun Chief have a copy of the safety information calculated by the RSO for mortar tubes in their possession. The information shall be written on a range card in the form of a "SAFETY T" for each charge to be fired in that position.

i. Calculated Firing Data

After the Fire Direction Center calculates the firing data, the RSO and Gun Chief shall check it against the appropriate "SAFETY T," to ensure the data placed on the mortar is safe. Only then will rounds be fired.

2. PROCEDURES FOR FIRING FROM MORTAR POSITIONS

a. Authorized Mortar Positions

The mortar positions listed below are authorized for use by units conducting mortar fire aboard Camp Pendleton.

AUTHORIZED MORTAR POSITIONS

MORTAR POSITION	GRID	FROM AZIMUTH	TO AZIMUTH	MIN RANGE	MAX RANGE	IMPACT AREA	CALIBER
MP-1	6381 9045	6116	0053	975M	4600M	ZULU	60MM, 81MM
MP-2	6421 9068	5938	6364	950M	4500M	ZULU	60MM, 81MM
MP-3	5975 9937	3500	4100	700M	3325M	WHISKEY	60MM, 81MM
MP-3A	5953 9947	4410	2130	600M	2325M	WHISKEY	60MM, 81MM
MP-4	6550 9154	5441	5955	950M	4375M	ZULU	60MM, 81MM
MP-5	5287 9705	6347	0675	500M	2275M	QUEBEC	60MM, 81MM
MP-6	5297 9700	0107	0675	500M	2275M	QUEBEC	60MM
		0107	0622		2275M		81MM
		0675	0995		1200M		60MM

SPECIAL INSTRUCTIONS: Mortars may be fired directly behind the pits when excess water is present.

NOTE: All azimuths are given in grid.

b. Scheduling All mortar positions shall be scheduled through the Range Scheduling Office prior to conducting training. Scheduling requests shall be completed per paragraph 3002 in chapter 3 of this Manual, to include the DODICs of all ammunition to be fired. Ammunition not listed on the approved scheduling request shall not be fired.

---

c. Range Regs Information regarding the conduct of firing is contained in the ammo can attached to a pole at each mortar position. The ammo can contains a SDZ diagram with appropriate safety data (left-right azimuth, target area, min-max range of the target area), along with RSO instructions, regulations, and a red flag.

---

d. SDZ Diagram Construction When firing is desired outside the SDZ provided for each mortar position, firing units shall construct a SDZ diagram per directives in the MCO 3570 series. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. All portions of the diagram from the up-range edge of the target area and forward must fall within the limits of the mortar impact area(s) and may not impede on established NFAs as defined in appendix B of this Manual.

---

e. SDZ Diagram Require-ments When firing is desired outside the SDZ provided for each mortar position, the RSO shall ensure a proper SDZ diagram is constructed as outlined above. The OIC of Firing shall sign the SDZ diagram. A copy of the SDZ diagram shall be maintained at the locations listed below.

(1) FDC of firing unit

(2) Observer location

(3) RSO position

---

f. Target Area The target area, as depicted in the SDZ diagram, shall be communicated to LONGRIFLE prior to the unit requesting a hot status.

---

3. PROCEDURES FOR FIRING FROM MORTAR FIRING AREAS (MFAs)

---

a. Authorized Mortar Firing Areas The MFAs listed below are authorized for use by units conducting mortar fire aboard Camp Pendleton.

AUTHORIZED MORTAR FIRING AREAS

MFA	CENTER GRID	FIRING POSITION BOUNDARY GRIDS	RANGE GUARD POSITION GRIDS	TARGET AREA GRIDS	IMPACT AREA
5	5520 9716	5506 9769 to 5540 9769 to 5534 9676 to 5513 9662 to 5479 9663 to 5478 9675 to 5510 9705 to 5506 9769	5373 9589 5760 0119	5641 9829 to 5855 9913 to 5898 9646 to 5673 9653 to 5641 9829	WHISKEY
6	5633 0008	5602 0007 to 5647 0066 to 5680 0062 to 5680 0037 to 5656 0008 to 5654 9997 to 5623 9974 to 5568 9976 to 5560 9998 to 5574 0017 to 5602 0007	5373 9589 5760 0119	5801 9936 to 5958 9813 to 5793 9666 to 5683 9835 to 5801 9936	WHISKEY
7	5735 0057	5693 0082 to 5736 0111 to 5767 0102 to 5813 0042 to 5796 0017 to 5759 0022 to 5735 0004 to 5713 0008 to 5724 0038 to 5693 0082	5373 9589 5760 0119	5936 9919 to 6045 9839 to 5605 9701 to 5638 9832 to 5936 9919	WHISKEY
9	6245 9925	6175 9929 to 6193 9967 to 6247 9977 to 6302 9921 to 6277 9884 to 6242 9865 to 6175 9929	6069 0094 6293 9944 6309 9927	5984 9912 to 6134 9691 to 6006 9502 to 5755 9904 to 5984 9912	WHISKEY
9A	6313 9845	6327 9908 to 6389 9843 to 6354 9827 to 6316 9784 to 6255 9844 to 6327 9908	6294 9944 6349 9914 6397 9863	6118 9677 to 5939 9568 to 5851 9907 to 6061 9898 to 6118 9677	WHISKEY
10	6629 9476	6633 9538 to 6667 9460 to 6645 9430 to 6606 9442 to 6593 9478 to 6633 9538	6699 9504	6500 9293 to 6388 9198 to 6256 9491 to 6401 9511 to 6500 9293	ZULU
11	6510 9099	6462 9090 to 6512 9154 to 6556 9116 to 6540 9074 to 6512 9044 to 6462 9090	6434 9049 6482 8979 6654 9189	6378 9212 to 6196 9446 to 6373 9548 to 6483 9271 to 6378 9212	ZULU
12	6390 9036	6362 9052 to 6390 9063 to 6406 9062 to 6411 9044 to 6401 9015 to 6383 9010 to 6379 9031 to 6362 9052	6314 9049 6402 8988 6432 9045	6339 9208 to 6257 9483 to 6402 9502 to 6405 9215 to 6339 9208	ZULU
13	6319 9035	6288 9024 to 6297 9053 to 6314 9068 to 6335 9057 to 6348 9039 to 6346 9021 to 6334 9003 to 6288 9024	6249 8991 6336 8995 6373 8981 6394 8986	6318 9225 to 6333 9423 to 6513 9373 to 6407 9204 to 6318 9225	ZULU
14	6018 9275	5989 9267 to 5971 9305 to 5992 9320 to 6009 9318 to 6014 9296 to 6065 9260 to 6067 9250 to 6040 9238 to 6031 9231 to 5989 9267	5972 9282 5887 9341	5962 9504 to 5927 9757 to 6417 9572 to 6223 9572 to 5962 9504	WHISKEY/ ZULU
15	5897 9363	5834 9349 to 5835 9368 to 5863 9387 to 5939 9384 to 5960 9370 to 5957 9353 to 5834 9349	5772 9359 5815 9346 5892 9333	5791 9593 to 5756 9812 to 6234 9682 to 6093 9511 to 5791 9593	WHISKEY

(Special Instructions listed on next page)

SPECIAL INSTRUCTIONS

MFAs 6 and 7 cannot be occupied at the same time
MFAs 9 and 9A cannot be occupied at the same time
MFA 13 requires an EOD sweep of area forward of R-227 prior to use

b. Scheduling All MFAs shall be scheduled through the Range Scheduling Office prior to conducting training. Scheduling requests shall be completed per paragraph 3002 in chapter 3 of this Manual to include the DODICs of all ammunition to be fired. Ammunition not listed on the approved scheduling request shall not be fired.

c. Range Regs Information regarding the conduct of firing is contained in the ammo can attached to a pole at each MFA. The ammo cans contain appropriate safety data (firing position boundary and target area), along with RSO instructions, regulations and a red flag.

d. SDZ Diagram Construction When firing is desired outside of the designated firing position boundary or target area provided for each MFA, firing units shall construct a SDZ diagram per directives in the MCO 3570 series. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. All portions of the diagram from the up-range edge of the target area and forward must fall within the limits of the mortar impact area(s) and may not impede on established NFAs as defined in appendix B of this Manual.

e. SDZ Diagram Require-ments When firing is desired outside the target area provided for each MFA, the RSO shall ensure a proper SDZ diagram is constructed as outlined above. The OIC of Firing shall sign the SDZ diagram. A copy of the SDZ diagram shall be maintained at the locations listed below.

(1) FDC of firing unit

(2) Observer location

(3) RSO position

f. Target Area The target area, as depicted in the SDZ diagram, will be communicated to LONGRIFLE prior to the unit going into a hot status.

4. PROCEDURES FOR FIRING MORTARS FROM OUTSIDE MORTAR POSITIONS/MFAs

Units firing from sites, other than mortar positions (e.g., ranges, AFAs, etc.) shall comply with appropriate range regulations and the provisions listed below.

a. Scheduling All areas shall be scheduled through the Range Scheduling Office and approved by the RCO prior to conducting training. Scheduling requests shall be completed per paragraph 3002 in chapter 3 of this Manual, to include the DODICs of all ammunition to be fired, and SDZ diagram. Ammunition not listed on the approved TAR shall not be fired.

b. SDZ Diagram Construction Firing units shall construct a SDZ diagram per directives in the MCO 3570 series. All SDZs shall be constructed using the l:50,000 Camp Pendleton Military Installation Map. All portions of the diagram from the up-range edge of the target area and forward must fall within the limits of the mortar impact area(s) and may not impede on established NFAs as defined in appendix B of this Manual.

c. SDZ Diagram Requirements RSOs shall ensure a proper SDZ diagram is constructed as outlined above. The OIC of Firing shall sign the SDZ diagram. A copy of the SDZ diagram shall be maintained at the locations listed below.

(1) FDC of firing unit

(2) Observer location

(3) RSO position

d. Target Area The target area, as depicted in the SDZ diagram, shall be communicated to LONGRIFLE prior to the unit requesting a hot status.

5. SURFACE DANGER ZONES

(1) Surface danger zone requirements for 60mm, 81mm, 4.2-inch and 120mm mortars are listed below and in figure E-1 on page E-11 of this Manual.

(2) The RCO-approved SDZs for each MP and the target area for each MFA is authorized for 60mm and 81mm mortars only; including HE, illumination, WP and RP.

MORTAR SURFACE DANGER ZONE REQUIREMENTS FOR AREAS A and B

(Dimensions of areas in meters[1, 2,3,4])

CALIBER	AREA A	AREA B
60 mm	250	300
81 mm	400	400
4.2 inch	400	500
120 mm	600	600

(Area Dimensions listed on next page)

[1] Quadrant elevation limits must be modified to take into account the distance to the minimum and maximum limits of the impact area. After registration, corrections must be applied to the deflection quadrant elevation limits. When firing the 4.2 inch mortar, if registration firing is not conducted, metro and velocity error corrections will be applied to these limits, or all targets will continue to be selected in the central portion of the impact area.

[2] Dimensions of areas A and B may be reduced by 50% when firing illumination cartridges.

[3] Cartridges without HE filler (e.g., M880 and M931) do not require areas A and B.

[4] Distance X will not be less than the maximum range of the greatest charge to be fired.

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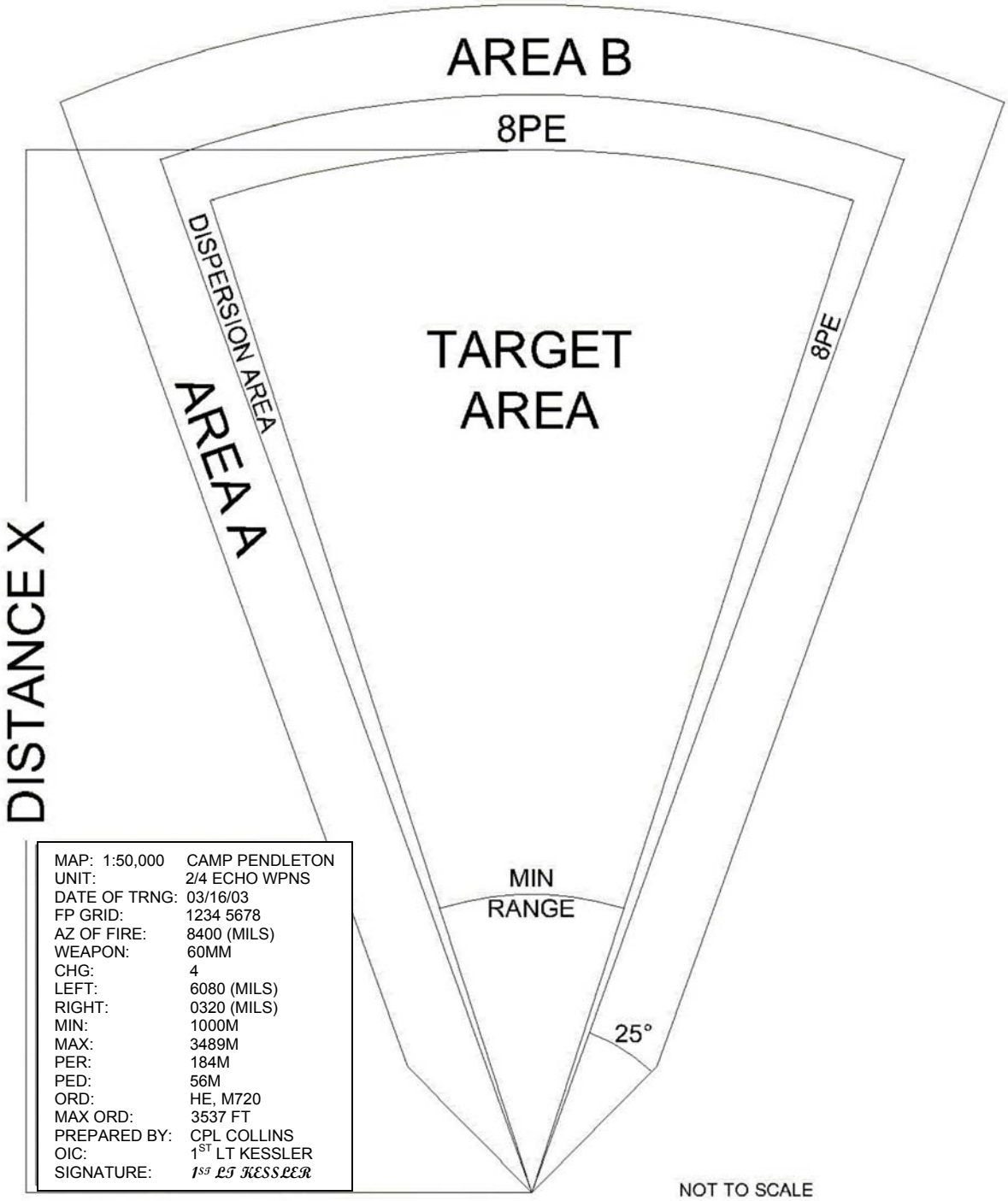

MAP: 1:50,000	CAMP PENDLETON
UNIT:	2/4 ECHO WPNS
DATE OF TRNG:	03/16/03
FP GRID:	1234 5678
AZ OF FIRE:	8400 (MILS)
WEAPON:	60MM
CHG:	4
LEFT:	6080 (MILS)
RIGHT:	0320 (MILS)
MIN:	1000M
MAX:	3489M
PER:	184M
PED:	56M
ORD:	HE, M720
MAX ORD:	3537 FT
PREPARED BY:	CPL COLLINS
OIC:	1ST LT KESSLER
SIGNATURE:	1ST LT KESSLER

SDZ EXAMPLE

NOTE: The 25 degree angle must be increased to 70 degrees when firing HE ammunition at ranges equal to or less than 600m for 60mm mortars; 940m for 81mm and 4.2 inch mortars; and 1,415m for 120mm mortars.

Figure E-1

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APPENDIX F

UTILIZATION OF CS

Overview

This appendix provides details regarding the utilization of CS on board MCB, Camp Pendleton, and procedures for the execution of the Individual Protective Equipment Confidence Exercise (IPECE).

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	F-3
2. CS Training	F-3
3. Responsibilities of the OIC	F-4
4. Responsibilities of the RSO	F-5
5. IPECE Safety Brief	F-5
6. IPECE Facility Requirements	F-6
7. IPECE Conducted In CS Chambers or Tents	F-7
8. IPECE Conducted In an Open Area	F-7

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APPENDIX F

UTILIZATION OF CS

1. GENERAL

The following procedures shall be used when CS capsules or CS grenades are utilized anywhere on MCB, Camp Pendleton.

2. CS TRAINING

a. Authorized CS Chambers

The CS chambers listed below are authorized for use by units conducting Individual Protective Equipment Confidence Exercises (IPECEs) aboard Camp Pendleton.

LOCATION	GRID	DESCRIPTION	SCHEDULED BY
14 AREA	737 859	Concrete Block Structure	Range Scheduling
31 AREA	630 808	Metal Structure	Range Scheduling
33 AREA	658 851	Concrete Block Structure	Range Scheduling
41 AREA	595 828	Concrete Block Structure	Range Scheduling
53 AREA	556 926	Concrete Block Structure	Range Scheduling
62 AREA	487 990	Concrete Block Structure	Range Scheduling

b. Scheduling

All CS chambers shall be scheduled through the Range Scheduling Office prior to conducting training. Scheduling requests shall be completed per paragraph 3002 in chapter 3 of this Manual, to include the DODICs of all ammunition to be utilized during training. Ammunition not listed on the scheduling request shall not be fired.

c. Range Regs

(1) Information regarding the conduct of the IPECE is contained in the ammo can attached to the range pole. The ammo cans contain appropriate safety, IPECE procedures along with RSO instructions, regulations, and a red flag.

(2) The gas chamber OIC and RSO shall be a properly qualified staff sergeant or above, who shall ensure only CS is used in gas chambers, and only in the proper amounts for the structure size being used.

(3) The individual conducting training must hold an MOS of 5711 or 5702 for the conduct of IPECE training.

(4) The use of CS in mask confidence (gas chamber) exercises shall be supervised by a Formal School-trained 5711 NCO or above.

(5) Under no circumstances will CS capsules or CS powder be introduced into grenade materials. This action is strictly prohibited per paragraph 1005.1b in chapter 1 of this Manual.

d. Communication Prior to lighting off the CS chamber, communication with LONGRIFLE shall be established. A request to go hot will be required. Notify LONGRIFLE approximately 30 minutes prior to securing from the gas chamber which allows a Range Inspector to verify police of the facility prior to the unit being cleared to depart by LONGRIFLE.

3. RESPONSIBILITIES OF THE OIC

a. OIC Requirements The OIC shall be a SSgt or above and must be NBC qualified for the conduct of IPECE training.

b. Safety Brief Ensure all personnel undergoing training participate in the safety brief.

c. Range and Safety Regulations The OIC shall be knowledgeable in all local range and safety regulations pertaining to CS and IPECE training.

d. Scheduling Ensure the IPECE is appropriately scheduled via the Range Scheduling Office.

e. Safety Requirements Ensure a dedicated safety vehicle with corpsman and non-participating driver are on-site. Safety vehicle personnel shall be familiar with Individual Protective Equipment (IPE) and have IPE to include their issued protective mask in case they have to enter the chamber or exercise area to tend to an emergency.

f. Preparation Supervision Supervise preparation and conduct of the IPECE to include build-up of CS concentration inside the chamber and ensure the exercise is conducted at a safe distance from any non-participating personnel.

g. Assistant Instructor Brief Brief assistant instructors on safety requirements.

h. Training Supervision Supervise all IPECE training.

4. RESPONSIBILITIES OF THE RSO

a. RSO Requirements The RSO will be a staff sergeant or above and must be NBC qualified for the conduct of IPECE training.

b. Munition Modification Per paragraphs 7008 and 7009 of this Manual, modifications or mixing of munitions are prohibited. CS capsules or loose CS shall not be incorporated into smoke producing materials.

c. Hard-Surfaced Roads/ Built-Up Areas/Base Boundaries The RSO shall not allow CS to be used within 1,000 meters of the I-5 Freeway and/or Base boundaries and/or within 500 meters of any hard-surface roads or built-up areas anywhere aboard Camp Pendleton.

5. IPECE SAFETY BRIEF

a. Eligibility to Participate Personnel with the following specific physical conditions shall be referred to medical providers for determination of eligibility to participate in an IPECE (findings and recommendations will be recorded in the individual's health record).

(1) Personnel with respiratory conditions to include histories of asthma

(2) Cardiac conditions

(3) Severe facial acne or any active dermatitis

(4) Open wounds

(5) Pregnancy or suspected pregnancy

---

b. Excluded Medical Conditions

The following medical conditions, if applicable, shall exclude personnel from participating in an IPECE. The OIC/on-site corpsmen shall verify the medical condition of all participants.

(1) Upper respiratory infection in the last fourteen (14) days that still requires medication

(2) Dental surgery in the past 72 hours

(3) Pregnancy

(4) Any unexplained rashes, scrapes, scratches, cuts, or respiratory disorder; or medical condition not covered

---

c. Non-Medical Precautions

(1) Wearing contact lenses while training with CS or tearing agents is prohibited. Individuals who normally wear contact lenses must remove them and use properly fitted optical inserts.

(2) Due to the additional heat stress of an IPECE, ensure an adequate water supply is available and personnel are encouraged to drink plenty of water.

(3) Make heads calls prior to entering the chamber.

(4) Due to CS causing involuntary eye closure, no person may ride in the cab of a government vehicle, or operate a government vehicle after exposure. Additionally, personnel shall not drive any vehicle (government or personal) for two (2) hours after exposure, or until they take a thorough shower.

(5) Personal vehicles shall not be driven to and from an IPECE.

---

6. IPECE FACILITY REQUIREMENTS

---

a. General

IPECE training is conducted in a chamber, a field tent, or an open area. An enclosure is preferable to an open area, because the desired vapor concentration can be controlled and maintained.

---

b. Facility and Materials

The chamber or tent should be reasonably airtight and provide an enclosed space of sufficient size with a separate entrance and exit. Tents used as IPECE training facilities should be used exclusively for this purpose.

---

c. Open Area and Terrain If the IPECE is to be conducted in an open area, the exercise area selected should be relatively flat, free from ditches, holes, and other possible individual safety hazards. CS or tearing agent grenades may be used. Wind conditions must be considered, and continuously monitored to ensure that downwind drift of CS or tearing agents will not expose non-participating personnel.

d. Safety Standards The following safety standards must be practiced and enforced to ensure training effectiveness and to prevent unnecessary injuries.

(1) Training shall occur at least 100 meters from any other activity, and 1,000 meters from the I-5 Freeway and/or Base boundaries and/or 500 meters from uncontrolled civilian access roads and cantonment areas. Units should provide appropriate government transportation to and from an IPECE. Participating personnel should not be permitted to drive personal vehicles to or from an IPECE.

(2) Commanders will approve use of CS or tearing agents during training based on advice from NBC personnel (MOS 5702/5711).

(3) CS or tearing agent grenades shall not be used in confined spaces (e.g., chambers, tents, and buildings).

e. Ventilation At the conclusion of an IPECE, the chamber shall be aired out for a minimum of 30 minutes (doors, windows, flaps open).

7. IPECE CONDUCTED IN CS CHAMBERS OR TENTS

a. Allowable Agents Only M7 series CS or appropriate tearing agent capsules (DODIC K765) shall be used for the conduct of IPECEs.

b. Chamber Clean-Up Chambers shall be swept and ventilated on a regular basis to prevent crystallized agent build-up and possible over-concentration of CS or tearing agents during IPECEs. Personnel cleaning the chamber or tent shall be in IPE, and practice caution at all times. Non-participating personnel should not be permitted in the immediate area during cleaning.

8. IPECE CONDUCTED IN AN OPEN AREA

a. Safety Briefs Safety briefings and appropriate exercise orientation briefings remain the same.

b. Weather Conditions FDR permitting, a smoke grenade can be used to check wind direction and agent cloud formation to assist in positioning troops.

APPENDIX G

OBSERVATION POSTS

Overview

This appendix provides details regarding the observation posts on board MCB, Camp Pendleton, and the procedures for their use.

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	G-3
2. Procedures for Use	G-3

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APPENDIX G

OBSERVATION POSTS

1. GENERAL

Listed below are the designated and identified observation posts (OPs) .

OP LOCATIONS	COORDINATES	REMARKS
A	636 900	Hand-held lasers allowed
B	640 904	Hand-held lasers allowed
C	642 919	Inactive
D	643 906	Hand-held lasers allowed
E	643 921	Marking for southern AFAs
F	666 926	Hand-held lasers allowed
I	649 968	Designation into the Zulu Impact Area is not authorized
J	596 995	Hand-held lasers allowed
K	566 938	Inactive
M	617 989	Marking for northern AFAs

2. PROCEDURES FOR USE

a. Scheduling OPs shall be scheduled through the Range Scheduling Office prior to conducting training. Scheduling requests shall be completed per paragraph 3002 in chapter 3 of this Manual.

b. Temporary OPs Special requests to use other terrain for OPs shall be submitted to the Range Scheduling Office. Units shall identify the coordinates, intended purpose, and time periods.

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APPENDIX H

COMMUNICATION

Overview

This appendix provides details regarding Range Control communication networks aboard MCB, Camp Pendleton, and the procedures for their use.

In This Appendix

The following topics are covered in this appendix.

Topic	See Page
1. General	H-3
2. Radio Communication	H-3
3. Wire Communication	H-6

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APPENDIX H

COMMUNICATION

1. GENERAL

All personnel and maintain communication with LONGRIFLE when they are in training areas, off-shore operating areas, beaches, training facilities, ranges and/or operating within Camp Pendleton special use airspace. Those having access to "Tango" net frequencies may communicate with LONGRIFLE on that net.

2. RADIO COMMUNICATION

a. Establishing Communication

Units shall establish communication with LONGRIFLE before permission is granted to commence training. A voice check shall be made every hour on the hour for units conducting training in all training areas and ranges in an occupied/cold status. A voice check shall be made every 30 minutes while live-fire is in progress. If at any time communication with LONGRIFLE is interrupted, the OIC/RSO of Firing shall immediately order a "check-fire" and remain in "check-fire" status until positive communication has been reestablished. The communication networks listed below have been established for controlling and monitoring all training being conducted aboard Camp Pendleton.

NETWORK	Base Ground Safety Net
AREA OF CONTROL	Ranges and Training Areas
HOURS OF OPERATION	24 hours per day/7 days per week
FREQUENCY (IES)	FM 49.00 (Primary)/FM 30.35 (Alternate) or UHF trunked hand-helds
CALLSIGN	LONGRIFLE
PURPOSE	Control/Monitor all live-fire ranges and maneuver areas

NETWORK	UHF Base Air Safety Net
AREA OF CONTROL	MCB, Camp Pendleton; Special Use Airspace
HOURS OF OPERATION	24 hours per day/7 days per week
FREQUENCY (IES)	301.9 UHF
CALLSIGN	LONGRIFLE
PURPOSE	Control/Monitor all air traffic aboard MCB, Camp Pendleton

NETWORK	Tactical Air Control Net
AREA OF CONTROL	Whiskey/Zulu Impact Areas
HOURS OF OPERATION	Activated during CAS operations, pattern work
FREQUENCY (IES)	249.9 UHF
CALLSIGN	LONGRIFLE
PURPOSE	Control/Monitor CAS operations, and help prevent frequency congestion

NETWORK	Tactical Air Control Net
AREA OF CONTROL	Whiskey/Zulu Impact Areas
HOURS OF OPERATION	Activated during CAS operations, pattern work
FREQUENCY (IES)	255.2 UHF
CALLSIGN	LONGRIFLE
PURPOSE	Control/Monitor CAS operations, and help prevent frequency congestion

NETWORK	VHF Air Safety Net
AREA OF CONTROL	MCB, Camp Pendleton Special Use Airspace
HOURS OF OPERATION	24 hours per day/7 days per week
FREQUENCY (IES)	123.2 VHF
CALLSIGN	LONGRIFLE
PURPOSE	Control/Monitor all air traffic aboard MCB, Camp Pendleton

b. Communication Requirements

(1) Units on ranges shall identify themselves by range number, rather than unit callsign, on range control nets.

(2) Units in training areas shall identify themselves by unit and training area. Net control shall always remain with LONGRIFLE.

c. CPAAA/ CPAVA

Units using the CPAAA are to maintain communication per FACSFACSDINST 3120.1 series. Units training in CPAVA or other training areas controlled by MCB, Camp Pendleton shall maintain communication with LONGRIFLE. Units who also have approval to train in the CPAAA, shall inform LONGRIFLE of their intention to move into the CPAAA. Units moving from the CPAAA into the CPAVA or other Camp Pendleton training areas shall inform LONGRIFLE of that movement.

d. Administrative Traffic

Administrative traffic shall not be transmitted over the Base Range Safety Nets. Units shall use other organic communication to accomplish administrative matters.

e. Large Exercises

The procedures listed below will be in effect during battalion size or larger exercises (e.g., artillery FIREXs, combined arms exercises, amphibious operations involving air and/or live-fire etc.), where a controlling agency (FDC/FSCC/DASC) or consolidated operations center has been established.

(1) The controlling agency/consolidated operations center shall establish and maintain positive communication with LONGRIFLE, at all times, during the entire operation. Subordinate units shall contact LONGRIFLE before permission is granted to conduct training. A voice check, by the controlling agency/consolidated operations center shall be made every hour on the hour for subordinate units conducting training. When live-fire training is conducted, voice checks by the controlling agency/consolidated operations center shall be made every 30 minutes.

However, this does not preclude subordinate units from contacting LONGRIFLE for emergency notifications (e.g., MEDEVACS, wildland fires, etc.). Subordinate units shall monitor LONGRIFLE communications at all times.

(2) The controlling agency/consolidated operations center shall keep LONGRIFLE advised of all subordinate unit locations and status throughout the exercise.

(3) After LONGRIFLE provides the initial approval to commence live-fire, the controlling agency/consolidated operations center shall keep LONGRIFLE informed, at all times, as to which ranges, artillery positions, and mortar positions are actually conducting live-fire operations.

(4) The controlling agency/consolidated operations center shall keep LONGRIFLE advised of all air operations taking place.

f. Safety

LONGRIFLE is the final authority on all matters pertaining to range safety, and may place units into a "check-fire" status, and cancel air operations in the interest of safety.

g. Radios

Each training unit shall provide its own radio equipment to support range safety communication requirements

3. WIRE COMMUNICATION

Units may lay wire for temporary intra-unit communication (field telephones) as long as the wire does not interfere with other operations or units in the same area. All wire shall be removed from the area when the using unit secures. Temporary or semi-permanent field wire lines shall not be installed on Base telephone or electrical poles.

APPENDIX I

FORMS

Overview

This appendix provides examples of the forms mentioned throughout this Manual.

In This Appendix

The following forms are provided in this appendix.

Forms	See Page
Camp Pendleton Training Activity Request	I-3
FAC-CAS Brief Sheet	I-5
Ammunition Malfunction Report	I-7
Ammunition and Explosives Range Check List for Range Safety Officers	I-9
EOD Request Form	I-11
Operational Risk Management Worksheet	I-13
Range Safety Officer (RSO) Check List	1-15
Laser Firing Log	I-21

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CAMP PENDLETON
TRAINING AREA REQUEST

1) ORGANIZATION:	**2) POC:**	**3) PHONE #** **Comm:** **DSN:** **FAX:**	**4) # of PERSONNEL ATTENDING TRAINING:**
5) DATE REQUESTED **FROM:** **TO:**	**6) TIME REQUESTED** **FROM:** **TO:**	**7) CONTINUOUS:** **FIXED:**	**8) BIVOUAC:** **YES/NO** **GRID:**
9) RANGE/TRAINING AREA REQUESTED:		**10) WEAPONS:**	
		11) TYPE OF ORDNANCE/DODIC:	
12) TYPE OF TRAINING:			
13) CONTRACTOR HOURS:		**14) VEHICLES:**	
15) WAIVER NUMBER:		**16) AIRSPACE:**	
17) AIRCRAFT:			
18) REMARKS: **REQUESTER's SIGNATURE**			

THE RANGE SCHEDULING OFFICE IS LOCATED ON THE 2ND DECK - BLDG 2399 (MCAS, CAMPEN)

OFFICE PHONE NUMBER: Comm: (760) 725-3510/4219 DSN 365-3510/4219

FAX PHONE NUMBER: Comm: (760) 725-4090 DSN 365-4090

(REQUIREMENTS, NOTES & SCHEDULING PRECEDENCE LISTED ON REVERSE SIDE)

* **Must be filled out (if applicable)**

1) * Unit Full Name and Address
2) * Point of Contact(s) Name and Rank
3) * Phone Number and Fax Number to Reach Point of Contact
4) * Number of Personnel Participating in Training
5) * Dates Unit is Requesting the Range/Training Area
6) * Start and End Times of Training
7) * Continuous (overnight), Fixed (daily)
8) * Bivouac Sites Require a 6-Digit Grid
9) * Range or Training Area Requested. [Remember to Schedule All Areas that Will be Used During Training (OPs, Areas Transitioned Through by Vehicles, IPs, Conflicting Ranges, Areas Used by Supporting Air, etc.)]
10) * Type of Weapons That Will be Used in Training
11) * Ammunition by Nomenclature/DODIC
12) * Type of Training Being Conducted (i.e., Patrolling)
13) * Hours for Automated Support on the Applicable Ranges (e.g., R-210G, R-215A, R-218A, R-223B, R-409A)
14) * Vehicles to be Used in the Training Areas or on Ranges
15) * Waiver Number for Training Evolution if Previously Approved
16) * Airspace Required for Training Evolution (R-2503C for High Angle Artillery, IPs for Close Air Support, MOAs, etc.)
17) * Squadron and Type of Aircraft Involved in Training
18) Any Additional Remarks

* Signature (Typed - Electronically; by Hand - FAX)

SCHEDULING NOTES:

ZULU IMPACT AREA - The first 3 Wednesdays and Thursdays of each month are dedicated air days in the Zulu Impact Area. If scheduling a range for these days, units conducting live-fire training will be placed in a “check- fire” status by LONGRIFLE while the A/C is on station.

WHISKEY IMPACT AREA - Dedicated air times for the Whiskey Impact Area are 1400 - 1700 and 2000 - 2300 Monday through Friday. If scheduling a range for these times, units conducting live-fire training may be placed in a “check-fire” status by LONGRIFLE while A/C are on station.

SCHEDULING PRECEDENCE

PRECEDENCE	UNIT	REMARKS	SCHEDULING WINDOW
1	USMC Formal Schools	MOS-Producing	180 Days
2	MEU or higher level exercises (including USMCR)	ADCON/OPCON units will schedule via higher headquarters, who will consolidate and submit to Range Scheduling	180 Days
3	Resident FMF (including USMCR)/Division Schools/Base Commands		90 Days
4	Non-resident FMF (includes USMCR)/Navy		90 Days
5	Other DoD/Reserve/National Guard		60 Days
6	Civilian Law Enforcement/Recreation/ Hobbyists		30 Days

FAC-CAS BRIEF SHEET

OP _____

DATE _____ FAC's NAME UNIT _____

TGT MARKING UNIT _____ LOCATION _____

CALLSIGN	A/C-TYPE	TOT	ORDNANCE ON BOARD

IP TO BE USED IP SONGS IP BRIDGE IP HORNO IP CASE OTHER _____

HOT IMPACT AREAS _____ HARD DECK MSL _____

WORKING FREQUENCY 249.9 UHF 255.2 UHF

FAC's CALLSIGN _____

SIGNATURE

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AMMUNITION MALFUNCTION REPORT

MALFUNCTION REPORT ROUGH
Ref: MCO 8025.1

Unit Identification: _____
Report Serial Number: _____

Point of Contact: _____
Telephone # DSN: _____ Comm: _____

Ammunition Data: _____
NSN: _____
DODIC: Nomenclature: Lot#: _____

(In case of a 155mm where the projectile with fuse, propellant charge, & primer are loaded into the weapons separately, the above blocks must be done for each item).

Description of Malfunction:
Provide a narrative of what occurred, whether there were any non-standard conditions:
_____
_____

Indicate the number of casualties:
Minor Injuries requiring outpatient care: _____
Major Injuries requiring hospitalization: _____
Fatalities: _____

Prevailing Conditions:
Time: _____
Date: _____
Weather Conditions: _____

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AMMUNITION AND EXPLOSIVES RANGE CHECK LIST FOR RANGE SAFETY OFFICERS

	YES	NO
1. Ammunition is in a position to minimize the potential for ignition, explosion, and rapid burn?	____	____
2. Ammunition is issued to the firing units immediately before the scheduled training exercise?	____	____
3. Small arms ammunition is distributed to the troops only when they are on the ready or firing lines?	____	____
4. Ammunition is protected with a water-proof cover to guard against inclement weather and direct sun rays?	____	____
5. Proper ventilation (i.e., air circulation) is provided between the water-proof cover and ammunition?	____	____
6. Minimum ammunition (i.e., number of rounds) is unpacked at the firing line for an efficient firing exercise?	____	____
7. Packing material, propellant, and increments are retained until firing complete?	____	____
8. No packing material is burned on the range(s)?	____	____
9. No indiscriminate firing occurred to preclude returning ammunition to the Ammunition Supply Point?	____	____
10. Red range flag is flying at range(s) handling or firing ammunition, with road guards posted to deny access?	____	____
11. Matches, cigarette lighters, or other spark-producing items are not in or near explosive areas?	____	____
12. Precautions taken to prevent ammunition from contacting the ground or spark-producing substances?	____	____

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EOD REQUEST FORM

Please provide the following information:

Range:	Date EOD is Requested:	Time EOD is Needed:	Unit:	POC: Phone Number:

Note: If digging or placing stakes in an impact area, requesting unit will supply corpsman and safety vehicle.

Digging (If applicable)	YES ☐	NO ☐	Safety Vehicle (If applicable)	YES ☐	NO ☐	Corpsman (If applicable)	YES ☐	NO ☐

NATURE OF REQUEST	INFORMATION REQUIRED	
EOD ESCORT	DEPARTMENT	
	NUMBER OF PERSONNEL	
RANGE MAINT. OP.	NUMBER OF WORK GROUPS	
	NUMBER OF PERSONNEL IN WORK GROUPS	
	OTHER INFORMATION (Operational Plans can be attached separately)	
TARGET ESCORT	NUMBER OF WORK GROUPS	
	NUMBER OF PERSONNEL IN EACH GROUP	
	TYPE OF TARGETS	
	APPROVED BY RANGE CONTROL (Signed and Date Approved)	
	PLACEMENT OF TARGETS	
	APPROVED BY RANGE CONTROL (Signed and Date Approved)	
	DATE/TIME OF REMOVAL	

ADDITIONAL PERTINENT INFORMATION (Continue on reverse side if more space is required):

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OPERATIONAL RISK MANAGEMENT WORKSHEET

OPERATIONAL RISK MANAGEMENT MATRIX
MCB, CAMP PENDLETON

TRAINING EVOLUTION:	ORGANIZATION:	PREPARED BY:	DATE:

OPERATIONAL PHASE	HAZARD	CAUSES	INITIAL RAC	DEVELOP CONTROLS	RESIDUAL RAC	HOW TO IMPLEMENT	HOW TO SUPERVISE

HAZARD SEVERITY

I - CATASTROPHIC- Death, permanent disability, major property damage
II - CRITICAL - Permanent partial disability, major system or minor property damage
III - MARGINAL - Minor injury, minor system or property damage
IV - NEGLIGABLE - 1st aid, minor system repair

MISHAP PROBABILITY

A - FREQUENT
B - LIKELY
C - OCCASIONAL
D - UNLIKELY

RISK ASSESSMENT CODE (RAC)

1 - CRITICAL
2 - SERIOUS
3 - MODERATE
4 - MINOR
5 - NEGLIGABLE

RAC ASSESSMENT CODE MATRIX

HAZARD SEVERITY	MISHAP PROBABILITY A	B	C	D
I	1	1	2	3
II	1	2	3	4
III	2	3	4	5
IV	3	4	5	5

COMMAND REVIEW/APPROVAL

OIC: _____

XO: _____

CO: _____

RCO: _____

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RANGE SAFETY OFFICER (RSO) CHECK LIST

(Unless otherwise noted, all duties listed are to be accomplished by the RSO)

PHASE I - RANGE PREPARATION

- ❑ **REVIEW OPERATIONAL RISK MANAGEMENT (ORM) ASSESSMENT WITH SENIOR STUDENT**
  - ❑ POINTS OF INTEREST AND POTENTIAL SAFETY HIGHLIGHTS OUTLINED IN ORM HAVE BEEN ADDRESSED
- ❑ **ASSUMPTION OF RESPONSIBILITY FOR SCHEDULED RANGE/TRAINING AREA**
  - ❑ RANGE REGS FOR THE SPECIFIC RANGE/TRAINING AREA HAVE BEEN READ
  - ❑ RANGE INSPECTED FOR SAFETY HAZARDS
  - ❑ RANGE FLAG ERECTED (INDICATES THE RANGE IS OCCUPIED WITH INTENTION TO FIRE AMMUNITION OR EXPLOSIVES)
  - ❑ TARGET MATERIAL INSPECTED FOR SAFETY HAZARDS
  - ❑ OBTAIN PERSONNEL ROSTER FOR THE RANGE FROM THE OIC (INCLUDES FIRST & LAST NAME, RANK, SSN, AND BLOOD TYPE)
  - ❑ SAFETY PERSONNEL AND PROPER SAFETY EQUIPMENT ARE PRESENT
  - ❑ SAFETY CORPSMAN IS PRESENT WITH MEDICAL KIT AND EQUIPMENT (MAY INCLUDE UNIT 1 OR UNIT 5 MEDICAL KIT, SPINE BOARD, C-COLLAR NECK BRACE, AND OXYGEN KIT WITH BAG VALVE MASK)
  - ❑ SAFETY VEHICLE WITH QUALIFIED DRIVER IS PRESENT
  - ❑ SAFETY VEHICLE DRIVER BRIEFED ON DUTIES
  - ❑ VEHICLES STAGED ON THE RANGE TO FACILITATE QUICK ACCESS TO TRAINING AREA
  - ❑ SAFETY RADIO OPERATOR WITH COMMUNICATION GEAR IS PRESENT
  - ❑ COMMUNICATION GEAR CHECKED TO ENSURE IT'S IN WORKING CONDITION
  - ❑ EXTRA BATTERIES ARE PRESENT
  - ❑ RADIO OPERATOR BRIEFED ON PROCEDURES
  - ❑ RADIO FREQUENCY CONFIRMED

(CONTINUED ON NEXT PAGE)

- ❑ OE-254 ERECTED (IF NECESSARY)
- ❑ RADIO OPERATOR MONITORING RADIO AT ALL TIMES
- ❑ SAFETY ROAD GUARDS POSTED WITH POSITIVE 2-WAY COMMUNICATION
- ❑ AMMO GUARDS POSTED (IN TEAMS OF TWO)
- ❑ ALL GUARDS BRIEFED ON POST REQUIREMENTS
- ❑ ALL GUARDS PROVIDED WITH MEAL(S) AND WATER FOR POST DURATION
- ❑ COMMUNICATION WITH RANGE CONTROL (LONGRIFLE) ESTABLISHED
- ❑ RANGE CONTROL (LONGRIFLE) PERMISSION REQUESTED TO ASSUME HOT STATUS
- ❑ FIRE DANGER RATING CONFIRMATION
- ❑ NUMBER OF PERSONNEL ON RANGE REPORTED
- ❑ NUMBER AND TYPE(S) OF WEAPONS TO BE FIRED ON RANGE REPORTED
- ❑ NUMBER AND TYPE(S) OF ROUNDS TO BE FIRED ON RANGE REPORTED
- ❑ SAFETY RADIO OPERATOR CONDUCTING RADIO CHECKS (HOT STATUS = EVERY 30 MINUTES; COLD STATUS = EVERY 60 MINUTES)
- ❑ COMMUNICATION LOG INITIATED BY RADIO OPERATOR

❑ **DESIGNATION AND ESTABLISHMENT OF A FIELD AMMUNITION SUPPLY POINT (FASP)**

- ❑ FASP ESTABLISHMENT
- ❑ TW0-MAN AMMO GUARD (100% ALERT) ASSIGNED FOR STORED AMMO IN THE FASP
- ❑ AMMO GUARD(S) IN CONDITION THREE (WITH 30 ROUNDS OF AMMO EACH)
- ❑ SITE FOR DUNNAGE CONSOLIDATION POINT ESTABLISHED
- ❑ SITE FOR TRASH COLLECTION ESTABLISHED
- ❑ CLEAR PLASTIC TRASH BAGS USED (FOR EASE OF INSPECTION)
- ❑ USING UNIT BRIEFED ON TRASH AND DUNNAGE HANDLING

(CONTINUED ON NEXT PAGE)

FASP REQUIREMENTS

- ❑ AMMO STORED 100M FROM BIVOUAC SITE
- ❑ NO FLAME-PRODUCING ITEMS WITHIN 50M (I.E., SMOKING)
- ❑ AMMO SHELTERED WITH WATER-RESISTANT COVER (PONCHO/TARP)
- ❑ AMMO STORED ON PALLETS AT ALL TIMES
- ❑ NO RADIO TRANSMITTERS WITHIN 25 FEET OF STORED AMMO
- ❑ ALL AMMO, DEMOLITION, AND PYROTECHNICS STORAGE IN COMPLIANCE WITH FIELD ASP REGS
- ❑ COMPLIANCE WITH FIELD ASP REGS

❑ **RECEIPT, CONTROL, ASSUMPTION OF RESPONSIBILITY FOR AMMUNITION**

- ❑ AMMUNITION SEPARATED BY DEPARTMENT OF DEFENSE IDENTIFICATION CODE (DODIC)
- ❑ ALL DELIVERED AMMO AND EXPLOSIVES (A&E) PHYSICALLY INVENTORIED WITH DELIVERY AMMO TECH
- ❑ AMMO DODICS NEVER MIXED DURING USE OR STORAGE
- ❑ GUARD SUPERVISED AND INSTRUCTED ON A&E SECURITY PROCEDURES
- ❑ USING UNIT BRIEFED ON AMMO TO BE USED ON THE RANGE/TRAINING AREA
- ❑ TRAINING UNIT BRIEFED ON PROPER HANDLING PROCEDURES
- ❑ SHAKE-DOWN PROCEDURES BRIEFED
- ❑ ONLY ENOUGH AMMO TO ACCOMMODATE EACH TRAINING PHASE IS BROKEN-OUT

❑ **ESTABLISHMENT OF TRAINING EVOLUTION SAFETY STANDARDS**

- ❑ SPECIAL SAFETY CONSIDERATIONS FOR THE RANGE/TRAINING AREA BRIEFED
- ❑ FOUR SAFETY RULES FOR HANDLING WEAPONS BRIEFED
- ❑ WEAPONS CONDITION FOR EACH WEAPON SYSTEM USED ON THE RANGE/TRAINING AREA BRIEFED
- ❑ MISFIRE PROCEDURES FOR EACH WEAPON SYSTEM USED ON THE RANGE/TRAINING AREA BRIEFED
- ❑ ASSISTANT RSO (ARSO) DESIGNATED AND BRIEFED
- ❑ SAFETY BRIEF WHICH INCLUDES ORM ASSESSMENTS IS PROVIDED

(CONTINUED ON NEXT PAGE)

PHASE II - CONDUCT OF TRAINING

- ❑ **SAFETY SUPERVISION DURING CONDUCT OF TRAINING**
  - ❑ ARSO(s) IN PLACE PRIOR TO BEGINNING OF TRAINING
  - ❑ HELMETS AND FLAK JACKETS, AND ANY OTHER PERSONNEL PROTECTIVE EQUIPMENT PROPERLY WORN
  - ❑ FINAL SWEEP OF IMPACT/TRAINING AREA CONDUCTED
  - ❑ TRAINING UNIT CONDUCTED INSPECTION FOR PROPER AMMO AND EQUIPMENT
  - ❑ TARGETS AND TARGET MATERIALS PLACED IN A SAFE LOCATION AND DIRECTION
  - ❑ BLANK FIRING ATTACHMENTS PROPERLY MOUNTED (IF APPLICABLE)
  - ❑ AMMUNITION SHAKE-DOWN PROCEDURES SUPERVISED AND CONDUCTED FOR EACH AMMUNITION TYPE TRANSITION

PHASE III - AMMUNITION SHAKE-DOWN PROCEDURES

- ❑ **ESTABLISHMENT OF SHAKE-DOWN SITE AND SUPERVISION OF ALL AMMUNITION HANDLING**
- ❑ **THREE STATIONS (WITH DISTANCE BETWEEN EACH) ESTABLISHED**
  - ❑ DOWNLOAD STATION – ALL UNEXPENDED MUNITIONS ARE REMOVED FROM MAGAZINES AND EQUIPMENT
  - ❑ INSPECTION STATION – SUPERVISE PAT-DOWNS AND MAGAZINE CHECKS
  - ❑ ISSUE POINT – SUPERVISE ISSUANCE OF THE CORRECT TYPE OF AMMUNITION FOR THE NEXT TRAINING EVOLUTION
- ❑ **SUPERVISION OF CONDUCT OF DOWNLOAD SITE**
  - ❑ BUDDY-SYSTEM USED TO DOWNLOAD UNEXPENDED AMMO FROM MAGAZINES, POUCHES, EQUIPMENT AND UNIFORMS
  - ❑ PARTICIPANTS RECEIVED PROPER INSTRUCTIONS
  - ❑ ALL PARTICIPANTS ACCOUNTED FOR AT THIS STATION USING THE ROSTER PROVIDED BY THE OIC OF TRAINING
  - ❑ ALL MUNITIONS ARE SEGREGATED AND STORED IN PROPERLY MARKED CONTAINERS

(CONTINUED ON NEXT PAGE)

- ❑ **SUPERVISION OF CONDUCT OF INSPECTION STATION**
  - ❑ ARSO RECEIVED PROPER INSTRUCTIONS
  - ❑ THOROUGH PAT-DOWN OF ALL INDIVIDUAL CLOTHING AND POCKETS
  - ❑ DETAILED MAGAZINE CHECK CONDUCTED FOR ALL WEAPON SYSTEMS
  - ❑ EQUIPMENT DISPLAYED AND INSPECTED BY RSO OR ARSO
  - ❑ ALL PARTICIPANTS ACCOUNTED FOR AT THIS STATION USING THE ROSTER PROVIDED BY THE OIC OF TRAINING
- ❑ **SUPERVISION OF CONDUCT OF AMMO ISSUE POINT**
  - ❑ PROPER AMMO ISSUED FOR NEXT TRAINING EVENT
  - ❑ PARTICIPANTS HAVE ENSURED ALL MAGAZINES ARE LOADED WITH PROPER AMMO
  - ❑ TEST-FIRE CONDUCTED (IF FEASIBLE)
  - ❑ ALL PARTICIPANTS ARE ACCOUNTED FOR AT THIS STATION USING THE ROSTER PROVIDED BY THE OIC OF TRAINING

PHASE IV - CONCLUSION OF TRAINING

- ❑ **CONDUCT RANGE INSPECTION**
  - ❑ SWEEPS RANGE AND/OR TRAINING AREA FOR UNEXPENDED AMMO AND DUDS FROM MISFIRES
  - ❑ RANGE CONTROL CONTACTED FOR DISPOSAL AND EOD LIAISON REQUIREMENTS
- ❑ **CONDUCT FINAL DOWNLOAD AT CONCLUSION OF TRAINING**
  - ❑ FINAL SHAKE-DOWN INSPECTION CONDUCTED BEFORE PARTICIPANTS DEPART THE RANGE/TRAINING AREA
  - ❑ ALL PERSONNEL (INCLUDING SAFETY PERSONNEL, OBSERVERS, AND PARTICIPANTS) INSPECTED FOR AMMO AND EXPLOSIVES
  - ❑ ALL PERSONNEL TO BE INSPECTED ARE ACCOUNTED FOR AND SUPERVISED
  - ❑ SUPERVISE AND ACCOUNT FOR ALL PERSONNEL TO BE INSPECTED

(CONTINUED ON NEXT PAGE)

- ❑ **UNEXPENDED AMMO AND EXPLOSIVES ACCOUNTABILITY**
  - ❑ ALL UNEXPENDED AMMO AT THE FASP CONSOLIDATED
  - ❑ EACH DODIC AT THE FASP PHYSICALLY COUNTED
  - ❑ ALL DUNNAGE AND TRASH INSPECTED
  - ❑ CLEAR PLASTIC TRASH BAGS INSPECTED; ALL DUNNAGE FOR UNEXPENDED AMMO PHYSICALLY INSPECTED
  - ❑ SUPERVISE SEPARATION OF DUNNAGE FROM TRASH
  - ❑ LIAISON MADE WITH TRAINING UNIT FOR REMOVAL OF DUNNAGE AND TRASH FROM THE RANGE/TRAINING AREA
  - ❑ AMMUNITION EXPENDITURE (TO DETERMINE HOW MUCH AMMO WAS ACTUALLY EXPENDED) RECONCILED
  - ❑ NAVMC 11381 FORM COMPLETED
  - ❑ RESPONSIBLE UNIT AMMO TECH CONTACTED FOR AMMUNITION TURN-IN
- ❑ **ASSUMPTION OF A COLD STATUS FOR RANGE/TRAINING AREA REQUESTED FROM RANGE CONTROL**
  - ❑ COMMUNICATION WITH RANGE CONTROL MAINTAINED WHILE OCCUPIED
- ❑ **POLICE CALL OF RANGE/TRAINING AREA CONDUCTED BY OIC**
- ❑ **POLICE CALL INSPECTION**
- ❑ **CONTROL OF UNEXPENDED AMMO TO RECEIVING RESPONSIBLE UNIT AMMO TECH TURN-OVER**
  - ❑ COMPLETED AMMO EXPENDITURE REPORT TURNED OVER TO AMMO TECH
  - ❑ JOINT INVENTORY OF UNEXPENDED AMMO (WITH AMMO TECH) COMPLETED
  - ❑ FORM 1348-1 COMPLETED WITH THE AMMO TECH WHILE ON THE RANGE/TRAINING AREA
  - ❑ ONLY PROPERLY TRANSPORTED AMMO ALLOWED TO LEAVE THE RANGE/TRAINING AREA
  - ❑ AMMO PROPERLY PACKAGED
  - ❑ ALL GRADE III AMMO IDENTIFIED FOR TURN-IN

LASER FIRING LOG

Command	
Range	
Date	
System	
User	
Mission Commander	

FIRING # TIME	TARGET LOCATION	FIRING POSITION/HEADING

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