Revised Draft Environmental Impact Statement

Commonwealth of the Northern Mariana Islands Joint Military Training

Appendices A through L

June 2025

EISX-007-17-XMC-1747255459

APPENDICES A THROUGH L
in Support of the
Commonwealth of the Northern Mariana Islands
Joint Military Training Environmental Impact Statement

June 2025

The appendices of this Revised Draft EIS are compliant with Section 508 of the Rehabilitation Act. This allows assistive technology to be used to obtain the available information from the document. However, accessibility is limited to a descriptive title for some graphics, figures, tables, images, and attachments. Individuals who require assistance may submit a request through the Section 508 link on the project website at CNMIJointMilitaryTrainingEIS.com

APPENDIX D
BEST MANAGEMENT PRACTICES, STANDARD OPERATING PROCEDURES, AND MINIMIZATION MEASURES

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APPENDIX D

BEST MANAGEMENT PRACTICES, STANDARD OPERATING PROCEDURES, AND MINIMIZATION MEASURES

Chapter 4 of the Revised Draft Environmental Impact Statement (EIS) discusses how the Proposed Action incorporates resource management measures that avoid and/or minimize environmental impacts to resources. These resource management measures are incorporated into the design of the project in the form of avoidance and minimization measures, best management practices, and standard operating procedures. This appendix addresses best management practices and standard operating procedures, each of which is discussed below.

- Best management practices are existing policies, practices, and measures required by law, regulation, or Department of Defense (DoD) policy that reduce the environmental impacts of the Proposed Action and are common practice in the industry. Best management practices are incorporated into the Proposed Action and include standard military design, construction or operations practices or procedures, and compliance with laws and typical regulatory permit requirements that the USMC is committed to implementing. The Revised Draft EIS impact analysis assumes that best management practices are successfully implemented when assigning a level of impact.
- The USMC currently employs standard practices to provide for the safety of personnel and equipment, including vessels and aircraft, as well as the success of the training events. In many cases, there are incidental environmental, socioeconomic, and cultural benefits resulting from standard operating procedures. Standard operating procedures serve the primary purpose of providing for safety and mission success and are implemented regardless of their secondary benefits. Because standard operating procedures are crucial to safety and mission success, the USMC would not modify them as a way to further reduce impacts on environmental resources. Rather, avoidance, minimization, and mitigation measures would be used as the tool for avoiding and reducing potential environmental impacts.

The best management practices and standard operating procedures relevant to this Proposed Action are listed in Table D-1, which illustrates how avoidance and minimization measures often have a mitigating effect across multiple resource areas.

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Table D-1 Best Management Practices, Standard Operating Procedures, and Minimization Measures Included in the Proposed Action

Best Management Practice, Standard Operating Procedure, or Minimization Measure	*Description*	*Public Access*	*Land Use and Recreation*	*Socio-economics*	*Terrestrial Bio. Resources*	*Cultural Resources*	*Visual Resources*	*Transportation*	*Noise*	*Air Quality and GHGs*	*Public Health and Safety*	*Utilities*	*Topography, Geology, and Soils*	*Groundwater Hydrology*	*Surface Waters and Wetlands*
Seismic Design for Buildings	Unified Facilities Criteria 3-310-04, *Seismic Design for Buildings*, are guidelines that would be implemented to reduce geologic hazards associated with seismicity, liquefaction, and ground shaking.										X		X		
Dust Control Measures	Unified Facilities Criteria 3-260-17, *Dust Control For Roads, Airfields And Adjacent Areas, With Change 1*, are guidelines for Dust Control in construction and maintenance. Some measures include when feasible: • Minimize land disturbance. • Construct stabilized construction entrances per construction standard specifications. • Cover trucks when hauling soil, stone, and debris. • Use water trucks to minimize dust. • Stabilize or cover stockpiles. • Minimize dirt tracking by washing or cleaning trucks before leaving the construction site.		X	X						X	X		X		X
Erosion Control Measures	Erosion control measures would be implemented during construction and operations to eliminate and/or minimize nonpoint source pollution in surface waters due to sediment. *CNMI Earthmoving and Erosion Control Regulations* and *CNMI Environmental Protection Act* establish a permit process for construction activities, identify investigations and studies that are required prior to design and construction, and provide standards for grading, filling, and clearing. Erosion control measures would				X						X	X	X	X	X

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	include Department of Environmental Quality-recommended BMPs that apply to federal actions in CNMI. Specific BMPs may include, but are not limited to, the following: • Minimize the ground disturbance area. Contractors would be held responsible for ground disturbance/vegetation removal that occurs outside of project areas identified in contractor specifications. • Provide erosion control through the site approval process and implement control measures such as retention ponds, swales, silt fences, fiber rolls, gravel bag berms, mulch, and erosion control blankets during construction and operations to eliminate and/or minimize nonpoint source pollution in surface waters due to sediment. Topsoil removed from the site would be placed in the immediate area and reused for re-compaction purposes (if appropriate, in accordance with geotechnical recommendations). • Protect soil exposed near water as part of the project from erosion with erosion control blankets (organic or synthetic fibers held together with net to cover disturbed areas) after exposure and stabilize as soon as practicable (with vegetation														

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	matting, hydroseeding, etc.). • Contain silt using silt fences and other physical barriers that intercept runoff from drainage areas. • Cover soil piles and exposed slopes during times of inclement weather. • Stockpile excavated materials behind impermeable berms and away from the influence of surface waters and runoff. • Re-vegetate as soon as possible after any ground disturbance or grading and stabilize loose soils using vegetation/mulch (i.e., apply coarse plant residue to cover soil surface). The vegetation/mulch should be free of invasive species viable reproductive parts, such as rhizomes, seeds, and plants. • Utilize level spreaders (non-erosive outlets for runoff to disperse flow uniformly across slope). • Install rock outlet protection (rock protection placed at end of culverts). • Restrict vehicles in training areas to designated/previously identified areas and ensure all training areas, including transit routes necessary to reach training areas, are clearly identified or marked.														
Clean Water Act – National Pollutant Discharge Elimination	A Stormwater Management Plan and Stormwater Pollution Prevention Plan be prepared and implemented in compliance with the				X						X	X		X	X

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System	CNMI Stormwater Management Manual. Elements of a Stormwater Management Plan include structural and non-structural practices such as the following: • Storm drain inlet protection (permeable barrier around inlets reducing sediment let into storm drain). • Stormwater ponds and wetlands. • Infiltration practices (capture/temporarily store water before infiltrating into the soil). • Filtering practices (capture/temporarily store water and pass through filter beds of sand, organic matter, soil, or other media). • Soil stabilization (such as mulch and erosion control blankets). • Perimeter and sediment control (such as silt fences, fiber rolls, gravel bag berms, and sediment traps). • Management and covering of material, waste, and soil stockpiles when not in use. • Storage of fuels and hazardous materials with proper secondary containment, and establishment of designated vehicle and equipment maintenance and fueling areas. • Management of spills and leaks from vehicles and equipment through inspections and use of drip pans, absorbent pads, and spill kits.														

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	• Development of a contingency plan to control petroleum products accidentally spilled during the project.														
Technical Guidance on Implementing Stormwater Runoff Control Measures	Section 438 of the Energy Independence and Security Act, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects* establishes guidance for post-development stormwater management systems that utilize a combination of natural and engineered features that reduce the volume and rate of stormwater runoff (i.e., eliminate or minimize hydromodification), filter out pollutants, and facilitate groundwater recharge through infiltration. The preservation and reestablishment of vegetation after construction would minimize the potential for erosion and sediment runoff.				X						X	X		X	X
Design Individual Projects Using LEED Certification Standards	Current USMC policy supports LEED, a voluntary point system tool that measures the degree of sustainability features incorporated into a development. LEED requirements include the following: • Reduction of electrical energy use in buildings by 10% to save power. • Construction materials: use of local sources. USMC guidance and qualification for LEED Silver points requires that 50% non-hazardous waste and demolition debris are recycled. • Increased water efficiency.			X							X	X			

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	• Renewable energy.														
Design Projects Using Low Impact Development Standards	Low Impact Development measures would be consistent with guidelines provided in Unified Facilities Criteria 3-210-10 and stormwater management techniques provided in the CNMI *Stormwater Management Manual*. Innovative methods are used to capture stormwater that would otherwise flow into nearby watersheds using a combination of retention devices and vegetation to allow stormwater to be retained and managed at the source, rather than relying on downstream efforts to control the flow of water and contaminants. Measures may include, but are not limited to, the following: • Stormwater ponds (retention/detention) • Stormwater wetlands • Infiltration practices • Filtering practices • Open channel practices • Minimizing exposure • Watershed-based management.			X								X		X	X
Design Projects in Compliance with the Energy Policy Act of 2005	Energy Policy Act compliance includes analysis and life-cycle cost analysis using a simulated model and the following energy conservation measures: • Ensure that buildings achieve an energy consumption level that is			X							X	X			

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	30% below the level achieved by ASHRAE Standard 90.1. • Use low energy consuming products that are either "Energy Star"-qualified or Federal Energy Management Program-recommended. • Optimize building orientation to reduce cooling loads or energy loads to cool the buildings. • Optimize building insulation. • Seal building envelope for air tightness. • Incorporate "cool roof" building designs. • Use motion detectors to reduce lighting and to setback cooling in unoccupied buildings. • Use of natural lighting.														
Design Facilities and Implement Procedures to Minimize Hazardous Waste and Ensure Proper Management of Hazardous Substances	Hazardous Materials Management Plans describe procedures for the transportation, storage, use, and disposal of hazardous materials. Procedures also include waste minimization plans that provide protocols designed to encourage and promote the efficient use of hazardous materials, substitute products that are less toxic whenever feasible, minimize their use, and promote recycling and reuse of hazardous materials. Procedures include: • Utilize hazardous materials spill/release control (use of secondary containment and leak detection methods in operations involving liquid hazardous substances). • Ensure construction			X	X						X			X	X

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	materials and all construction-related materials are free of leachable pollutants. • Ensure U.S. military personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods. • Ensure that all personnel and contractors store, handle, and dispose of all petroleum, oil, and lubricants per all applicable local and federal laws, regulations, and requirements. • Ensure contaminated topsoil removed from the site is properly disposed of in an approved landfill in accordance with applicable regulatory requirements. • Ensure that soils to be excavated are well characterized, properly handled, and disposed of to minimize dispersal of any contaminants that may be present. • Locate temporary equipment laydown or construction staging areas in previously disturbed (e.g., paved) areas when feasible. • Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination and/or														

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	munitions and explosives of concern have been identified, ensure that the risk of human/ecological risk and exposure is minimized via the use of site-specific health and safety plans, engineering and administrative controls, and personal protective equipment. These site-specific health and safety plans must specifically address how these controls would be implemented to ensure the protection of human health and the environment.														
Spill Prevention, Control, and Countermeasures Plan and Facility Response Programs	• Update and implement existing Spill Prevention, Control, and Countermeasures Plan to assess and respond to hazardous substance spills and/or releases. • Update and implement existing Facility Response Programs for responding to releases, leaks, or spills of hazardous substances. • Ensure U.S. military personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods. • Ensure petroleum, oil, and lubricants/fuel transfers are kept away from water bodies and a response/contingency			X	X						X		X	X	X

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	plan is in place in the event of any releases, leaks, or spills. • Ensure proper labeling of all hazardous substance containers to prevent inappropriate storage or use. • Implement contaminant migration control (e.g., reducing contaminant migration pathways by preventing releases to drains, pipelines, and sewers and the use of absorbent pads and materials to prevent and control spills and releases). • Ensure that contaminants (e.g., oils, greases, lubrication fluids for heavy equipment) are properly stored at work sites and temporary construction staging areas to avoid spills, releases, and leaks. • Ensure that emergency response plans are in place for responding to releases, leaks, or spills of hazardous substances. • Minimize the risk of uncontrolled leaks, spills, and releases through industry and USMC-accepted methods for spill prevention, containment, control, and abatement. • Minimize the risk of human exposure to contaminated media through the use of a site-specific health and safety plan, engineering and administrative controls, and appropriate personal														

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	protective equipment (e.g., indicating where eye-wash stations, fire extinguishers, etc. are located).														
Munitions and Explosives of Concern Protocol, Procedures, and Guidance	• Comply with all applicable munitions and explosives of concern protocol, procedures, and guidance including, but not limited to, the NOSSA Instruction 8020.15E, *Explosives Safety Review, Oversight, and Verification of Munitions Responses*, prior to any construction/demolition or other site activities; NAVFACMAR OPSNOTE 2020-002B: MEC Integrated Project Management; Munitions Response Explosives Safety Submission (MRESS) Tinian Construction Support and any supporting Annexes or Corrections to the MRESS. • Reduce the potential exposure to UXO through surveys or other means to identify and remedy this hazard prior to building upon a site. Work would be conducted by qualified UXO specialists. • Implement routine firing range clearance operations, perform sampling and analysis as deemed necessary, and implement all applicable U.S. military munitions and explosives of concern operations guidance to minimize or eliminate potential munitions and			X	X						X		X	X	X

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	explosives of concern explosion hazards and other adverse impacts (including depositions with potential to leach into the subsurface). • Implement land use controls, signage, periodic inspections, and other means to ensure no unauthorized access to firing ranges, munitions and explosives of concern, and/or hazardous substances. • Train construction crews on identifying and responding to munitions and explosives of concern encountered in the field. UXO personnel would be available to monitor earthmoving activities.														

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Biosecurity (also see Brown Treesnake Interdiction)	The DoD would: 1) Implement a biosecurity education program to inform the general public, contractors, and DoD civilian and military personnel about native versus non-native species, invasive species, and impacts of non-native invasive species on native species and ecosystems. USMC would follow the Marianas Training Manual (COMNAVMAR Instruction 3500.4A). Program materials may include educational brochures and posters that differentiate native and introduced species, define invasive species, describe the known impacts of invasive species on native species and ecosystems, and explain what can be done to prevent and control invasive species. 2) Coordinate biosecurity with federal and CNMI agencies. 3) Construct biosecurity facilities.				X										
Contractor Plans and Specifications	All construction would occur within the limits of construction shown in the project figures. Contractors would be responsible for any unauthorized vegetation damage and would not move outside the designated construction zone.				X	X									
Brown Tree Snake Interdiction	Joint Region Marianas has established a comprehensive brown tree snake interdiction program to ensure that military activities, including the transport of personnel and equipment from Guam, do not contribute to the spread of brown tree snake within the CNMI or other locations. Adherence to COMNAVMAR Instruction				X										

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	3500.4A, *Marianas Training Manual, Appendix A: Brown Tree Snake Control and Interdiction Requirements*; COMNAVMAR Instruction 5090.10A, *Brown Tree Snake Control and Interdiction Plan*; 36 Wing Instruction 32-7004, *Brown Tree Snake Management*; and anticipated final Joint Region Marianas Instruction 5090.4, *Brown Tree Snake Control and Interdiction*, which would replace COMNAVMAR Instruction 5090.10A and 36 Wing Instruction 32-7004, and would minimize the likelihood of brown tree snake introduction to Tinian. In addition, for CJMT construction and training events, the DoD would commit to implementing 100% inspection of all outgoing aircraft and all outgoing cargo transported via ship or aircraft from Guam to CNMI with trained quarantine officers and dog detection teams. Redundant 100% inspections would also be conducted on Guam within snake-free quarantine areas for all cargo transported from Guam to Tinian. The snake-free quarantine areas would be subject to (1) multiple day and night searches for snakes with appropriately trained interdiction canine teams, (2) snake trapping, and (3) human visual inspection for snakes. For all brown tree snake interdiction work, the skills and standards required to certify an inspection team as “qualified” would be agreed upon mutually by the DoD, U.S. Geological Survey Biological Resources Discipline, and U.S. Fish and Wildlife Service.													

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	The DoD would produce standard operating procedures for temporary brown tree snake barrier construction and use when permanent quarantine facilities are not available or are inadequate in size. Standard operating procedures would ensure that temporary barriers would be constructed and maintained in a manner that ensures the efficacy of the barrier, and that staff maintaining and constructing the temporary barriers are trained and qualified prior to barrier construction and maintenance. Standard operating procedures would be developed in cooperation with the U.S. Geological Survey Biological Resources Discipline and the brown tree snake interdiction program to ensure that risk is adequately minimized. Barrier specifications and the qualifications of brown tree snake barrier maintenance and management staff would be mutually agreed upon by the DoD, U.S. Geological Survey Biological Resources Discipline, and U.S. Fish and Wildlife Service. The DoD would provide brown tree snake awareness briefings for all CJMT-associated military and contractor personnel prior to all CJMT construction and training events. Brown tree snake awareness briefings would be scaled to the type of activity to take place. Awareness materials may consist of a brown tree snake educational video and distribution of brown tree snake information and personal inspection guidelines. Awareness briefs would emphasize that brown tree snake awareness must extend														

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	through the chain of command from the Commanding Officer to the individual military service member or from the contract project manager to the individual contractor. The DoD would also plan for and support implementation of rapid response procedures in the event of a brown tree snake sighting on Tinian that is associated with military training. The DoD is aware of the limited availability of brown tree snake inspectors, trained dogs, and quarantine facilities and equipment on Guam and in the CNMI. Accordingly, the DoD would: • Coordinate closely with the U.S. Fish and Wildlife Service, brown tree snake interdiction program, brown tree snake rapid response program, and CNMI Department of Lands and Natural Resources staff on planning for training events in the CNMI; • Identify, along with these agencies, the inspection and interdiction requirements for CJMT activities, including the number of qualified quarantine officers and dog detection teams needed to ensure that inspection and interdiction requirements are met; and • In cooperation with U.S. Fish and Wildlife Service, brown tree snake interdiction program, brown tree snake rapid response													

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	program, and CNMI Department of Lands and Natural Resources staff, plan for and support implementation of brown tree snake rapid response procedures needed in the event of a brown tree snake sighting associated with military training.														
Pest Control Measures	In accordance with OPNAVINST 6250.4C, *Navy Pest Management Programs* (April 11, 2012); OPNAVINST 5090.1D, *Environmental Readiness Program* (January 10, 2014); and MCO P5090.1A Chapter 3, *Environmental Compliance and Protection Manual* (August 26, 2013), the DoD would develop and implement a comprehensive Integrated Pest Management Plan. This Plan would encompass all activities regarding the importation, handling, storage, use, and application of pesticides as well as address prevention of the introduction of potential invasive species to CNMI. U.S. military personnel and contractors would be trained in accordance with appropriate pesticide management regulations, regarding the importation, handling, use, and application of pesticides (e.g., during maintenance, pre- and post-construction activities, and general operations activities).				X						X				

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Armed Forces Pest Management Board Technical Guide 31	The DoD would continue bio-sanitation standard operating procedures to meet and validate the Armed Forces Pest Management Board Technical Guide 31 standards for munitions, military vehicles, equipment, and cargo prior to arrival and departure on-island.				X										
Fire Prevention and Wildland Management Plan	The DoD would implement fire prevention and management specific to proposed CJMT activities upon initiation of live-fire training. Fire prevention and wildland management would include protocols for monitoring fire conditions and adjusting training as needed; establishing and managing fire breaks; establishing firefighting roads and water infrastructure; and educating training units. To minimize fire risk, vegetation within the Multi-Purpose Maneuver Range would be maintained to within 6 inches of the ground, and firebreaks would be established along the perimeter of the Multi-Purpose Maneuver Range.										X				
Joint Region Marianas Integrated Natural Resources Management Plan	In accordance with the USMC Conservation Program, the Integrated Natural Resources Management Plan would be updated with additional management tools developed in coordination with cooperating agencies to protect native vegetation on Tinian. The construction contractor would also conduct bird and turtle nesting surveys prior to construction and would coordinate avoidance and minimization measures as appropriate with U.S. Fish and Wildlife Service.				X										

Design for Exterior Lighting	Whenever feasible, exterior night lighting would include wildlife-friendly design features such as shielded lights (to reduce ambient light), use of motion detectors and/or other automatic controls, long wavelength bulbs, lowest possible lumens, and lighting design that uses shields to prevent light from shining upward into the sky. o Outdoor lighting would be placed as low to the ground as possible, while still maintaining efficacy, to reduce ambient lighting into the environment that may impact wildlife. The necessary amount of exterior light fixtures would be determined for safety purposes, to avoid over lighting an outdoor space. o Lighting would be downward-directed and would shield the bulb, lamp, or glowing lens, whenever feasible to reduce impacts to seabirds and other wildlife. This includes full cut off shields whenever possible near shorelines and downward directed lights for landward side exterior lights. o Outdoor lighting would utilize bulbs that produce the lowest wattage/lumen necessary for their needed purpose. o Bulbs would emit long-wavelength light (560 nm or higher) such as red LED, orange LED, amber LED or low-pressure sodium (LPS) bulbs.				X										
Implement Bird/Animal Aircraft Strike Hazard Plan	DoD would comply with Commonwealth Ports Authority BASH program at Tinian International Airport and in accordance with OPNAVINST 3750.6S. Naval Aviation Safety Management System would implement a Bird/Animal Aircraft				X						X				

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	Strike Hazard Plan to address all aircraft operations on Tinian. This plan is prepared to minimize the occurrence of bird/animal-aircraft strikes and would provide detailed procedures to monitor and react to heightened risk of aircraft strikes of birds and other animals.														
Implement Traffic Management Plan and Work Zone Traffic Management	In coordination with CNMI Tinian Department of Public Works, in order to minimize impacts of construction on vehicular travel, bicycle and pedestrian circulation, and/or access to destinations near the construction area, a construction management plan and appropriate traffic management strategies would be implemented. The traffic management plan may include the following elements: • A set of comprehensive traffic control measures, to be implemented during each construction phase and specific to each construction site, including scheduling of major truck trips and deliveries to avoid peak traffic hours; provision of detour signs if required; development of lane closure procedures, signs, and cones for drivers, bicycles, and pedestrians; and identification of designated construction access routes. • Notification procedures for adjacent property owners (for each construction site) and public safety personnel regarding the timing of major deliveries, detours, and lane closures.			X				X			X				

Best Management Practice, Standard Operating Procedure, or Minimization Measure	*Description*	*Public Access*	*Land Use and Recreation*	*Socio-economics*	*Terrestrial Bio. Resources*	*Cultural Resources*	*Visual Resources*	*Transportation*	*Noise*	*Air Quality and GHGs*	*Public Health and Safety*	*Utilities*	*Topography, Geology, and Soils*	*Groundwater Hydrology*	*Surface Waters and Wetlands*
	• A map depicting approved locations of construction staging areas for materials, equipment, and construction personnel vehicles. • A process for tracking and responding to complaints regarding construction activity. • Provision of parking management and spaces for construction workers. In addition, the following BMPs for the maintenance of roadways and public rights-of-way may be imposed on the general contractor during the construction periods: • Any damage to the roadways caused by heavy equipment or resulting from project construction shall be repaired. All damage that is a threat to public health or safety shall be repaired immediately. The public rights-of-way shall be restored to their preconstruction condition as established by a designated inspector and/or photo documentation.														

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	• Any heavy equipment brought to the construction site shall be transported by truck, where feasible. • No materials or equipment shall be stored on the traveled roadway at any time. • Portable toilet facilities and debris boxes shall be installed on the site before construction and shall be maintained properly through project completion. • Before the end of each work day during construction, the general contractor or other subcontractors shall pick up and properly dispose of all litter resulting from, or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.														
Diesel Emissions Control on Off-road Equipment	• Comply with U.S. Environmental Protection Agency Tier 2 engine emission standards. • Use ultra-low sulfur diesel fuel. • Minimize truck idling time.			X						X	X				
Noise Abatement	BMPs to abate noise from construction include the following: • Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine		X	X	X				X		X				

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	vibration isolators, intact and operational. • Inspect all construction equipment at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding). • Turn off idling equipment. • Implement a construction noise monitoring program to limit the impacts. • Plan noisier operations during times least sensitive to receptors. • Avoid scheduling construction during nighttime hours (10:00 p.m. to 7:00 a.m.) and on weekends. • Keep noise levels relatively uniform and avoid impulsive noises. • Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. • Provide frequent activity updates of all construction activities. BMPs to abate operational noise impacts include the following: • Implement approach and departure patterns to minimize noise over populated areas.														

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Notice to Mariners and Notice to Airmen	Range Control would coordinate with the U.S. Coast Guard and Federal Aviation Administration to include when the danger zones would be active in the Notice to Mariners and Notice to Airmen.		X				X				X				
Energy and Water Conservation/Energy Policy Act	Implement Energy and Water Conservation/Energy Policy Act 2005, Executive Order 13221 (2001) to reduce energy and water consumption through conservation; efficiency; use of Energy Star appliances, building orientation, and insulation to reduce energy use; setback thermostats; cool roof technology; solar energy; and efficient and/or natural lighting, among others.			X								X			X
Solid Waste Recycling/Executive Order 13514	Recycle material from municipal solid waste, such as glass, paper, metals, etc.											X			
Green Waste and Construction and Demolition Debris Diversion	During construction and operations, all green waste would be processed for reuse on island (e.g., chip and reuse or chip and decompose in place). Construction and demolition debris would be diverted for reuse at a minimum of 50% (including such actions as concrete crushing and reuse as base material and grinding and reuse of asphaltic concrete from roads), in accordance with Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*.				X							X			
Cultural Resources	During construction and operations, Integrated Cultural Resources Management Plan standard operating procedures would be followed including procedures for stop work and post-review discovery. The Integrated Cultural Resources Management Plan would be updated with required revisions			X		X									

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	in support of this proposed action. For post-review discoveries, an assessment would be made for National Register of Historic Places eligibility in consultation with the CNMI Historic Preservation Officer.														
Implement Range Training Area Management Plan	Manage live-fire ranges in accordance with MCO 3550.10, *Policies and Procedures for Range and Training Area Management*. Update the existing training area management plans to include the new live-fire ranges. There are many management practices addressed in the plan and mentioned above, which include the following: • Remove expended rounds from the ranges and transport them to an appropriate recycling contractor or smelter in accordance with appropriate regulations. • Develop and implement a Range Safety Program to conduct or coordinate training area safety, emergency response (medical and fire), Explosive Ordnance Disposal, Training Mishap Investigations, safety training, and range inspections. • Provide advanced notice for periods of range use to airmen, mariners, and the general public, as required for safe training area operations.		X		X						X				
Range Environmental Vulnerability Assessment	The USMC would utilize the Range Environmental Vulnerability Assessment program, in compliance with DoD Instruction 4715.14, to			X	X						X		X	X	X

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Program	assess the potential impacts to human health and the environment from live-fire training operations. The purpose of the program is to identify whether there is a release or a substantial threat of a release of munitions constituents from an operational range or range complex area to off-range areas and determine if the release causes an unacceptable risk to human health and/or the environment. A baseline survey would be conducted before the Multi-Purpose Maneuver Range and Explosives Training Range are approved for use. After the live-fire ranges have been in use for a minimum of 1 year, an operational assessment would be conducted. Conservative fate and transport models of the Range Environmental Vulnerability Assessment-indicator munitions constituents (i.e., trinitrotoluene, cyclotetramethylene tetranitramine, hexahydro-trinitro-triazine, and perchlorate) would be used, when appropriate, to determine if munitions constituents are migrating off-range. Lead is the primary concern for small arms ranges; however, in order to conduct fate and transport parameters, site-specific geochemical properties are needed. Therefore, small arms ranges associated with the installation would be qualitatively reviewed and assessed to identify factors that influence the potential for lead migration at the operational range, including: • Design and layout; • The physical and chemical characteristics of the area;														

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	and • Current and past operation and maintenance practices. In addition, potential receptors and pathways must be identified relative to the small arms range being assessed. Prior to the construction of the range, a site inspection would be completed by the installation to provide information on the design including the specific grading and soil amendments that are required, where needed. Range management plans identify procedures for safe range usage and risk reduction. The vulnerability assessment identifies releases or substantial threats of a release of munitions constituents from range complex areas to off-range areas. It is accomplished through a baseline assessment of operational range areas and, where applicable, the use of fate and transport modeling of munitions constituents. Potential Range Management BMPs would be incorporated into the design and construction of the range to minimize the off-site migration of surface water and munitions constituents. These include, but are not limited to: • Maintain grassy vegetation on berms. • Manage stormwater at ranges through Low Impact Development measures. • Restrict vehicular activities at ranges to designated/previously														

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	identified areas. • Add soil amendments to maintain soil pH between 6 and 8. The Range Environmental Vulnerability Assessment program would evaluate these preventative measures at a minimum every 5 years to ensure their effectiveness.														
Hazard Communication and Evacuation Plan	A Hazard Communication and Evacuation Plan would address safety of military and construction personnel by providing communication and evacuation procedures for use during emergency situations such as tsunami inundation, volcanic activity, or seismic activity.										X				

Legend: % = percent; ASHRAE = American Society of Heating, Refrigerating, and Air-Conditioning Engineers; BMP = best management practice; CJMT = Commonwealth of the Northern Mariana Islands Joint Military Training; CNMI = Commonwealth of the Northern Mariana Islands; COMNAVMAR = Commander U.S. Naval Forces Marianas; DoD = Department of Defense; LEED = Leadership in Energy and Environmental Design; MCO = Marine Corps Order; NOSSA = Naval Ordnance Safety and Security Activity; OPNAVINST = Office of the Chief of Naval Operations Instruction; U.S. = United States; USMC = United States Marine Corps; UXO = unexploded ordnance.

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