

CHAPTER 2.

PROPOSED ACTION AND ALTERNATIVES

2.1 OVERVIEW

Volume 3, Chapter 2 describes the proposed action, the alternatives development analysis, and the no-action alternative for the development of live-fire training ranges to support training and operations on Tinian for the relocated Marines. The proposed action at Tinian consists of the following:

- *Development of live-fire training ranges:* a Rifle Known Distance (KD) Range, Automated Combat Pistol/ Military Police (MP) Firearms Qualification Course, Platoon Battle Course, and Field Firing Range are proposed on Tinian
- *Airspace use:* airspace use overlying the proposed firing range would continue as currently managed by the Federal Aviation Administration (FAA). Establishment of Special Use Airspace (SUA) is not required or proposed for the firing ranges.

Individual, crew-served, and small unit weapons training would be required for Marine forces relocating from Okinawa to Guam pursuant to the Roadmap Agreement with Japan. Individual and crew-served weapons qualification and familiarization training ranges and maneuver areas including landing zones are proposed for Guam (refer to Volume 2, Chapter 2, Section 2.3). The concept for Tinian is to provide the next stage in the training progression, and includes development of ranges for tactical employment of the basic weapons skills developed on Guam. These skills complement the elements of ground training accomplished at Tinian and in Commonwealth of the Northern Mariana Islands (CNMI) as described in the Mariana Islands Range Complex EIS/OEIS.

Figure 2.1-1 summarizes the three alternatives carried forward in the EIS impact analysis.

2.1.1 Background

2.1.1.1 Existing Training

The MIRC consists of three primary components: ocean surface/undersea areas, SUA, and training land areas. The ocean surface/undersea areas extend from the waters south of Guam to north of Pagan and from the Pacific Ocean east of the Mariana Islands to the middle of the Philippine Sea to the west. The range complex includes land ranges and training area/facilities on Guam, Rota, Tinian, Saipan, and Farallon de Medinilla (FDM). Existing SUA consists of Warning Area 517 (W-517), restricted airspace over FDM (Restricted Area 7201 [R-7201]), and Air Traffic Control Assigned Airspace (ATCAA) (Figure 2.1-2). Different DoD controlling authorities manage and schedule the MIRC range training areas.

Chapter 2:

2.1 Overview

2.2 Alternatives Analysis Methodology

2.3 Proposed Action: Firing Training

2.4 Proposed Action: Airspace

2.5 Alternatives

LEGEND
Preferred Alternative

PROPOSED ACTION

Live-Fire Training Ranges
(All within the Military Lease Area)

- Rifle Known Distance Range (KD)
- Automated Combat Pisto//Military Police Firearm Qualification Course (Pisto//MP)
- Platoon Battle Course (Platoon)
- Field Firing Range (Field)
- Surface Danger Zones (SDZs)

Airspace Use

- The vertical hazard area associated with the proposed firing ranges would be managed to ensure threat aircraft could safely operate in airspace overlying the proposed firing ranges.

**VOLUME 3:
Training on Tinian**

Choose One

ALTERNATIVES CARRIED FORWARD
(excludes no-action alternative)

Alternative 1

- KD – alignment north/northeast
- Pisto//MP – alignment north
- Platoon – alignment northeast
- Field – alignment north
- SDZs – none over ocean or south of 86th Street

Alternative 2

- KD – alignment north/northeast
- Pisto//MP – alignment north
- Platoon – alignment northeast
- Field – alignment north
- SDZs – one over ocean, none south of 86th Street

Alternative 3

- KD – alignment north
- Pisto//MP – alignment north
- Platoon – alignment northeast
- Field – alignment north
- SDZs – none over ocean, some south of 86th Street

Figure 2.1-1
Summary of Proposed Action and Alternatives Carried Forward for the Marine Corps Relocation – Training, Tinian

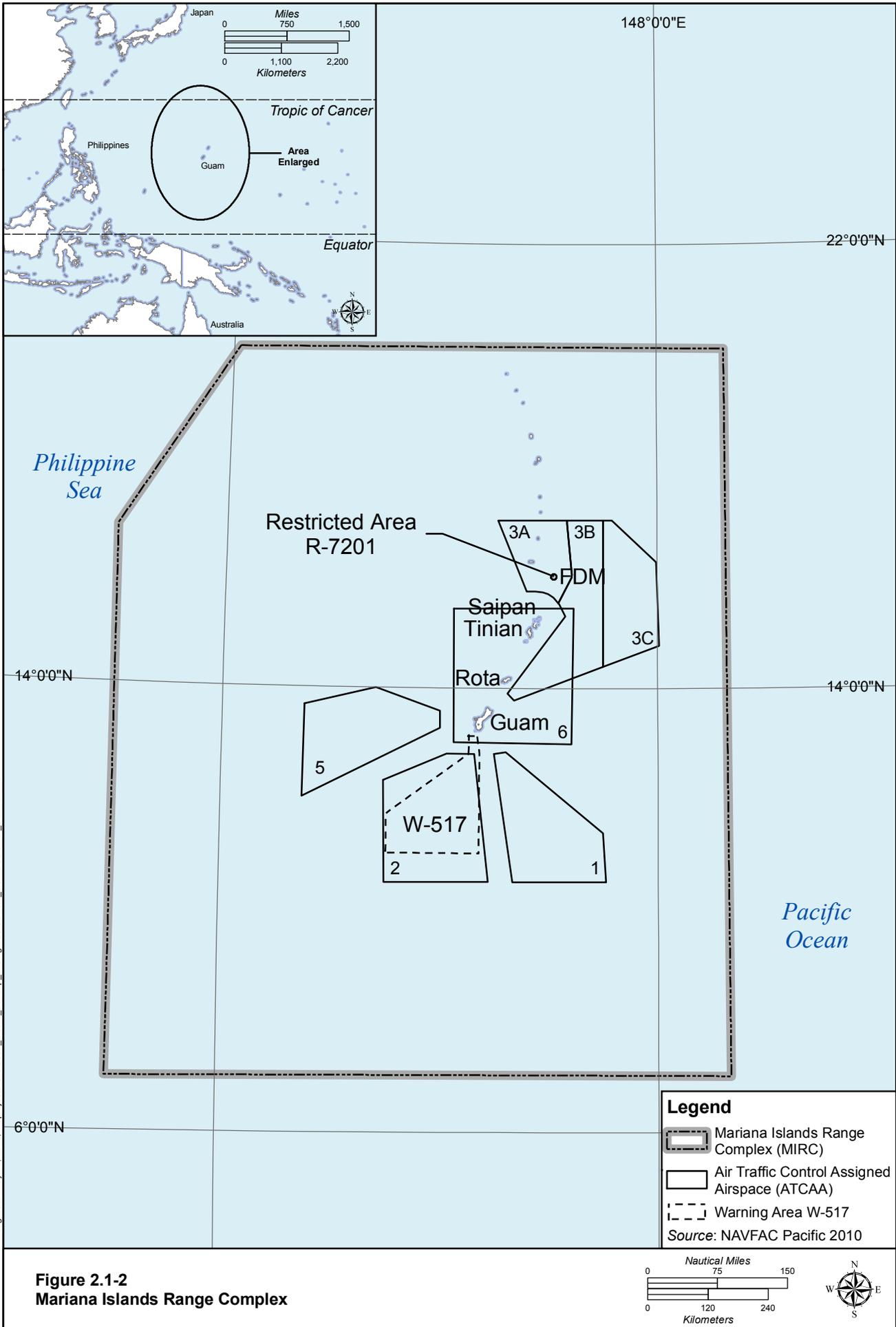


Figure 2.1-2
Mariana Islands Range Complex

Existing training on Tinian occurs at the Tinian Military Lease Area (MLA) that encompasses 15,353 acres (ac) (6,213 hectares [ha]) on the island of Tinian, leased by the Department of Defense (DoD) from CNMI. Training on Tinian is conducted on two parcels within the MLA: the Exclusive Military Use Area (EMUA) encompassing 7,574 ac (3,065 ha) on the northern third of Tinian and the Leaseback Area (LBA) encompassing 7,779 ac (3,148 ha) on the middle third of Tinian. The MLA supports small unit-level through large field exercises and expeditionary warfare training. An area within the MLA has been established as a mitigation area for a previous Tinian Airport improvement project (Figure 2.1-3).

The key feature at the EMUA is North Field, an abandoned and unmaintained World War II (WWII) era airfield with four runways: two are abandoned and overgrown, one is used for military fixed-wing and helicopter activities during training exercises, and the other is used for parachute drops and helicopter activities. North Field is also used for expeditionary airfield training including command and control, air traffic control, logistics, armament, fuels, rapid runway repair, and other airfield-related requirements. During WWII, aircraft originating from North Field bombed Japan and the deployed atomic bombs to Hiroshima and Nagasaki and, today, North Field is a National Historic Landmark. The surrounding area is used for force-on-force airfield defense and offensive training (DoN 2010).

The LBA is DoD-leased land covering the central portion of the island and makes up the middle third of Tinian. The LBA is used for ground element training including command and control, logistics, bivouac, vehicle land navigation, convoy training, and other field activities. A key feature is the proximity to the commercial airport, Tinian Airport (West Field) on the southern boundary of, but not included in the LBA, and the commercial port, Tinian Harbor, also not a part of the LBA but located near the southwest portion. The Tinian Airport (West Field) runway is not instrumented and has limited airfield services; however, it is capable of landing large aircraft. Tinian Harbor is in disrepair, but does support cargo and passenger ships requiring less than 20 feet (ft) (6 meters [m]) draft. The harbor has supported amphibious vehicles such as Landing Craft Utility (LCU) and Amphibious Assault Vehicle (AAV).

There are no active live-fire ranges in the EMUA or LBA, except sniper small arms into bullet traps. Tinian is capable of supporting Marine Expeditionary Unit (MEU) aviation events such as ground element training and air element training, simulated evacuations of noncombatants, airfield seizure training, expeditionary airfield training, and special warfare activities (DoN 2010).

2.1.1.2 Planned Enhancements to Existing Training Operations (MIRC EIS/OEIS)

Periodically, the military service training requirements and MIRC facilities are assessed for their capability of meeting future training requirements and recommendations are made to improve the training capabilities. The MIRC EIS/OEIS assesses the potential impacts of continuing and proposed military training activities on existing ranges onshore, offshore, and nearshore to Guam and the CNMI. This includes increased tempo of training and improvements to existing ranges based on all anticipated military service training requirements between 2010 and 2015. The MIRC EIS/OEIS does not propose new ranges, but proposes to:

- Maintain current operations
- Increase operational training
- Expand warfare missions
- Accommodate force structure changes (i.e., changes in weapons systems, new classes of homeported ships)
- Implement enhancements to enable each range to meet foreseeable needs

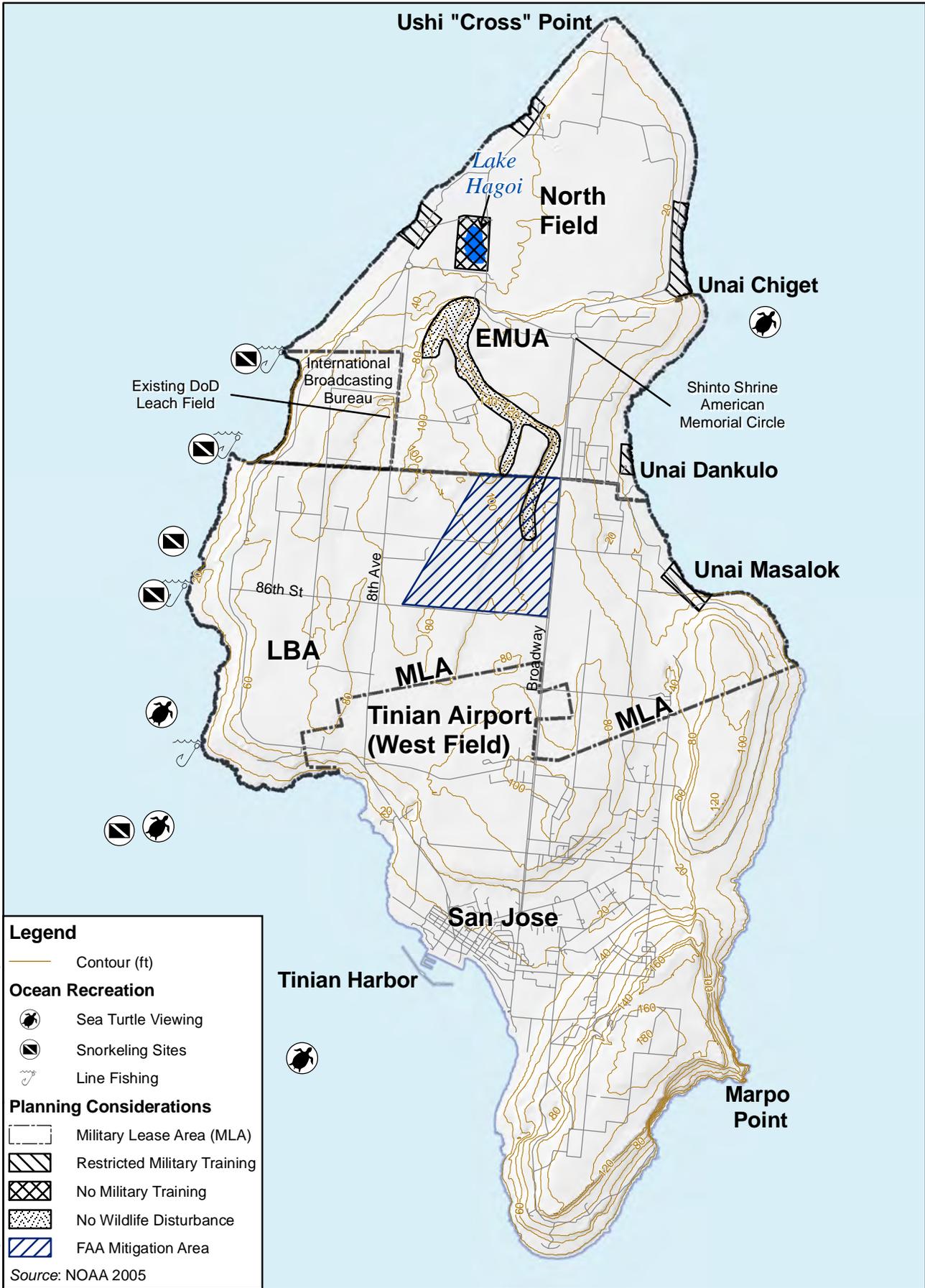


Figure 2.1-3
Planning Limitations and Constraints



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This Guam and CNMI Military Relocation EIS is based on the assumption that the MIRC EIS/OEIS preferred alternative represents “existing” or baseline conditions of training in the MIRC through 2015. Marine Corps training requirements associated with the relocation of the Marines from Okinawa to Guam are not identified in the MIRC EIS/OEIS (DoN 2010).

This Guam and CNMI Military Relocation EIS specifically addresses training associated with Marine forces relocating under the Roadmap Agreement with Japan. The MIRC EIS/OEIS updates ongoing MIRC training activities by existing forces unrelated to the Guam relocation. The range use rates evaluated in this EIS are based on the training requirements for the relocated forces that would be met on Tinian. This reiterative process for the MIRC allows for the incorporation and integration of any new capabilities and ranges proposed by the various services over time, and ensures that a comprehensive management plan is addressed in a complete and comprehensive manner.

2.1.1.3 Capabilities That Are Not in the Proposed Action

The proposed action is focused on providing the necessary training for relocating Marines from Okinawa to Guam. The proposed action does not include joint and multi-national training or future possibilities to support Marine Corps training. If these future training actions become more tangible, they would be subject to additional NEPA review. These future possibilities include:

- Joint and multi-national training
- Heavy machine gun live-fire, up to and including 7.62-millimeters (mm), .50 caliber, 40-mm MK19, and 20-mm
- Mortar live-fire, including 60-mm, 81-mm, and 120-mm
- Artillery live-fire, 155-mm
- Company-sized fire and movement
- Close air support with inert ordnance
- Firing of ground-to-ground rockets and missiles

2.1.2 Organization of the Chapter

This chapter is organized to describe the proposed action in terms of specific training requirements. First, a discussion of the alternatives analysis methodology is provided. This is followed by a discussion of the following two elements of the proposed action:

- Live-fire weapons training, which includes descriptions of proposed range facilities, training area management, and range operations.
- Management of the vertical hazard area and surrounding airspace to support the proposed firing ranges.

This is followed by a description of three alternatives for configuration of the proposed ranges as well as the no-action alternative.

2.2 ALTERNATIVES ANALYSIS METHODOLOGY

This section summarizes the methodology and criteria used to identify potential project alternatives on Tinian, to screen out alternatives that would not satisfy the purpose and need for the action, and to develop the range of reasonable action alternatives that are carried forward in the EIS impact analyses. As discussed in Chapter 1, Section 1.2, other islands in the Marianas such as Pagan, Saipan, and Rota do not meet the purpose and need for the action. The alternatives development process that was used to identify a reasonable set of project alternatives for the proposed action on Tinian involved the following four steps:

- Step 1. *Identify Requirements*: Identify and evaluate the facility and operational requirements associated with proposed Marine Corps training on Tinian within the context of the overall mission of the Marine Corps and DoD in the Western Pacific.
- Step 2. *Identify Site Alternatives*: Identify specific locations that would feasibly accommodate, with or without modification, each of the functional requirements identified in Step 1.
- Step 3. *Identify Site-Specific Planning Alternatives*: Evaluate specific sites or groupings of available sites identified in Step 2 to determine if alternative combinations of functional elements could be feasibly planned to satisfy defined criteria and the purpose and need for the action.
- Step 4. *Select Alternatives for Analysis*: In situations where multiple alternatives would be feasible for a particular function apply criteria to identify the alternatives that best satisfy the requirements identified in Step 1.

This four-step process was applied independently for individual projects comprising each of the four types of training proposed for Tinian. Sections 2.3 through 2.4 describe in detail, for each functional component of the action, the specific projects and operations that comprise the proposed action. Section 2.5 summarizes the set of all reasonable alternatives for the proposed action, as well as the no-action alternative.

2.2.1 Step 1 Requirements Analysis

Options for a Range Training Area (RTA) that could accommodate the four proposed ranges (Rifle KD Range, Automated Combat Pistol/MP Firearms Qualification Course, Platoon Battle Course, and Field Firing Range) were evaluated on Tinian. Based on planning limitations and constraints at Tinian and the purpose and need for the proposed action at Tinian, this process identified that the RTA would:

- Be located within the MLA.
- Complement, but not conflict with or infringe on, other training activities within the MLA (to the extent practicable).
- Complement, but not conflict with, other non-training activities within MLA including the International Broadcasting Bureau (IBB) property.
- Provide for controlled access to and through the range areas for safety prior to and during firing.

Chapter 2:

2.1 Overview

2.2 Alternatives Analysis Methodology

2.3 Proposed Action: Firing Training

2.5 Proposed Action: Airspace

2.6 Alternatives

- Be suitable for company level training of approximately 200, but possibly up to 400, personnel that would periodically bivouac (i.e., a temporary camp under little or no shelter) at the RTA.

2.2.2 Step 2 Site Alternatives

In accordance with DoD's Record of Decision for Military Training in the Marianas (DoD 1999), areas have been established within certain portions of Tinian training areas to protect endangered and threatened species and areas of cultural significance from impacts caused by military personnel and equipment, and to ensure the safety of personnel in or near active training areas. Areas established as "No Wildlife Disturbance" include the Mount Lasso escarpment within the EMUA. This area is the focus of the Navy's habitat enhancement and restoration efforts and has established protective measures to preserve the tangantangan habitat. Areas established as "No Training" areas are off-limits, meaning that there is absolutely no training allowed in these areas. Entry to some of these areas can be authorized for administrative troop and vehicle movement on designated roads or trails only. "No Military Training" areas have been established to protect both endangered species habitat and areas of particularly sensitive cultural value. Any use or modification of these areas would be subject to agency consultation and compliance with Endangered Species and National Historic Preservation Act requirements. Surface danger zones (SDZs) overlapping the "No Wildlife Disturbance" areas were also considered.

The FAA Mitigation Area was established in the LBA in an agreement between the Commonwealth Ports Authority, FAA, Department of the Navy (DoN), and U.S. Fish and Wildlife Service (USFWS) for habitat protection as mitigation for past expansion of the Tinian Airport (West Field). The agreement is subject to the right of the U.S. military to use the FAA Mitigation Area for low-impact, non habitat destructive military training (CNMI and United States of America 2001). This is consistent with use of the area for an SDZ. However, range development that would involve habitat destruction, such as development of range footprints and roads, would have to provide replacement mitigation subject to renegotiation of the existing agreement for the FAA Mitigation Area.

Also within the MLA, the U.S. Information Agency IBB operates the Marianas Relay Station. The presence of the IBB facilities, located on 777 ac (314 ha) of the western coast of Tinian within the MLA, reduces the potential ranges and range orientation options on Tinian as neither range footprints nor SDZs can be established on this property.

2.2.3 Step 3 Site-Specific Planning Alternatives

Alternatives that could potentially meet the purpose and need for the proposed action were considered for the Tinian RTA. These included a number of variations on the configurations for the four ranges contemplated for Tinian.

2.2.4 Step 4 Selection of Alternatives Carried Forward for Analysis

Steps 2 and 3 of the alternatives analysis process were designed to yield project alternatives that are feasible strictly from a planning and project design perspective. In Step 4 of the process, other important factors were considered in order to eliminate alternatives that did not satisfy other defined (non-planning) criteria. Consistent with Chapter 12 of Marine Corps Order (MCO) 5090.2A with Change 2, the reasonable range of alternatives were further refined to avoid or minimize adverse impacts as follows:

- Earth Resources: In order to minimize the surface disturbing activity, sites with greater variation in topography that would require additional grading and filling to create the flat terrain needed for range footprints, were eliminated from consideration as range footprints,

- particularly in the area south of North Field, on the west coast, and in the southeastern portion of the MLA near Unai Masalok.
- Cultural Resources: Considerations were made for options that would avoid or minimize impacts to known cultural resources.
 - Biological Resources: Considerations were made to avoid habitat-level impacts in the “No Wildlife Disturbance” Mount Lasso escarpment area and impacts to shorelines, Pacific Ocean, or Philippine Sea.
 - Airspace: Considerations were made to minimize potential conflicts between the vertical hazard areas associated with the ranges and existing airspace uses.
 - Human Environment: Considerations were made to avoid or minimize range footprint and SDZ impacts to recreation areas and shorelines, Pacific Ocean, and Philippine Sea.

Section 2.5 summarizes the resulting configurations for the four ranges that resulted from this process. These are the action alternatives that are carried forward in the EIS impact analysis.

2.3 PROPOSED ACTION: FIRING TRAINING

2.3.1 Elements Common to All Ranges

The following characteristics pertain to all ranges in general, and are provided for understanding of the range descriptions that follows.

2.3.1.1 Surface Danger Zones (SDZs)

For safety purposes, outdoor ranges have SDZs. SDZs are three-dimensional areas that delineate that portion of the earth and the air above in which personnel and/or equipment may be endangered by ground weapons firing or detonation activities because of ricochet or fragmentation hazard. The size and configuration of SDZs are dependent on the performance characteristics of a given weapons system, training requirements, range configuration, geographical location, and environmental conditions. Criteria from MCO 3570.1B, *Range Safety* (Marine Corps No Date a), define the SDZs for individual weapons systems based on the weapon and ammunition characteristics. Firing ranges typically have fan-shaped SDZs that contain:

- Firing positions: location that weapons are fired.
- Target areas: the area that contains the targets/backstops and that is demarked by limits of fire delineators.
- Dispersion areas that include the ground and associated airspace within the training complex used to contain projectiles between point of fire and the farthest target, with allowance for overshoot and horizontal aiming variation.
- Buffer zones: or secondary danger areas that contain the ricochets and fragments that by statistical analysis may extend beyond the dispersion area.

SDZs must be devoid of unrelated facilities and access to the SDZ is restricted to those involved in the conducted training. SDZs over water and affecting navigable airspace are published on charts with restrictions to access denoted as appropriate. Depending on the type of restriction, these spaces are monitored by range control during firing for safety.

For planning purposes in this EIS, notional SDZs have been developed based on the conceptual placement of ranges. As the planning process progresses, and range designs mature, the SDZs would be certified in accordance with MCO 3550.9, *Marine Corps Ground Range Certification and Recertification Program*. Limitations to use of water and airspace affected by SDZs are subject to regulation by the U.S. Coast Guard, U.S. Army Corps of Engineers (USACE), and the FAA, as appropriate. SDZs, activities within the range footprint, and activities outside the range footprint were the planning parameters used to site firing ranges on Tinian.

To address the probability that expended projectiles, or projectile fragments, would fall outside the target area but within the SDZ, a 1995 Army study about SDZs was used (Army 1995). SDZs are developed for total confinement of expended munitions. Projectiles, or projectile fragments, landing outside the target area but within the SDZ would be at highest concentration in the downrange area outside the target area, just beyond the range backstop. This is based on studies conducted at other small arms ranges (Fort A.P. Hill 2005, Naval Facilities Engineering Command [NAVFAC] Southeast 2008).

Chapter 2:

2.1 Overview

2.2 Alternatives Analysis Methodology

2.3 Proposed Action: Firing Training

2.5 Proposed Action: Airspace

2.6 Alternatives

Actual distribution in the Army study varied based on a number of factors including range type, weapons and type of ammunition fired, firing positions, range design, impact media, and a number of other specifics not currently available. Probability modeling for a particular .50 caliber range (with sand impact media and a range footprint that extended 800 m from the firing point) found that between 1 in 100,000 (0.001%) to 1 in 10,000,000 (0.00001%) rounds would fall beyond the 2,624 ft (800 m) long range footprint and within the SDZ in this particular circumstance (Army 1995). It is not possible to calculate actual numbers of complete rounds or munitions fragments that would fall outside the target area. Since no scientific studies or simulations are available to conduct a ballistic study of the proposed ranges, a non-scientific approach was used to estimate the potential for projectiles or projective fragments to fall outside the target area but within the SDZ. To ensure a conservative analysis in the EIS, the larger of the two percentages from the Army study was used as the basis and then multiplied by a factor of 10; this resulted in an assumption that 1 in 10,000 (0.01%) complete rounds or munitions fragments would fall beyond the target area but within the SDZ. Based on this assumption and projected munitions usage data presented later in this chapter (refer to Table 2.3-1), about 328 rounds annually could fall outside the target area but within the SDZs. Since this is a conservative assumption, it is likely that actual amounts would be less.

2.3.1.2 Activities within the Range Footprint

All firing of weapons occurs within the range footprint as defined. Within this space, ground disturbing activities may take place to maintain line of sight between firing points (i.e., location where weapons are discharged) and targets, and to place target mechanisms below ground level for protection. Bullet backstops, usually of dirt, are located behind the targets. Access ways are maintained to the targets for small vehicles for installation and retrieval of target mechanisms after use. Depending on the terrain, grading may be required during initial site development to provide lines of sight. Range cleanup would occur on a regular basis (refer to description in Section 2.3.3.3). Grass cutting and landscaping maintenance is required to keep range lines of sight and access intact, but does not usually require the entire site be cleared. A perimeter road may serve as a fire break.

2.3.1.3 Activities outside the Range Footprint

Outside the range footprint, activities proximate to the firing line would include those required for assembling the personnel undergoing training, parking vehicles, issuing ammunition, and passing orders and instruction. Sanitary facilities would be provided through portable means. Range targets would be operated on batteries. Surrounding the range, all people would be excluded from the SDZ area of the active range for safety reasons (refer to Section 2.3.1.1).

2.3.2 Proposed Firing Ranges

The proposed action consists of introducing live-fire weapons ranges into the Tinian MLA. Development of live-fire ranges would be compatible with existing live and non live-fire training presently conducted in CNMI per the MIRC Range Control Management Plan and MIRC EIS/OEIS. The specific set of ranges proposed to meet the purpose and need are listed below. Proposed operations on the ranges are described in Section 2.3.3.

2.3.2.1 Rifle KD Range

A Rifle KD Range (5.56 mm, 1,000 yards [yd] [914 m]), designed for training rifle marksmanship and target engagement techniques, would be constructed. This range would be used to train personnel on the skills necessary to identify, engage, and hit stationary targets in a static array from a known distance. This range would supplement the KD range on Guam (refer to Volume 2, Chapter 2, Section 2.3) by providing capability for the required eventual use of up to 1,000 yd (914 m). Twenty-five firing points would be

constructed, with a range width of 100 yd (91 m) and a length of 1,000 yd (914 m). Firing line berms and back-stop berms would be constructed, along with sanitary facilities provided for shooters and target pullers. The range area would be subject to grading for line of sight and management of vegetation by periodic cutting. The total distance of ground disturbing activities is approximately 1,050 yd (960 m) by 100 yd (91 m), or 22 ac (9 ha). The notional SDZ for this range, limited to firing of 5.56-mm ammunition, would extend 2.17 miles (mi) (3.5 kilometers [km]) horizontally, with a vertical hazard distance of 388 yd (355 m).

2.3.2.2 Automated Combat Pistol/MP Firearms Qualification Course

An Automated Combat Pistol/MP Firearms Qualification Course would be constructed. This range would be designed to meet training and qualification requirements with combat pistols and revolvers and used to train and test personnel on the skills necessary to identify, engage, and hit stationary infantry targets. All targets would be fully automated for scored training. This range would supplement the Pistol KD Qualification Course located on Guam. The range would be suitable for 9-mm and .45 caliber weapons. Up to 25 firing points would be constructed, with a maximum range distance of 50 yd (46 m). The total distance of ground disturbing activities would be approximately 55 by 50 yd (50 by 46 m), or 0.6 ac (0.2 ha). The notional SDZ for this range would extend 1.12 mi (1.8 km) horizontally, with a vertical hazard of 109 yd (100 m).

2.3.2.3 Platoon Battle Course

The Platoon Battle Course would be designed for the training and qualification requirements of infantry platoons, either mounted or dismounted, on movement techniques and operations. This course would be used to train and test platoons on the skills necessary to conduct tactical movement techniques, detect, identify, engage, and defeat stationary and moving infantry targets in a tactical array. Targets would not be fully automated and would not have the capability to execute computer driven/scored training scenarios. This course would provide the capacity for small units up to approximately 40 personnel to train in tactical scenarios, engaging targets at varying distances and angles while moving. There is no such range on Guam because the required range footprint and SDZ exceeds available land areas. Weapons that would be used on this range are those found at the platoon level that are 5.56-mm carbines and rifles and Squad Automatic Weapons. The range footprint would be approximately 1,312-yd (1,200-m) long and 656 yd (600 m) wide, encompassing approximately 178 ac (72 ha). Within that footprint, target pits, access ways, and back stops would be constructed.

For operation of the targets and safety management of the range, the notional SDZ would extend 2.17 mi (3.5 km) from the farthest firing position down range, with a vertical hazard distance of 388 yd (355 m). The notional SDZ for this range reflects control of the target engagement distance to maintain lateral limits of fire to 30 degrees on either flank of the range.

2.3.2.4 Field Firing Range

The Field Firing Range would be designed to support training target engagement techniques with the rifle, including identifying, engaging, and hitting stationary infantry targets. This would be a scored range with automated targets for use with the 5.56-mm rifle, but also would be suitable for the M4 Carbine and Squad Automatic Weapons. The proposed range would be approximately 219-yd (200-m) wide by 547-yd (500-m) long, or approximately 25 ac (10 ha). The length of the SDZ is approximately 2.17-mi (3.5-km) long from the firing line and 388-yd (355-m) vertically.

2.3.3 Range Operations

2.3.3.1 Range Use

Table 2.3-1 provides an estimate of the annual range utilization for each of the ranges proposed at Tinian based on the training requirements for the forces addressed in the Roadmap Agreement. This is the typical range use scenario. There may be circumstances that range use could occur for longer periods of time than indicated herein, depending on the specifics of training exercises and conditions. The ranges as proposed would be used by up to 400 military personnel at a time. Ranges would primarily be used during daylight hours; however, some training is required during night-time hours, typically between the hours of 7:00 p.m. and 6:00 a.m. Maximum range usage for any given day is estimated below:

- Rifle KD Range: daytime and night-time use 25 firing points, 4 relays (i.e., one group fires at the 25 firing points, then the next, then the next, then the next, resulting in 100 person maximum per day), 12,000 rounds
- Automated Combat Pistol/MP Firearms Qualification Course: daytime and night-time use, 25 firing points, 4 relays, 5,000 rounds
- Field Firing Range: daytime and night-time use, 20 lanes, 6 relays, 12,000 rounds
- Platoon Battle Course: daytime and night-time use, 40 lanes, 4 events, 12,000 rounds

Table 2.3-1. Daily and Annual Use of Proposed Small Arms Qualification Ranges on Tinian under All Alternatives

Range	Weapon	Ammunition Type	Typical Use Estimate			Ammunition Expenditure Estimates		
			Crews or Personnel	Hours	Days Per Yr ^(a)	Busy Day (b)		Annual ^(d)
						Day	Night ^(c)	
Known Distance (KD)	Rifle	5.56 mm	100	8 a.m.-12 p.m. 7-9 p.m.	80	9,000	3,000	960,000
Automated Combat Pistol/MP Firearms Qualification	Pistol (M9)	9 mm	100	8-10 a.m. 7-9 p.m.	60	3,750	1,250	300,000
	45	.45 caliber	50	8-10 a.m. 7-9 p.m.	20	3,750	1,250	100,000
Field Firing Range	Rifle	5.56 mm	120	8 a.m.-4 p.m. 7 p.m.-1 a.m.	80	9,000	3,000	960,000
Platoon Battle Course	Rifle	5.56 mm	120	8 a.m.-4 p.m. 7 p.m.-1 a.m.	80	6,750	2,250	720,000
	SAW	5.56 mm	40	8 a.m.-4 p.m. 7 p.m.-1 a.m.	80	2,250	750	240,000
Total								3,280,000

Legend: mm = millimeters, cal = caliber, SAW = Squad Assault Weapon

Notes:

^(a)The figures for number of days of use are determined based on an estimated use of the ranges up to 16 weeks per year (1 week per month plus 1 additional week per quarter), 5 days per week. Range use would occur periodically throughout the year, with no predictably busy or non-use periods.

^(b)Estimates based on the maximum number of shooters per day who could make use of each proposed range (calculated by multiplying the number of firing points or lanes by the number of firing relays), firing the number of rounds prescribed for a standard string of fire. This estimate is consistent with the ammunition allocation for the relocated units.

^(c)Night refers to non-daylight hours that are generally 7:00 p.m. – 6:00 a.m. on Tinian.

^(d)The estimate of annual numbers of rounds expended is consistent with the ammunition allocation based upon relocation.

2.3.3.2 Transportation

The transport of 200-400 Marines to Tinian from Guam for the proposed 1 week per month company-level training exercises would be via air transport. The estimated sorties associated with the notional airlift requirements are provided in Table 2.3-2. The rotary-wing sorties would be between Andersen AFB North Field on Guam and Tinian Airport (West Field) on Tinian. If equipment is moved by barge, a single barge would be able to carry the equipment necessary to support the estimated 200 to 400 Marine training evolution.

Table 2.3-2. Guam to Tinian Notional Airlift Requirements

<i>Aircraft Type</i>	<i>Capacity (Marines Transported) per Sortie</i>	<i>Sorties for Airlift of 200 Marines</i>	<i>Sorties for Airlift of 400 Marines</i>
CH-53D	37	6	11
CH-53E	55	4	8
MV-22	20	10	20
C-130	76	3	6
C-17	102	2	4

No new transportation infrastructure would be required for implementation of the proposed action at Tinian except biosecurity quarantine and inspection areas would be constructed at arrival locations on Tinian.

A Micronesia Biosecurity Plan (MBP) is being developed to address potential invasive species impacts associated with this EIS as well as to provide a plan for a comprehensive regional approach. The MBP will include risk assessments for invasive species throughout Micronesia and procedures to avoid, minimize, and mitigate these risks. It is being developed in conjunction with experts within other Federal agencies including the National Invasive Species Council, U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS), the U.S. Geological Survey, Biological Resources Discipline (USGS-BRD), and the Smithsonian Environmental Research Center (SERC). It will include brown tree snake (BTS) control measures to prevent BTS movement off Guam and management within Guam. For actions being proposed in this EIS, the DoN would implement specific biosecurity measures to supplement existing practices on Guam and Tinian. These would include BTS control to address potential unintentional transport and introduction of BTS to Tinian, including inspection requirements and procedures. For additional information on the MBP and existing and interim measures for invasive species control, please refer to Volume 2, Chapter 10, Section 10.2.2.6.

2.3.3.3 Typical Operating Scenario for Proposed Range Training Evolution on Tinian

The following scenario consolidates the elements of previously presented information to provide a notional analysis of activities and events that would occur during the typical on-week training cycle proposed for Tinian, a notional 200 Marine personnel training evolution. A 400-person training evolution scenario would be similar, but would require longer hours of range use for all personnel to complete training requirements.

- Prior to arrival:
 - Training activity would be scheduled and notice provided in newspapers and via public service announcements on radio and TV at least 1 week prior to training event.
 - Biosecurity training would be coordinated through informal consultations with USDA WS, CNMI Department of Fish and Wildlife, and DAWR through regional training authority 1 week prior to training event.

- Environmental briefings (including BTS control) would be completed prior to departure from Guam.
- Cultural resource briefing would be completed prior to departure from Guam.
- Inspection for BTS would be conducted for supplies and equipment being shipped to Tinian by USDA or authorized inspectors.
- Monday:
 - In the morning hours, 200 Marines would arrive at Tinian Airport (West Field), including all weapons, equipment, and ammunition needed for the training evolution. If C-130 aircraft are used for the lifts, there would be four sorties assuming two High Mobility Multipurpose Wheeled Vehicles (HMMWVs) are included in the equipment lift (two sorties with two C-130s). If CH-53s are used, the HMMWVs (or other vehicles) would not be included in the lift and there would be six sorties. Vehicles and equipment would be inspected and subject to BTS inspection protocols on the airfield apron upon arrival.
 - After completion of arrival procedures at Tinian Airport (West Field), all Marines would either hike to the bivouac area or be bused to the bivouac area by a contracted busing service. Range orientation, environmental, and safety briefings would occur. Evening meals would be served in the bivouac area utilizing Meals Ready to Eat or Unitized Group Rations. Food waste would be composted and packaging crushed and bailed for transport to Guam.
 - Range maintenance personnel would prepare the ranges for use (e.g., place targets, charge batteries, verify scoring systems, position generators, clean and stock portable sanitary facilities).
 - Range security personnel would close the area encompassed by the SDZs to civilians by establishing and manning traffic control points and observation points and performing a security sweep of the area to ensure no unauthorized persons are present within the area affected by the SDZs.
 - Personnel not engaged in training on the live-fire ranges would engage in other training within the Tinian EMUA as described and assessed in the MIRC EIS/OEIS.
- Tuesday:
 - Range security personnel would perform another security sweep of the range and post range flags.
 - Aircraft watch personnel would be posted at the range observation site. These personnel would inform Saipan International Airport air traffic control tower when firing is about to commence, monitor Saipan International Airport and Tinian Airport (West Field) departure/arrivals information, and coordinate check firing procedures as required.
 - Targets would be emplaced at the ranges and generators and sounds systems would be operational.
 - Marines would clean up bivouac area, have breakfast, collect weapons from a secure storage brought with them to the ranges (e.g., container express box armory), and adhere to inspection and briefing protocols prior to traveling to the Rifle KD and Pistol ranges on foot or by contracted bus service. Prior to initiation of marksmanship training, the weapons would be “battle sight zeroed” for both iron sights (battle sight zeroing takes a weapons system and zeros it so that one can hit the target) and combat optical sights. All live-fire would immediately cease when range control is notified of an aircraft approach by air sentries, observation personnel, or air traffic control. Then, the Marines would conduct individual marksmanship training all day. A noon meal would be in the form of

- Meals Ready to Eat. Marines would collect brass and ammunition containers for transport to Guam and the range would be secured by 3 p.m. The Marines would return to the bivouac area on foot or by contract bus service.
- At the end of the day at the range, range maintenance personnel would retrieve targets, maintain systems, and change batteries as needed.
 - Once the Marines are back at the bivouac area, they would clean their weapons using individual equipment and supplies secured in the container express box armory; refuse from weapons cleaning would be collected for transport to Guam. Evening meals would be Meals Ready to Eat or Unitized Group Rations.
 - Wednesday:
 - The same range control preparation and follow-up as presented for Monday and Tuesday would occur at the Field Firing Range and Platoon Battle Course.
 - The Marines would perform the same morning routine and evening routine as presented for Tuesday.
 - Marksmanship training would occur at the Field Firing Range and combat marksmanship training would occur at the Platoon Battle Course. Platoons would alternate between weapons employment instruction, Automated Field Firing, and blank firing run-throughs of the Platoon Battle Course.
 - Thursday:
 - The same range control preparation and follow-up as presented for Monday and Tuesday would occur, but at the Platoon Battle Course.
 - The Marines would perform the same morning routine and evening routine as presented for Tuesday.
 - Marines would train at the Platoon Battle Course, alternatively conducting tactical maneuver training with blanks in the maneuver areas behind the firing line and conducting live-fire training runs through the course. Completion of the Platoon Battle Course requires two hours per Platoon, including preparation, scoring, and debriefing time.
 - Friday:
 - The same range control preparation and follow-up as presented for Monday and Tuesday would occur.
 - The Marines would perform the same morning routine and evening routine as presented for Tuesday, with the exception that all equipment would be cleaned, weapons would be secured, and camp would be cleaned up in preparation of departure on Saturday.
 - The Marines would perform the same training at the Platoon Battle Course as described for Thursday and all Platoons would complete training at the course by the end of the day. Upon completion, the Marines would collect brass and trash from the course for transport to Guam.
 - Saturday:
 - Marines would retrieve weapons and unused munitions and undergo departure protocols and inspections and travel to the Tinian Airport (West Field) on foot or by contracted bus service. All solid waste that is not composted at the bivouac area would be transported to Tinian Airport (West Field) with the Marines and equipment for transport to Guam.

Range Control would inspect ranges, contract service for portable sanitary facilities, retrieve and repair/service generators and equipment as needed and would reopen the area encompassed by the SDZs to civilian use by opening traffic control points and removing the range flags. Targets would be

refurbished and routine range maintenance and vegetation control would occur. Marines may be granted the opportunity to visit San Jose during liberty time, if time permits.

2.3.4 Supporting Activities

No supporting facilities are proposed for the Tinian ranges. All training would be considered “expeditionary,” in that the Marines would bring all necessary equipment to the ranges, would bivouac onsite, and would remove all equipment following completion of the training activities. No utilities systems would be required as commercial portable sanitation units would be utilized. An existing DoD leach field is located in the IBB, west of 8th Avenue (refer to Figure 2.1-3). This is designed to accommodate large-scale training activities on Tinian. This leach field would be used for disposal of wastewater from portable sanitation units. An RTA Management Plan would be developed following the Final EIS to support the operations on the Tinian ranges.

2.3.4.1 Security, Range Flags, and SDZ Observation Points

The RTA would need to be secured and assured clear of non-participating personnel during live firing to avoid the potential for injury from ricochet or misdirected shots. Therefore, continuously manned traffic control points, range flag poles (on which red flags would be flown during range operations), and manned observation points would be used during scheduled training to prevent inadvertent entry of civilians into to all the RTA, depending on firing condition. The portion of the MLA required to be closed to land access would depend on the alternative range configuration selected, the ranges scheduled for use, and the potential access points into the operating ranges and SDZs. This EIS assumes access to the MLA would be in accordance with Marine Corps safety regulations and would vary depending on the type of training activity that is being conducted. As an example, live-fire activities on proposed ranges would require limited access to the MLA on the eastern side of Tinian. Access limitations and security requirements would be part of the Standard Operating Procedures for all ranges. Traffic control points would be established and continuously manned 24 hours prior to the start of any live-fire training to prevent unauthorized civilian access to the RTA. A visual sweep of the RTA from helicopter would be conducted prior to the commencement of live-fire to ensure that all ranges and SDZs are clear of civilian and military personnel. Available monitoring capabilities would be utilized to assure public safety during training events. Training units would have direct communications with range control, and would fly a large red flag when the RTA is in use. All live-fire training would be immediately halted if unauthorized personnel are sighted in the RTA.

2.3.4.2 Storage

No storage of equipment or ammunition would occur on the ranges. The training units would bring all equipment, supplies, and ammunition necessary to conduct training. Units using the firing ranges would provide their own ammunition for use on the ranges, and would be responsible for its transportation to Tinian in accordance with DoD and U.S. Department of Transportation policies for movement of materials with hazardous classification. The proposed ranges would require use of non-explosive projectiles and small arms ammunition rated as class/division 1.4, for which “no explosive limit would be placed on the storage of these items” (Navy 2007).

2.3.4.3 Emergency Services

A fire management plan that would address the proposed action at Tinian is under development by NAVFAC Pacific as part of an RTA Management Plan. Units using the proposed Tinian ranges would be required to plan for and have the capabilities to respond to fires consistent with the fire management plan in preparation. Using units also would be responsible for their own medical service using corpsmen and

would secure access to a casualty evacuation aircraft while training on Tinian. An aid station for range users would be established within the bivouac area.

2.3.4.4 Civilian Range Access, Security, and Safety

Range roads are typically graded gravel roads with drainage and culverts as needed. Each of the ranges depicted would have an access roadway from the existing adjacent road, with associated parking for vehicles and space for assembly of training personnel. Ranges would include dirt or gravel access ways for target emplacement and pick up. Parking areas are estimated at 0.5 ac (0.2 ha) and range roads are estimated at 5 mi (8 km) for all four ranges combined.

The range area would not be accessible by non-participating personnel during training. There would be sufficient lead-time before training to ensure range area clearance. Training periods would be scheduled in advance with signs posted and published on a regular basis. To facilitate range safety, ground access would be controlled by traffic control points on existing roads. This would safeguard the public by keeping them out of any areas where there are potential dangers while simultaneously maintaining access to areas where training is not being conducted. This would ensure access to the National Historic Landmark, northern beaches, and the IBB via 8th Avenue. Broadway would be closed during training. However, the public would be able to travel on 8th Avenue, check in with personnel manning the first traffic control point. Once cleared by range control, they would proceed on 8th Avenue, checking in with each successive traffic control point until clear of the training area. Prior to training, range flags would be raised and traffic control points would be established and manned continuously throughout the duration of training. Interior portions of the range area (those affected by SDZs) would be inspected and watches would be posted at a range observation site for boats and aircraft, with positive observation of the sea and air space and having positive communications with range control.

During non-firing periods, the MLA would remain open to other approved civilian uses in accordance with the RTA Management Plan.

It is estimated that civilian use and access to and through the RTA would be affected approximately 12 to 16 weeks per year. The limit of the restrictions would depend on the training uses scheduled.

- For use of the weapons ranges, portions of the RTA would be closed for reasons of safety. Denial of access would occur along Broadway north of 86th Street and south of the Shinto Shrine American Memorial Circle on Broadway including all lands to the east, and east of 8th Avenue north of 86th Street and south of Mount Lasso. Location of traffic control points are presented in Section 2.5 for each action alternative.
- For larger exercises, the entire RTA would be closed to use; however, access to the IBB property would not be restricted.
- Periods of closure would last from a day before the scheduled event to ensure clearance, through post-event clean up and transport to Guam.
- It is anticipated that during periods of non-military use, the RTA would be available for other civilian purposes consistent with RTA policies, subject to management restrictions to protect public safety, property, and the environment. These uses include the proposed landfill, the proposed wastewater treatment plant, and agency personnel access for natural and cultural resource surveys on Tinian. Periods of potential civilian use would need to be defined and regulated within RTA management procedures.

2.3.5 Range Training Area Management

Because the RTA on Tinian is an enhancement to the existing range capabilities contained with the range complex, the MIRC, the RTA on Tinian would be managed in accordance with MCO 3550.10, *Policies and Procedures for Range Training Area Management*, which addresses safe, efficient, effective, and environmentally sustainable use of the range area. These policies and procedures would be reviewed and coordinated with Joint Region Marianas regional range management. All service policies include the following:

- The goal of range control and management practices is to enhance the safe and realistic training available to Operating Forces, and ensure viable RTAs for future generations of Marines. Effective RTA management provides programs and funding to protect ranges while ensuring compliance with environmental regulations.
- As part of RTA management and in coordination with Joint Region Marianas (the present range manager), the Marines would provide the following:
 - A Range Safety Program to conduct or coordinate RTA safety, emergency response (medical and fire), Explosive Ordnance Disposal, Training Mishap Investigations, safety training, and range inspections.
 - RTA procedures for scheduling, collecting utilization data and reporting range use.
 - Publication of advanced notice for periods of range use by providing notices to airman, mariners, and the general public as required for safe RTA operations.
 - Controls for RTA airspace in accordance with FAA regulations and agreements, with an objective of use by multiple agencies with minimal interference and maximum safety.
 - Management of movement and access into and within the RTA by monitoring and controlling use of surface roads, shorelines and adjacent water areas, and airspace above the RTA. Military personnel and civilian use of the RTA is subject to restrictions that may include checking in and out, or maintaining communications with Range Control. Unauthorized entry to the RTA during training would be strictly prohibited.
 - Maintenance of ranges, targets, and training devices.

Anticipated elements of the RTA Management Plan are described in the subsections that follow.

2.3.5.1 Range Maintenance

Range maintenance, such as the activities described in Section 2.3.1.2, would be required to protect the investment in range facilities, as well as for security, environmental management, and range operations. Range maintenance would be done by military personnel, civilian workforce, or contracted workers. If range maintenance is done by contracted workers, the DoD would award a contract in accordance with Federal Acquisition Regulations.

Proposed activities for range maintenance include removing expended rounds from the ranges periodically and transporting them to an appropriate recycling contractor or smelter in accordance with appropriate regulations. Munitions expended at ranges would be entrapped in soil impact berms that would be constructed in accordance with the specifications in Military Handbook 1027/3B, *Range Facilities and Miscellaneous Training Facilities Other than Buildings* (Marine Corps No Date b). This handbook addresses the required dimensions of the range and earthen berms for safe operation of the ranges. In order to properly maintain the range berms, the Marine Corps would periodically shut down the range, sift the expended rounds (i.e., ammunition fired from the weapons) from the soil on site, place the soil immediately back on the berm face, and contain and transport expended rounds to a local recycling

contractor or smelter in accordance with all applicable regulations. Soils would be regularly evaluated and maintained at a neutral pH level (6 to 8). To manage stormwater and control erosion, engineering controls would be employed and grassy vegetation would be maintained on berms (but periodically would be disrupted for sifting). A monitoring program would be implemented to identify any early indications of lead movement and establish protocols for environmental protection if such indications are identified.

Field exercises, including bivouac, would be conducted in accordance with existing bivouac and field exercise requirements in the MIRC. Water, waste, and other requirements for field activities are contained in the MIRC operating procedures and Commander Navy Region (COMNAV Marianas) Instructions.

2.3.5.2 Environmental Protection

The following Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) would be applied in the site development activities for the proposed ranges.

- Low Impact Development (LID) techniques would be incorporated into the range design to reduce stormwater runoff and pollutants using a combination of retention devices and vegetation for stormwater management.
- A National Pollution Discharge Elimination System (NPDES) permit would be obtained for construction activities that would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP is a self-implementing plan for compliance with an installation's stormwater permit. It requires development of pollution prevention measures/BMPs such as the use of check dams, diversion dikes/swales, silt fencing, etc. to reduce and control pollutants in stormwater discharge. The plan includes maintenance procedures, BMPs, and engineering controls intended to prevent or reduce pollution into receiving waters.
- Water Quality Monitoring Plans are normally required as part of the water quality certification process set forth in Section 401 of the Clean Water Act for construction activities requiring Clean Water Act Section 404 permits from the USACE. Applied during the construction phase, Water Quality Monitoring Plans identify ambient or control conditions and capture any deviations from those conditions resulting from construction activities. The Water Quality Monitoring Plan would include procedures for reporting results and observations and provisions for corrective actions.

In the ongoing periodic training use and maintenance of the proposed ranges and bivouac activities, basic environmental protection features that would be incorporated into the RTA Management Plan would include:

- Fire condition monitoring for firefighting readiness and modification of training as appropriate as part of RTA management procedures.
- Unit-based fire fighting capacity to access range areas with appropriate equipment.
- Specific regulations and information provided for using units to protect the environment as part of RTA procedures.
- Adherence to protective measures established in natural and cultural resource management plans.
- Adherence to RTA procedures and information provided under MCO P3550.10 for using units to protect the environment.
- Ensuring that bivouac activities occur on previously disturbed sites.
- Clear marking of ranges, bivouac areas, and transit routes necessary to reach these areas.

- Restricting vehicular activities to designated/previously identified areas.
- Adherence to existing policies and management activities to conserve soils, including applicable SWPPP policies. Bivouac sites would be reviewed through processes established in COMNAV Marianas Instruction 3500.4, where erosion potential would be evaluated and the designated installation Natural Resource Specialist involved in the process.
- Compost or collect and consolidate all waste for transport to Guam.

2.4 PROPOSED ACTION: AIRSPACE

FAA Order JO 7400.2G, Procedures for Handling Airspace Matters (FAA 2008) does not require the establishment of SUA over small arms ranges. The Marine Corps would manage the airspace overlying the proposed ranges to ensure safety of nonparticipating aircraft. Personnel at a range observation site would observe the airspace overlying the ranges and associated vertical hazard distance. The personnel would have direct communications with range control and would fly a large red flag when any portion of the RTA was in use. All firing activities would cease upon notification of impending or actual incursion of the airspace by nonparticipating aircraft. Figure 2.4-1 depicts the existing airspace in the vicinity. The activity that would need to be de-conflicted in the airspace overlying the proposed ranges would consist of:

- Range vertical hazard distance: a vertical hazard distance of approximately 1,155 ft (352 m) or less associated with the 5.56 mm and 9 mm weapons at the proposed ranges.
- Tinian Airport (West Field) operations: an average of 67 aircraft operations per day occurred at Tinian Airport (West Field) for a 12-month period ending in May 2007 (FAA 2009a), where current traffic pattern altitudes may be as low as 1,532 ft (467 m) above ground level over the proposed RTA.
- Saipan International Airport: an average of 108 aircraft operations a day occurred at the Saipan International Airport during the 12-month period ending in December 2005 (FAA 2009b). The instrument landing system approach to Saipan International Airport continually descends from 2,100 ft (640 m) while over Tinian to the north of the proposed ranges (refer to Figure 2.4-1) (FAA 2009b). The majority of the approaches to Saipan International Airport use visual flight rules; the instrument landing system approach is used when weather minimums are below visual flight rule approach criteria or in training on the instrument landing system.

As stated above, no airspace changes are required in support of the proposed action. However, recent mission changes, new aircraft, modifications to weapons delivery tactics, and enhanced training requirements for existing military airspace users are among the other factors generating a need for expanded, modified, or new MIRC SUA. DoD has determined that the most prudent approach to meeting these integrated requirements is to conduct a comprehensive review of the existing SUA in order to develop any new SUA requirements for all future service needs in the region of influence as well as competing commercial and general aviation use requirements. It is assumed that a formal joint military airspace proposal would be made to the FAA in the future, at which time a separate determination would be made as to further environmental documentation requirements. Although it is possible that SUA may be designated to overlies the proposed ranges in the future, if range requirements change, it is not part of the proposed action evaluated in this EIS.

Chapter 2:

2.1 Overview

2.2 Alternatives Analysis Methodology

2.3 Proposed Action: Firing Training

2.4 Proposed Action: Airspace

2.5 Alternatives

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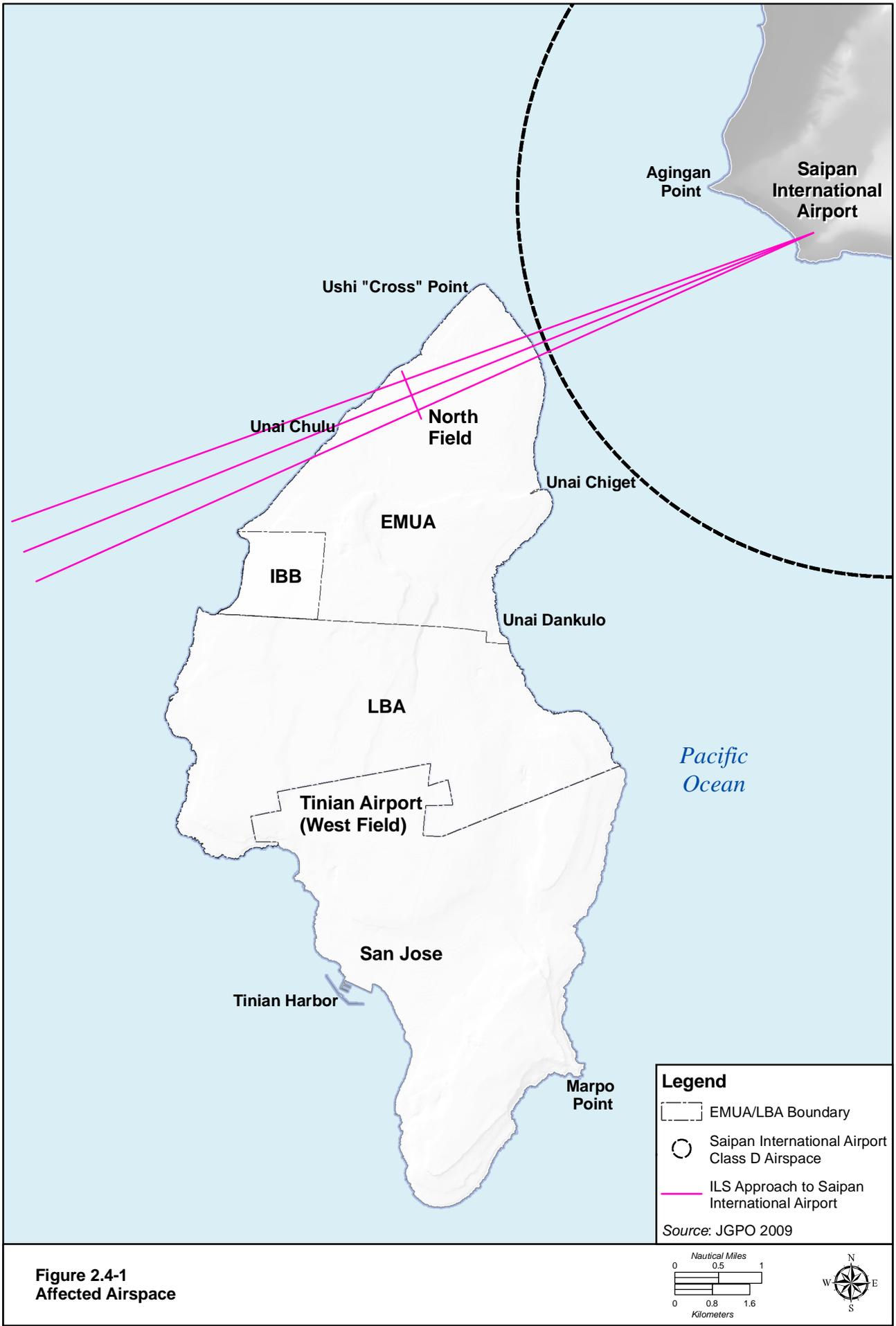


Figure 2.4-1
Affected Airspace

2.5 ALTERNATIVES

Three primary alternatives for the proposed action on Tinian that meet the purpose and need have been identified. In addition, the no-action alternative is described (although the no-action alternative would not accomplish the purpose and need, it is included as required by the Council on Environmental Quality (CEQ) regulations). The primary difference among alternatives is the location and orientation of the firing ranges and associated notional SDZs. There would be relatively the same potential characteristics for range closure and availability during training under all action alternatives. Regardless of the alternative range configurations, there are two options for the location of the proposed range observation site.

The preferred alternative in this EIS was evaluated to ensure it met the purpose and need as outlined in Chapter 1. The DoN would not make its decision of which alternative it would implement until the Record of Decision is signed at the conclusion of the NEPA process. Alternative 1 is the preferred alternative for this component of the overall proposed action (refer to Figure 2.1-1).

2.5.1 Alternative 1 (Preferred Alternative)

As shown in Figure 2.5-1, all four ranges associated with Alternative 1 are in the south-central portion of the MLA within the area delineated by 8th Avenue, 86th Street, and Broadway. The Rifle KD Range, the Automated Combat Pistol/MP Firearms Qualification Course, and Field Firing Range are located along 86th Street and west of Broadway. All three are generally aligned to the north. The Platoon Battle Course is located northwest of the other ranges and is generally aligned toward the northeast. All four range footprints partially overlay the FAA Mitigation Area. The associated notional SDZs for these ranges would overlap to a large extent. They would extend over the FAA Mitigation Area, DoD “No Wildlife Disturbance” Mount Lasso escarpment area, and a segment of Broadway. No SDZs would extend beyond land and into the ocean.

2.5.2 Alternative 2

Under the Range Training Area Alternative 2 (Figure 2.5-2), no ranges would be located south of 86th Street. The Field Firing Range location differs from all ranges in Alternative 1 because it is located east of Broadway at the intersection with 86th Street. The alignment is to the northeast. Unlike Alternative 1, the range avoids the FAA Mitigation Area and the DoD “No Wildlife Disturbance” Mount Lasso escarpment area. The Field Firing Range differs from Alternative 1 ranges and the other three Alternative 2 ranges in that the SDZ extends over the ocean.

The Rifle KD Range and Automated Combat Pistol/MP Firearms Qualification Course would be located on 86th Street and generally aligned to the north. Both range footprints would overlay the FAA Mitigation Area. The associated notional SDZs for these two ranges would overlap to a large extent. They would extend over the FAA Mitigation Area and the DoD “No Wildlife Disturbance” Mount Lasso escarpment area. The Rifle KD Range SDZ would extend over Broadway, but the Automated Combat Pistol/MP Firearms Qualification Course would not. Neither of the SDZs would extend over the ocean.

Chapter 2:

2.1 Overview

2.2 Alternatives Analysis
Methodology

2.3 Proposed Action: Firing
Training

2.4 Proposed Action: Airspace

2.5 Alternatives

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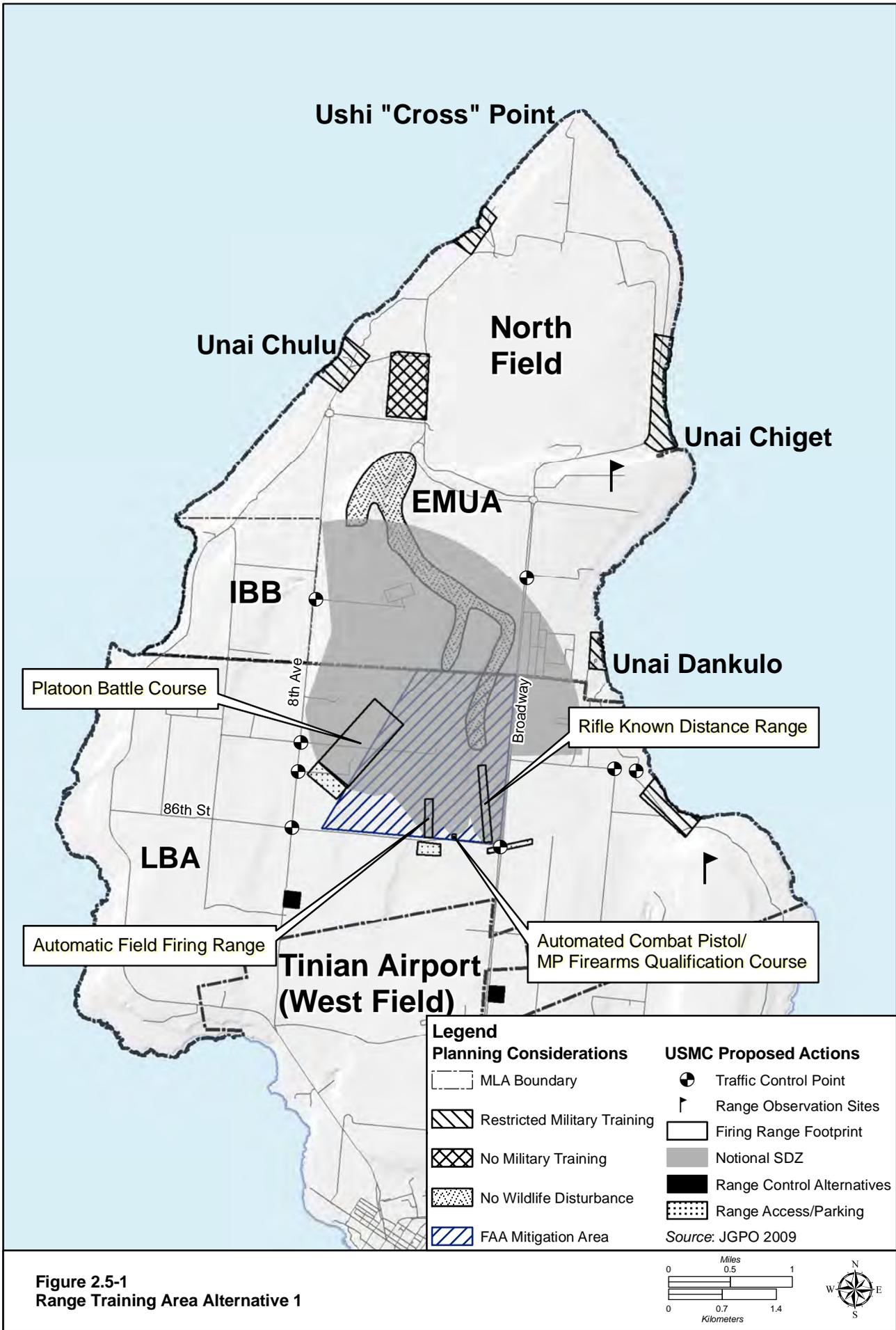


Figure 2.5-1
Range Training Area Alternative 1

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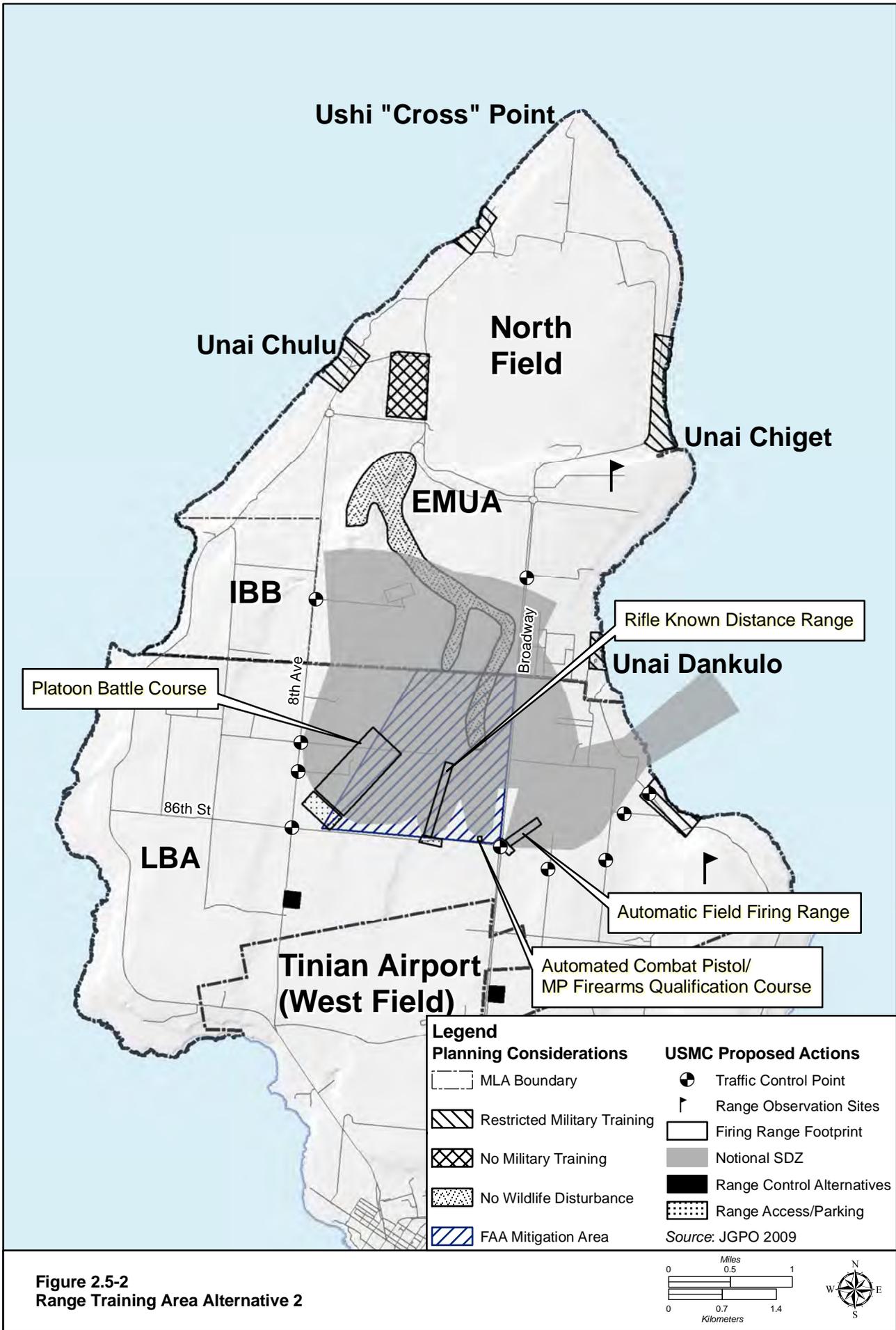


Figure 2.5-2
Range Training Area Alternative 2

The Platoon Battle Course would be located south of its Alternative 1 location. The orientation would be aligned toward the northeast, similar to Alternative 1. Compared to Alternative 1, there would be more range footprint encroachment on the FAA Mitigation Area. The SDZ for the Platoon Battle course extends east across Broadway and overlaps the FAA Mitigation Area and the DoD “No Wildlife Disturbance” Mount Lasso escarpment area.

The SDZs in Alternative 2 cover a greater surface area than Alternative 1 and are not limited to land.

2.5.3 Alternative 3

As shown in Figure 2.5-3, the Alternative 3 configuration is notably different from Alternatives 1 and 2 due to three of the ranges being sited south of 86th Street and north of West Field. These three ranges are the Field Firing Range, Automated Combat Pistol/MP Firearms Qualification Course, and the Rifle KD Range. During range operations at any of these three ranges, 86th Street would be closed to traffic. All three ranges are sited along the southern MLA boundary and aligned generally to the north. None of these range footprints is within the FAA Mitigation Area. The SDZs overlap. The Rifle KD Range and the Automated Combat Pistol/MP Firearms Qualification Course overlap the FAA Mitigation Area, but not the “No Wildlife Disturbance” area. The Field Firing Range SDZ encroaches on both restricted areas.

The Platoon Battle Course would be sited as described in Alternative 2, above 86th Street. The alignment is to the northeast and the footprint encroaches on the FAA Mitigation Area. The SDZ encroaches on both restricted areas and overlap with the other three ranges.

None of the SDZs under Alternative 3 extend into the ocean. The surface area affected by ranges under Alternative 3 is less than the other two alternatives.

2.5.4 No-Action Alternative

Under the no-action alternative, no new site development or new training activities associated with the Marine Corps relocation to Guam would occur in Tinian/CNMI to meet training needs and requirements in support of the proposed action. The purpose and need for training in Tinian/CNMI as described in Chapter 1 would not be met.

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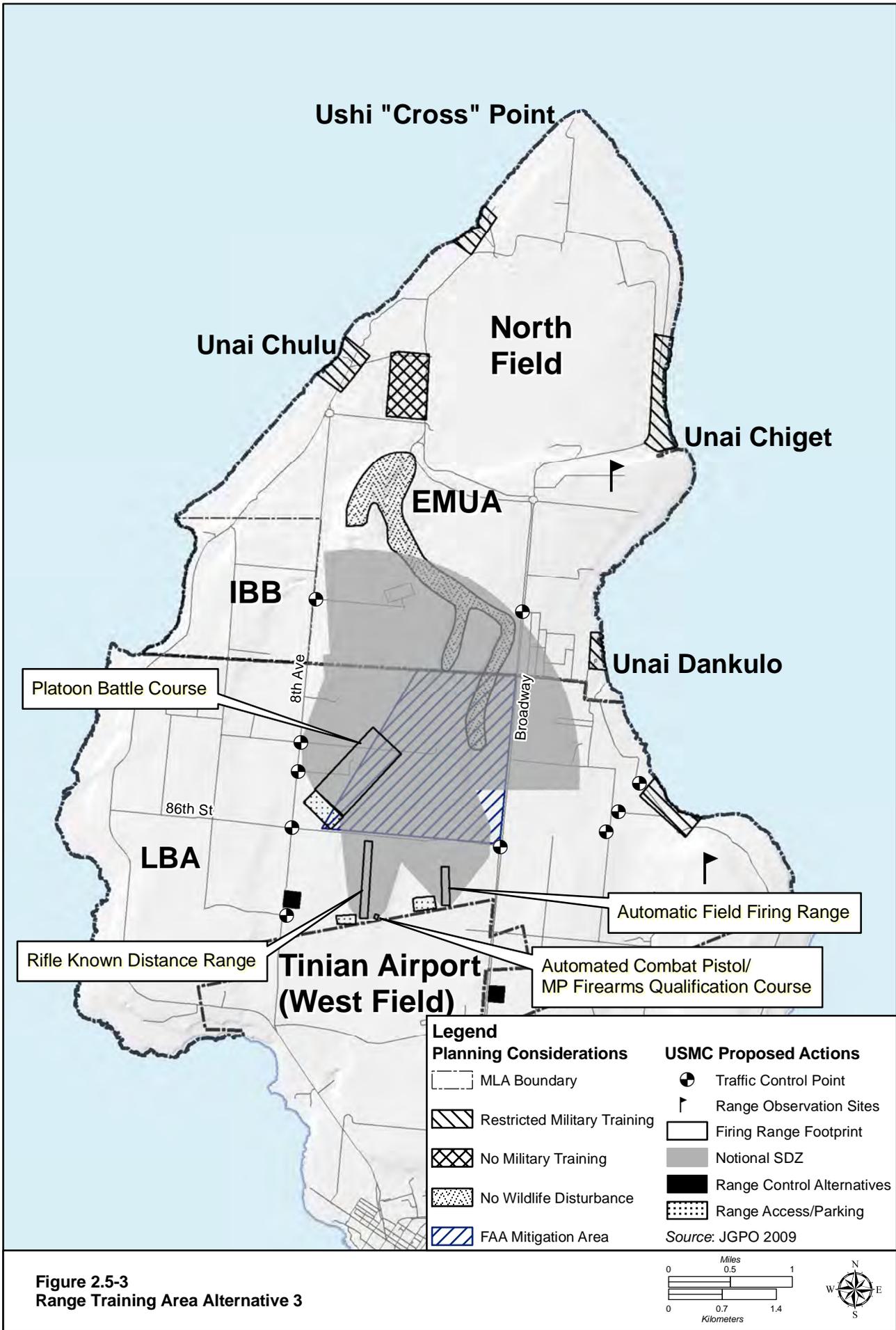


Figure 2.5-3
Range Training Area Alternative 3