



UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION
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MCINCR-MCBQO 5090.1A
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OCT 31 2025

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION-MARINE CORPS
BASE ORDER 5090.1A

From: Commander, Marine Corps Installations National Capital Region-Marine Corps Base
Quantico

To: Distribution List

Subj: MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION-MARINE
CORPS BASE QUANTICO LUNGA RECREATION AREA OPERATIONS

Ref: (a) MCBO 11015. 2D
(b) MCB Bul 11015
(c) MCINCR-MCBQO 5560.2E
(d) Provost Marshal Instruction 2-20

Encl: (1) Interim Land Use Control Plan Lunga Recreation Area Revision 1

1. Situation. The Lunga Recreation Area was closed in 2012 due to munitions findings associated with historical range activity. As part of the remediation efforts, the area was divided into four Munition Response Sites (MSR). These sites are Unexploded Ordnance (UXO) 34, UXO 35, UXO 38, and UXO 39 as shown in Figure 1.1 of enclosure (1). The remediation has been conducted for UXO 34 and UXO 35 and approval has been given to operate those areas under the Interim Land Use Control (ILUC) Plan issued under Marine Corps Installations National Capital Region-Marine Corps Base Quantico (MCINCR-MCBQ) Order 5090.1 on December 15, 2022. Since the opening of the Lunga Recreation Area administrative and operational changes have occurred. The Final Interim Land Use Control Plan has now been updated to reflect those changes. See enclosure (1), Final Interim Land Use Control Plan Revision 1.

2. Mission. To update the established guidelines and responsibilities for the operation of the Lunga Recreation Area and ensure the ILUC Plan Revision 1 is promulgated throughout MCINCR-MCBQ.

3. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. To provide outdoor recreational activities for authorized patrons aboard MCBQ at the Lunga Recreation Area.

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(2) Concept of Operations

(a) Recreational Activities. All recreational activities at the Lunga Recreation area will comply with the ILUC Plan Revision 1 (enclosure 1).

1. Camping. Camping is allowed in designated campsites only. Campsites must be reserved through Marine Corps Community Service (MCCS). Tent stakes may not be longer than eight (8) inches. Fires are allowed in designated fire rings only; no digging for fire pits or other holes at the recreation area is allowed. Fires will be prohibited during MCINCR-MCBQ Fire Condition Classes 4 and 5. No standing trees or shrubs will be cut down for firewood. Campfires and cooking fires are restricted to designated fire rings and above-ground grill locations. The use of generators is not permitted.

2. Boating and Fishing. Boating is restricted to electric motors only. Boats with both gas and electric motors are allowed to utilize the electric motor only with the gas engine fully out of the water. No secondary fuel containers are allowed in boats. No anchoring (including the use of power poles) of any boats at the bottom of Lunga Reservoir is allowed; patrons should avoid any disturbance of the sediments at the bottom of the reservoir during boating and fishing activities. The boating requirements will be identified to patrons as part of the safe boater test when renting boats for use on the reservoir. Boaters must check the flagpole at the boat launch area, and if the active range use flag is flying, then boaters shall not pass the Safety Danger Zone buoys within the reservoir. All boaters and anglers must adhere to policies and procedures outlined in references (a) and (b) and must check in and out via the iSportsman website <https://quantico.isportsman.net>. Magnet fishing is strictly prohibited. Gas-powered maintenance and emergency/rescue boats are allowed.

3. Swimming/Wading. Swimming and wading are not authorized within the reservoir or anywhere in the recreation area. This restriction shall apply to both patrons and their pets.

4. Running/Hiking. Running and hiking activities will be limited to established roads and trails.

(b) Roles and Responsibilities

1. MCCS

a. Establish outdoor recreational programs and services at the Lunga Recreation Area for military members and qualified DoD civilians and their families. Ensure that all programs and services comply with the ILUC Plan per enclosure 1.

b. Provide staffing and equipment to support the programs and services at the Lunga Recreation Area.

c. MCCS will conduct a visual inspection of each designated campsite after each rental to ensure the backfill layer (6 inches) has not been compromised (for example, a hole dug

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through the backfill) or eroded. If the backfill layer is compromised, MCCA will address this by adding additional backfill or mitigating the impact otherwise as a maintenance item.

d. Provide a Lunga Safety Brochure to Lunga Recreation Area visitors. Ensure that the brochure is available (at the Camp Store and Office; and kiosk within the Oak Camping Area), that the content communicates potential munitions hazards, and is provided to all Lunga Recreation Area visitors as part of check-in and recreation area entry. Ensure that the MCCA Lunga Park website and the MCINCR-MCBQ iSportsman website contain the brochure available for viewing and download.

e. Provide Park Information, fees, and charges brochure to Lunga Recreation Area visitors. Ensure that the brochure is available (at the Camp Store and Office) and that the restrictions regarding camping, boating, fishing, swimming, and wading are identified to camp patrons and visitors as part of the check-in, registration, and recreation area entry. Ensure that the MCCA Lunga Park website contains the brochure available for viewing and download. Ensure that the safe boater test (when using motorboats) communicates the no anchoring (including the use of power poles) at the bottom of the reservoir requirement. Ensure that the boat motors over ten (10) horsepower will be operated at idle speed only on the reservoir.

f. Ensure Lunga Recreation Areas staff have received Munitions Safety Awareness Training provided by Safety Division.

2. Natural Resources and Environmental Affairs (NREA)

a. Incorporate the Lunga Recreation Area into the MCINR-MCBQ Fish and Wildlife Management Program.

b. Conservation Law Enforcement Officers (CLEOs) will enforce all hunting, fishing, and boating regulations per references (a) and (b). CLEOs will enforce all violations pertaining to natural and cultural resources and environmental protection regulations.

c. Ensure the Lunga Recreation Area Safety Brochure is provided on the MCINCR-MCBQ iSportsman website for viewing and download.

d. Review Excavation Permit Request Forms for the Lunga Recreation Area to ensure that the notice of the potential munitions items, associated land use restrictions, and the need for on-site UXO construction support is identified through the MCINCR-MCBQ NREA Branch approval of the form.

3. Provost Marshals Office (PMO). Shall be responsible for motor vehicle traffic supervision and enforcement, drug countermeasures, and serious criminal convictions as outlined in references (c) and (d).

4. Range Control

a. Notify MCCA staff when training areas adjacent to the Lunga Recreation Area are in use.

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b. Post the range flag located near the boat ramp at the Lunga Recreation Area when adjacent training areas are in use. Coordinate with MCCA staff to ensure that the range flag is posted prior to allowing users access to the reservoir.

c. Ensure Range Management buoys, flags, and associated access control marker system within the reservoir is present and working.

5. Safety

a. Ensure UXO Munitions Safety Awareness Training is provided and documented for MCCA and other MCBQ staff working at the Lunga Recreation Area per enclosure (1).

b. Maintain copies of emergency MCBQ Explosive Ordnance Disposal Support calls to the Lunga Recreation Area for any investigation/removal of potential munitions and explosives of concern items.

c. Review all construction support plans for intrusive work conducted at the Lunga Recreation Area to ensure compliance with the Land Use Controls or any applicable Explosives Safety Determination Requests (ESDR) or Explosives Safety Submissions (ESS).

4. Administration and Logistics. The Lunga Recreation Area will be under the operational control of the Director, MCCA.

5. Command and Signal

a. Command. This Order is applicable to all activities assigned to MCINCR-MCBQ and subordinate commands.

b. Signal. This Order is effective on the date signed.


J. A. COLEGATE

DISTRIBUTION: A



Naval Facilities Engineering Systems Command Washington
Washington, D.C.

Final

**Interim Land Use Control Plan
Lunga Recreation Area
Revision 01**

Marine Corps Installations National Capital Region – Marine Corps Base Quantico
Quantico, Virginia

December 2024



Naval Facilities Engineering Systems Command Washington
Washington, D.C.

Final

**Interim Land Use Control Plan
Lunga Recreation Area
Revision 01**

Marine Corps Installations National Capital Region – Marine Corps Base Quantico
Quantico, Virginia

December 2024

Prepared for NAVFAC Washington
by CH2M HILL, Inc.
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Acronyms and Abbreviations

3R	<u>R</u> ecognize, <u>R</u> etreat, and <u>R</u> eport
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COA	Course of Action
dbh	diameter breast height
EOD	Explosive Ordnance Disposal
ERP	Environmental Restoration Program
ESS	Explosives Safety Submission
ESSDR	Explosives Safety Submission Determination Request
FBI	Federal Bureau of Investigation
LUC	Land Use Control
MCSC	Marine Corps Systems Command
MCBQ	Marine Corps Installations National Capital Region – Marine Corps Base Quantico
MCCS	Marine Corps Community Services
MEC	munitions and explosives of concern
MPPEH	Material Potentially Presenting an Explosive Hazard
MRS	munitions response site
msl	mean sea level
NAVFAC	Naval Facilities Engineering Command
Navy	Department of the Navy
NIRIS	Naval Installation Restoration Information Solution
NREA	Natural Resources and Environmental Affairs
QR	Quick Response Code
ROD	Record of Decision
RV	recreational vehicle
TA	training area
UXO	Unexploded Ordnance

Introduction

This document presents the Interim Land Use Control (LUC) Plan for Lunga Recreation Area (Revision 01) located at Marine Corps Installations National Capital Region - Marine Corps Base Quantico (MCBQ) in Quantico, Virginia.¹ Lunga Recreation Area (also referred to as Lunga Park) is a multipurpose recreation area used for camping, boating, fishing, picnicking, and other recreational activities within the Guadalcanal portion of MCBQ as presented on **Figure 1-1**. **Figure 1-1** presents the major features in and around the recreation area as well as the four munitions response sites (MRSSs) (UXO 034 Lunga Recreation Area South, UXO 035 Lunga Reservoir, UXO 038 Lunga Recreation Area Central, and UXO 039 Lunga Recreation Area North) undergoing investigation and cleanup through the Department of the Navy's (Navy's) Environmental Restoration Program (ERP). The Lunga Advisory Council (composed of members from MCBQ G-F Installation and Environment, Quantico Area Counsel Office, Natural Resources and Environmental Affairs [NREA], Explosives Safety Office, Range Management, Marine Corps Community Services [MCCS], Public Works, Federal Bureau of Investigation [FBI] Academy, and Naval Facilities Engineering Command [NAVFAC] Washington Environmental Restoration) has been developed to assemble the stakeholders and support for the operation of Lunga Recreation Area. This document is intended for use and application by the Council and their representatives to implement, manage, and monitor the interim LUCs specified herein. **Exhibit 1** presents a condensed summary of the engineering and institutional controls and the responsible party for installing, implementing, and maintain the specified control.

Lunga Recreation Area was closed for recreational use from April 2012 to May 2023 due to munitions findings associated with historical range activities. On May 26, 2023, the UXO 034 – Lunga Recreation Area South and UXO 035 – Lunga Reservoir parcels were reopened to recreational use for authorized Department of Defense patrons and guests. UXO 038 – Lunga Recreation Area Central and UXO 039 – Lunga Recreation Area North are to remain closed until the remediation activities are completed (CH2M, 2024). The purpose of this document is to provide specific interim LUCs, including roles and responsibilities associated with the interim LUCs, in support of the reopening of the southern parcel (UXO 034) and the reservoir (UXO 035) of Lunga Recreation Area for recreational use as shown on **Figure 1-1**. The remediation efforts conducted and interim LUCs developed herein strive to provide the same recreational features and usage as was available before the 2012 closure to the greatest extent possible.

The foundational basis for the interim LUCs identified herein is the *Technical Memorandum: Potential Courses of Action for Reopening of Lunga Recreation Area, Marine Corps Base Quantico, Quantico, Virginia* (CH2M, 2017), hereafter referred to as the Course of Action (COA) Memo. The COA Memo presented six different COAs for the reopening of Lunga Recreation Area for recreational use and was specifically focused on the southern parcel. The COAs were developed to cover a wide range of land use options, estimated costs, and project durations. The selected COA (as agreed to by the stakeholders) was COA 5: Lunga Recreation Area Reopened at Munition Response Site UXO 034 (Access to Reservoir available; Camping Available) and is further described in **Section 1.1**. Additional detail regarding historical munitions use and the Navy's ERP cleanup activities at Lunga Recreation Area are also presented within the COA Memo.

1.1 Course of Action Selection and Required Land Use Controls

The COA selected by the stakeholders through the COA Memo process was COA 5: Lunga Recreation Area Reopened at Munitions Response Site UXO 034 (Access to Reservoir available; Camping Available).² In simple terms, the implementation of this COA and application of interim LUCs outlined herein will permit access to the

¹ This document replaces and supersedes the *Final Interim Land Use Control Plan, Lunga Recreation Area, Marine Corps Installations National Capital Region – Marine Corps Base Quantico, Quantico, Virginia*. CH2M HILL. August 2020 (CH2M, 2020) issued under MCBQ Base Order 5090.1, December 15, 2022.

² Selection of COA 5 based on Interim Progress Report meetings with Base leadership held at Lejeune Hall on July 13, 2017, and Lunga Park on May 14, 2018.

portion of Lunga Recreation Area consisting of the southern parcel (UXO 034) and reservoir (UXO 035) for recreational use as illustrated in **Table 1-1**. Under this COA, the remaining parcels of Lunga Recreation Area consisting of UXO 038 (Lunga Recreation Area Central) and UXO 039 (Lunga Recreation Area North) will remain closed to recreational use until further notice. The future reopening of the remaining parcels and associated LUCs will be developed once the investigation and cleanup efforts are complete.

Table 1-1. Course of Action 5 Description - Lunga Recreation Area Reopened at UXO 034 (Access to Reservoir Available; Camping Available)

Description	Surface and Subsurface Conditions Risk Assumptions (After COA Completion)	Recreation Area Uses and Land Use Controls Required
Lunga Recreation Area is reopened at UXO 034 for recreational use (surface use and limited subsurface use) including shoreline and reservoir water access next to UXO 034.	<u>UXO 034:</u> Surface - Explosive hazard mitigated to acceptable conditions Subsurface - Explosive hazard mitigated to acceptable conditions <u>UXO 035 Shoreline Area:</u> Surface - Explosive hazard mitigated to acceptable conditions Subsurface - Explosive hazard mitigated to acceptable conditions	Surface and Limited Subsurface uses only. Picnicking and activities such as camping with no intrusive activities below specified depth (likely 1 to 1.5 feet bgs; 12 to 18 inches bgs). Access to reservoir for fishing or boating available. The RV storage area can be used. 1. Fence and signage along perimeter of UXO 034 to restrict access to adjacent FBI Academy, UXO 038, and UXO 039. 2. No intrusive activities into subsurface below specified depth (likely 1 to 1.5 feet bgs; 12 to 18 inches bgs) without dig permit and onsite UXO construction support in the form of avoidance or subsurface clearance, as needed. 3. Designated Camping Areas Backfill: Placement of clean backfill at designated campsite areas within the Oak Camping Area identified to enhance protectiveness in areas with likely frequent subsurface penetration (due to tent stakes). 4. Risk communication for recreational users through brochure and/or other documentation (for example, signs and posters) describing potential munitions hazards. 5. Long-term inspection of downed trees for munitions items in root balls, also long-term inspection of signs and fences. 6. Given water access to reservoir, installation of signage on non-UXO 034 shoreline areas to restrict access including the UXO 038 shoreline, the UXO 039 shoreline, and the active TAs on the west side of the reservoir.

bgs = below ground surface

RV = recreational vehicle

TA = training area

UXO = unexploded ordnance

Munitions cleanup and installation of fencing and signage LUCs in support of COA 5 were completed in September 2020 (APTIM, 2021). The Interim LUCs as presented in the *Final Interim Land Use Control Plan, Lunga Recreation Area* (CH2M, 2020) were concurred by the Marine Corps Systems Command (MCSC) in March 2022 (MCSC, 2022).

1.2 Summary of Current Recreation Area Uses (April 2024)

A summary of the major recreation features at Lunga Recreation Area as observed in April 2024 is provided as follows and presented on **Figure 1-1** (CH2M, 2024):

- Lunga Reservoir: A manmade reservoir created from the construction of the Lunga Dam. Lunga Reservoir is approximately 520 acres; approximately 320 acres are within the recreation area, with the remainder of the reservoir being within active TAs 10B and 10C.³ Lunga Reservoir is used for boating and fishing activities.
- Camping Areas: Camping areas are present at the Oak Area and Maple Area as presented on **Figures 1-1 and 1-2**. The Oak Area contains 14 campsites (Campsites 1 through 14), and the Maple Area contains 11 campsites (Campsites 1 through 11).⁴
- Picnicking Areas: The Maple and Oak Areas provide picnicking areas including picnic tables and pavilions.
- Playground Area: A children's playground area is also located at the Maple Area.
- Boat Dock: A boat dock is at the southern end of the reservoir near the Maple Area for boat rentals and docking.
- Boat Launch Ramp: Located south of the Maple Area and near the northeast end of Lunga Dam. The boat launch ramp is available to launch boats from vehicle trailers.
- Camp Store and Office Buildings: A camp store and office buildings are adjacent to the Maple Area.
- Nature/Fitness Trail: Extending from the Maple Area through the Oak Area.
- RV Storage Area: RV storage area consisting of a gravel, fenced-in parking lot for longer-term RV parking is located northeast of the Maple Area.
- Additional details on the Lunga Recreation Area features are provided at: <https://quantico.usmc-mccs.org/recreation-fitness/recreation/outdoor-recreation/lunga-park>. Note hunting is not permitted within Lunga Recreation Area.

1.3 Ongoing and Future Environmental Restoration Program Activities

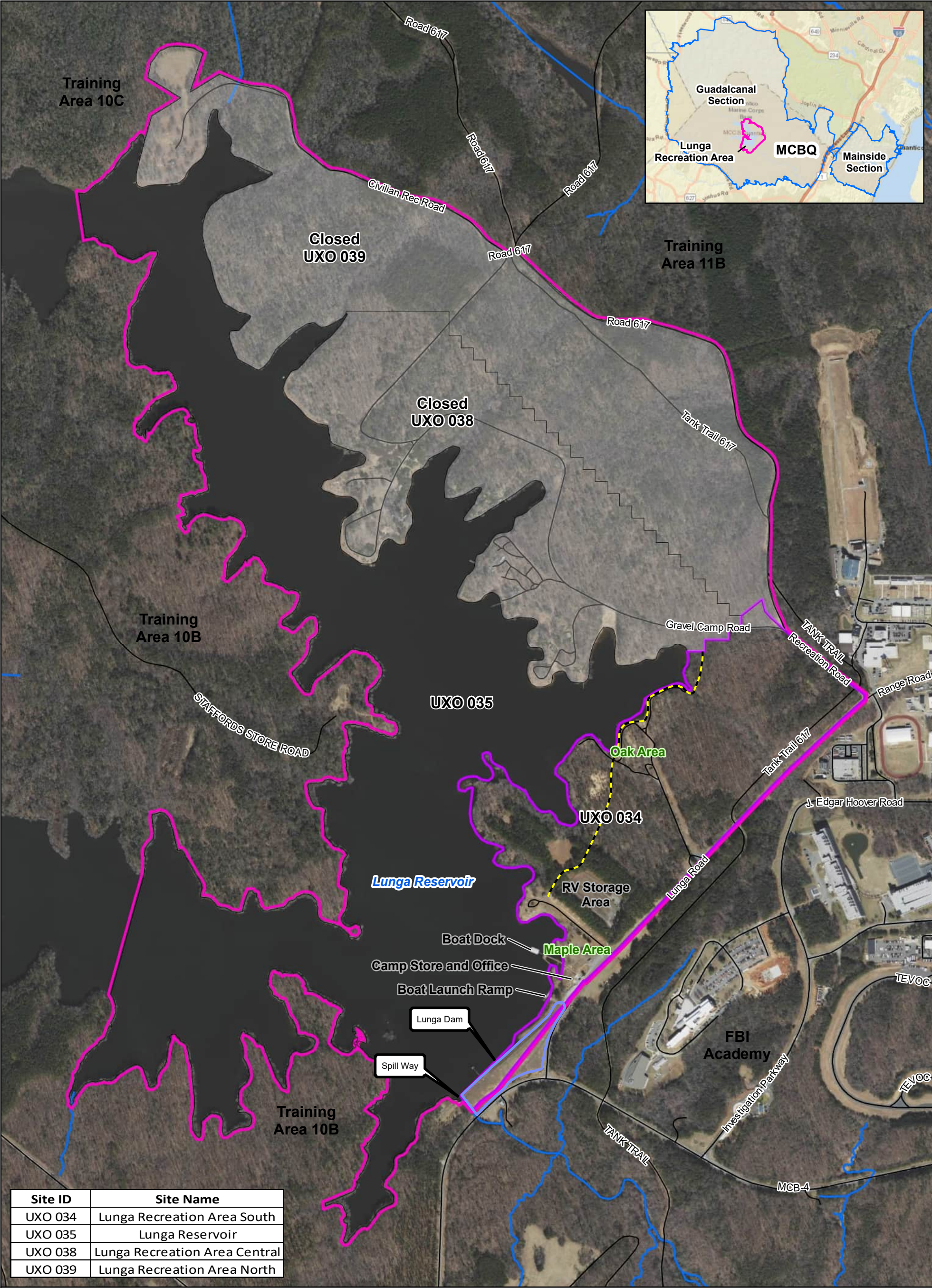
All four MRSs within Lunga Recreation Area continue to be actively investigated and remediated through the ERP following the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.⁵ Ongoing and future investigation and cleanup activities at these four MRSs may require periodic, short-term closures to recreational use within portions of the reopened southern parcel and reservoir because of explosive arcs and safety considerations. These activities will be coordinated with the Lunga Advisory Council as discussed in **Section 2.6**.

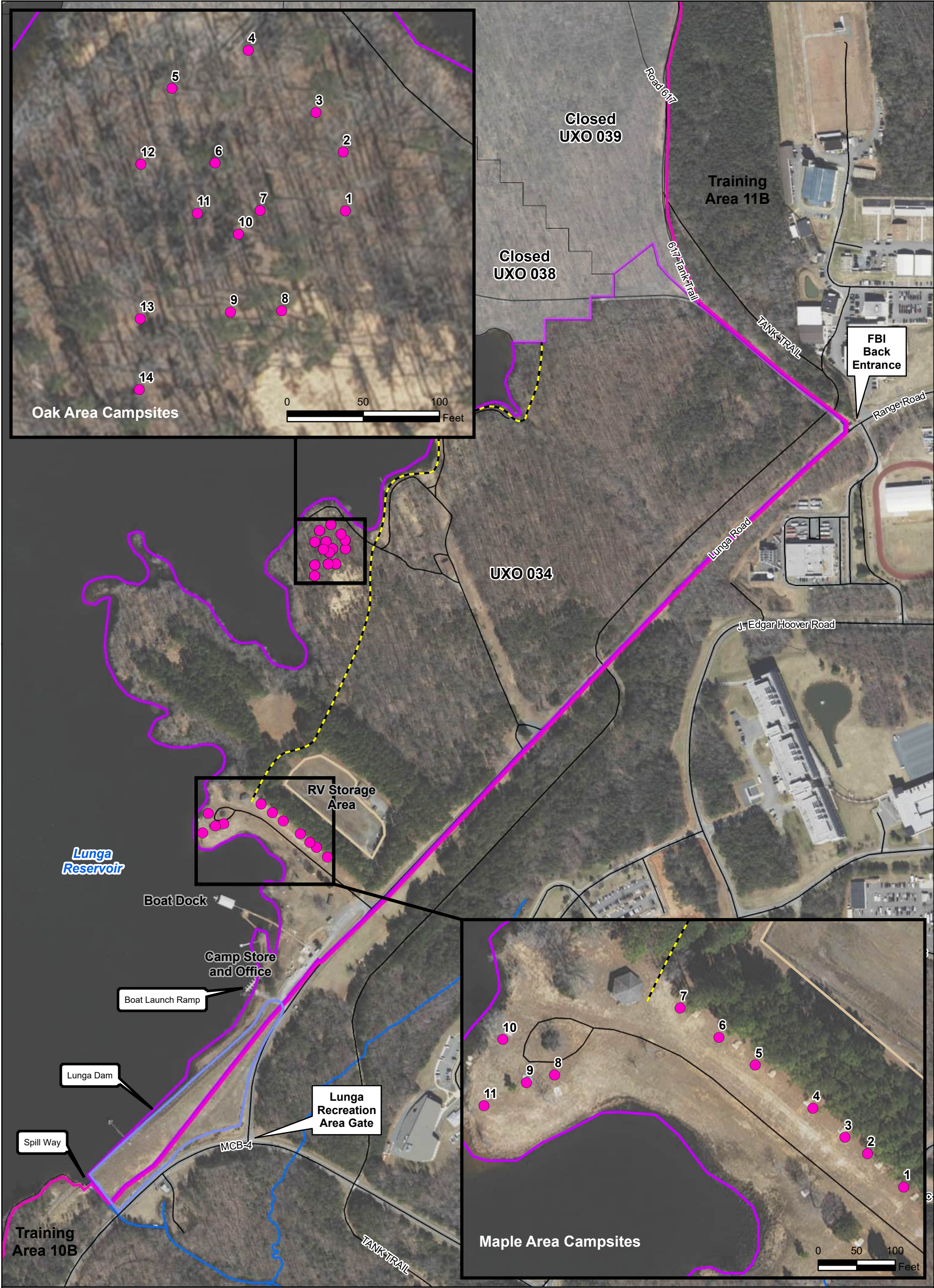
The LUCs in this document are identified as *interim* and are for Base needs only. The final LUCs will not be officially or legally defined until the conclusion of the CERCLA process and the development of the Record of Decision (ROD) through the ERP. The interim LUCs will be implemented until the ROD and associated final LUCs are identified and implemented.

³ TAs for operational Marine Corps training are managed by the MCBQ Range Management Branch. Some portions of the TAs are periodically used for hunting and other limited recreational use access as determined by the MCBQ Range Management Branch.

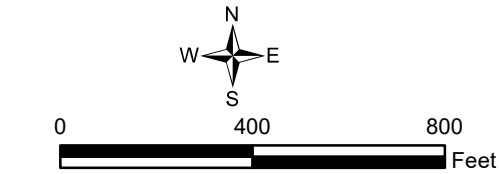
⁴ Campsites at the Maple Area were completed in late 2023.

⁵ The ERP at MCBQ is implemented by the Quantico Project Managers Team consisting of representatives from the Navy, MCBQ, U.S. Environmental Protection Agency, and the Virginia Department of Environmental Quality.





- Legend**
- Campsite Location
 - Nature/Fitness Trail (estimated location)
 - Roads
 - Stream
 - Lunga Dam
 - RV Storage Area
 - UXO 034 Boundary
 - Lunga Recreation Area
 - Area Closed for Recreational Use



Aerial Imagery - Commonwealth of Virginia, 2021

Figure 1-2
Oak and Maple Area Campsite Locations – March 2024
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia

ch2m

Definition of Interim Land Use Controls

This section describes the interim LUCs that stakeholders will implement and the long-term responsibilities for monitoring, management, and inspection/documentation at Lunga Recreation Area. LUCs are physical, legal, and/or administrative mechanisms that restrict access and specific activities. LUC mechanisms for MRSs containing munitions and explosives of concern (MEC) are typically the following types (Navy, 2018):

- **Engineering Controls:** Engineering controls are designed to contain and/or reduce contamination, and/or physical barriers intended to limit access to property. Some examples of engineering controls include fences, signs, guards, and landfill caps.
- **Institutional Controls:** Institutional controls include a variety of administrative and/or legal devices to maintain the land use restrictions and the effectiveness of any engineering controls. Institutional controls are imposed to ensure that the engineering controls stay in place, or where there are no engineering controls, to ensure a restriction on land use. Some examples of institutional controls include permits (such as construction or excavation permits), reporting on LUC maintenance, public notices for community outreach (such as brochures or a public notice in newspaper), property easements, restrictive covenants, and zoning restrictions.

2.1 Interim Land Use Control Objectives

The objectives of the interim LUCs to be implemented at UXO 034 (Lunga Recreation Area South) and UXO 035 (Lunga Reservoir) are to do the following:

- Restrict activities within areas possibly containing MEC to prevent exposure that could result in an explosion, causing injury or death.
- Provide a long-term maintenance and inspection program to ensure the integrity of the interim LUCs is maintained and documented.

2.2 Interim Land Use Control Areas

Three LUC areas are defined under this plan (**Figure 2-1**). Each of these areas is established based on the interim LUC restrictions identified within each area. The previous munitions cleanup efforts anticipated land use, and physical features were considered in the selection of these areas as detailed below. These LUC areas include both terrestrial and aquatic portions of the Lunga Recreation Area and Lunga Reservoir.

- **LUC Area 1:** Represents areas where surface and subsurface munitions cleanup have been completed, resulting in clearance to 12 inches in depth. This LUC Area is 148 acres and consists primarily of the terrestrial and shoreline areas of UXO 034 in addition to the shoreline areas of Lunga Reservoir adjacent to UXO 038 (Lunga Recreation Area Central) and UXO 039 (Lunga Recreation Area North) as presented on **Figure 2-1**. LUC Area 1 represents a consolidated area based on the following cleanup activities:
 - Multiple removal actions completed at UXO 034 between 2012 and 2019.
 - A removal action completed along the shallow water eastern shoreline of Lunga Reservoir in 2018 and 2019.
 - A removal action and UXO construction support performed in support of repairs and upgrades performed at the Lunga Dam as part of a U.S. Army Corps of Engineers construction project in 2016.
- **LUC Area 2:** Represents areas where surface munitions cleanup only has been completed (no subsurface clearance performed). This LUC Area is 53 acres and consists primarily of western shoreline areas of Lunga Reservoir adjacent to TA-10B and TA-10C. Secondarily, this LUC Area also includes a small strip of area east of

Lunga Road at UXO 034 and known, manmade features within UXO 034 (for example, an RV storage area) where surface use is considered acceptable. LUC Area 2 represents a consolidated area based on the following cleanup activities and presence of manmade structures:

- Operational range sustainment surface clearance efforts along the shallow water shoreline adjacent to TA-10B and TA-10C performed in 2018. Note that additional surface clearance was conducted within the reservoir shoreline areas of the TAs west of the UXO 035 boundary; however, this is not relevant to this Interim LUC Plan herein.
- A surface clearance removal action performed in 2018 within the TA “wedge” located between Lunga Road and the boundary for the FBI Academy. This wedge area is outside of the Lunga Recreation Area MRS boundary and is designated as an active TA under control of the Range Management Branch. On 10 June 2020, the MCBQ stakeholders agreed to allow access to this area for maintenance of overhead utility lines and the recreation area septic system, as well as open public space as needed.
- Manmade structures and features within UXO 034 associated with the support of Lunga Recreation Area where no previous subsurface munitions cleanup has been performed due to inaccessibility. Surface use is considered acceptable within the following areas:
 - RV Storage Area: No clearance/removal action has been performed in this area. The surface of the storage area is covered with a packed gravel layer estimated to be 4 inches to 7 inches thick (based on limited November 2016 field measurements).
 - Camp Store, Camp Office, and Supporting Maintenance Buildings: No clearance/removal action has been performed under the footprints of these buildings.
 - Lunga Road: No clearance/removal action has been performed under the asphalt-paved surface of Lunga Road.
- LUC Area 3: Represents the deeper, central portions of the Lunga Reservoir where no surface or subsurface munitions cleanup has been completed. Water access to the reservoir surface (for example, boating) in this area is acceptable. Surface and/or subsurface access to ground surface of the reservoir bottom in this area is unacceptable. This LUC Area is 230 acres.

2.3 Interim Land Use Control Implementation

To achieve the objectives, the interim LUCs will be implemented to control intrusive activities, surface access, and boundaries as described in **Sections 2.3.1, 2.3.2, and 2.3.3**, respectively. The specific locations of engineering controls (fencing and signage) installed in 2020 and institutional control content (for example, Safety Brochure) described in the following subsections is based on observations recorded during the most recent LUC Annual Inspection completed in April 2024 (CH2M, 2024).

2.3.1 Controls on Intrusive Activities

Because of the vertical limitations of the removal actions and cleanup efforts conducted, intrusive activities deeper than 12 inches bgs will require onsite UXO construction support in the form of avoidance or subsurface clearance of metallic anomalies within LUC Area 1. Intrusive activities performed 12 inches bgs or less will not require any restrictions in LUC Area 1.

Within LUC Areas 2 and 3, any intrusive activities below grade will require onsite UXO construction support in the form of avoidance or subsurface clearance of metallic anomalies. Refer to **Section 2.4** for additional details on UXO construction support requirements.

2.3.2 Controls on Surface Access

Because there has been no surface or subsurface clearance conducted within LUC Area 3, there will be no intentional surface access to the ground, shoreline, or lake bottom without onsite UXO construction support in

the form of avoidance or surface clearance of metallic anomalies. Access to this area of the Lunga Reservoir via boat or other craft is acceptable; however, it must be done at designated and approved access points only (boat dock and boat launch ramp).

Surface use within LUC Areas 1 and 2 is considered acceptable based on previous surface clearance efforts completed or manmade structures at the surface (for example, asphalt-paved roadway) as identified in **Section 2.2**.

2.3.3 Engineering Controls

Engineering controls, consisting of fencing and/or signage, will be utilized in four specific areas to restrict access to select areas of Lunga Recreation Area. As previously noted, UXO 038 (Lunga Recreation Area Central) and UXO 039 (Lunga Recreation Area North) will remain closed to recreational use until further notice. In addition, the TAs are identified for military training purposes and managed by the MCBQ Range Management Branch; access to the TAs will be a coordinated, daily management effort by NREA and the Range Management Branch via the MCBQ iSportsman website (<https://quantico.isportsman.net/>). The four defined boundary control lines are as follows (**Figure 2-2**):

- **Boundary Control Line 1.** Consists of fencing and signage installed and maintained to restrict access to UXO 038 (Lunga Recreation Area Central) and UXO 039 (Lunga Recreation Area North) from UXO 034 (Lunga Recreation Area South). The total linear distance of Boundary Control Line 1 is 1,021 feet.
- **Boundary Control Line 2.** Consists of signage placed to restrict access to UXO 038 (Lunga Recreation Area Central) and UXO 039 (Lunga Recreation Area North) via shoreline access from Lunga Reservoir (UXO 035). The total linear distance of Boundary Control Line 2 is 17,235 feet.
- **Boundary Control Line 3.** Consists of signage placed to restrict access to active TA-10B and TA-10C via shoreline access from Lunga Reservoir (UXO 035). The total linear distance of Boundary Control Line 3 is 31,860 feet.
- **Boundary Control Line 4.** Consists of fencing and signage placed to restrict access to the FBI Academy located east and northeast of UXO 034 (Lunga Recreation Area South). This boundary control line will be located east of Lunga Road approximately 10 feet east of the utility poles/overhead lines with the exception of the grassy area south of the camp store and office where the line will be approximately 40 feet east of the utility poles/overhead lines. The total linear distance of Boundary Control Line 4 is 5,141 feet.

Fencing

A 6-foot-high chain link security fence has been installed and will be maintained along Boundary Control Lines 1 and 4. Vehicle access gates 12 feet wide and equipped with padlocks have been installed at four locations along the fence line as presented on **Figure 2-2** and summarized as follows moving south to north along Lunga Road:

- Within the grassy area south of the Maple Area and east of Lunga Road.
- East of Lunga Road where the former Tank Trail intersects Lunga Road.
- West of Lunga Road where the gravel surface for Recreation Road begins near the back access entrance to the FBI Academy.
- West of Lunga Road at the back access entrance to the FBI Academy.

Gates will be secured and managed by Range Management Branch; keys will be issued to personnel as required to support clearance and training operations.

Signage Details

Signs have been installed approximately every 250 feet unless specifically defined below. All signage identified has been fabricated as follows:

- High-performance reflective vinyl bonded to 0.080-gauge aluminum

- Ultraviolet resistant
- Minimum 18-inch by 24-inch sign dimensions
- Red and black on a white background
- All letters a minimum of 1 inch high, Microsoft Sans Serif

The following text has been placed on the signs for Boundary Control Line 1 (7 signs). The signs are installed on the fencing as identified above:

STOP. DO NOT PROCEED; POSSIBLE MUNITIONS HAZARDS BEYOND FENCE LINE

If access required, contact MCBQ NREA:

Phone 703-784-4030

For Additional Information, refer to MCINCR-MCBQ Order 5090.1

The following text has been placed on the signs for Boundary Control Line 2 (73 signs). The signs are installed on posts within the ground:

STOP. DO NOT PROCEED; POSSIBLE MUNITIONS HAZARDS WITHIN THIS AREA

If access required, contact MCBQ NREA:

Phone 703-784-4030

For Additional Information, refer to MCINCR-MCBQ Order 5090.1

The following text has been placed on the signs for Boundary Control Line 3 (106 signs). The signs are installed on posts within the ground:

STOP. DO NOT PROCEED; ACTIVE IMPACT AREA

Shoreline Fishing Requires Check in Through iSportsman

If further access required, contact Range Control at 703-784-5321/5322

Reference: MCINCR-MCBQ Order 3570.1

The following text has been placed on the signs on the fencing for Boundary Control Line 4 (22 signs). The signs are installed on the fencing as identified above:

STOP. DO NOT PROCEED; POSSIBLE MUNITIONS HAZARDS BEYOND FENCE LINE. FBI SECURE AREA.

If access required, contact MCBQ Range Control at 703-784-5321/5322.

For Additional Information, refer to MCINCR-MCBQ Order 5090.1

In addition to the on-fence signage identified for Boundary Control Lines 1 through 4, two groups of signs are located within UXO 034 to communicate root ball exposure warnings and boating notifications (**Figure 2-2**).

A total of 20 Root Ball Warning Signs have been installed on posts within the ground in three areas of UXO 034 to notify recreation users of potential hazards associated with uprooted trees. Five signs have been installed in the Maple Area extending to the northwest, spaced approximately 350 feet apart; 6 signs have been installed in the Oak Area including the Oak Area access road, spaced approximately 275 feet apart; and 8 signs have been installed along the west side of Lunga Road, spaced approximately 350 feet apart. The following text has been placed on the Root Ball Warning Signs:

Warning – If tree is fallen with exposed roots, please do not disturb exposed area.

If you see UXO, note the location and contact Range Control at 703-784-5321/5322

A total of two Boating Notification Signs have been installed on posts within the ground or onto existing structures (for example, the existing wooden railing) to notify boaters of access restrictions to other shoreline areas of Lunga Reservoir including the TAs on the western shoreline. One sign has been placed at the boat dock and one at the

boat launch ramp located west of the camp store and office. The following text has been placed on the Boating Notification Signs:

Boaters will comply with all boating rules for Lunga Reservoir. All boating and fishing activities will comply with the check-in/check-out requirements of iSportsman. Please address any questions to recreation area staff members.

Safety Danger Zone Buoys and Flags

The far western portions of Lunga Reservoir outside the UXO 035 boundary (shown on the southwestern and northwestern corners of **Figure 2-3**) are within the active TAs and, at times, covered by Safety Danger Zones for military weapons. The Range Management Branch controls access to this area using existing buoys, flags, and associated access control markers within the reservoir. The Range Management Branch is responsible for raising and lowering the warning flag to notify personnel when the area is closed to boaters. NREA has placed four safety danger zone buoys (North 01, North 02, South 01, and South 02) on the reservoir to restrict boating access to these portions of the reservoir as determined by the Range Management Branch as shown on **Figure 2-3**.

Designated Camping Area Backfill (Oak and Maple Camping Areas)

Clean backfill has been placed and will be maintained at designated campsites within the Oak and Maple Camping Areas as explained in **Section 1** and **Table 1-1**. The placement of clean backfill was an added measure requested by the United States Environmental Protection Agency to enhance protectiveness in areas with likely frequent subsurface penetration (because of tent stakes). A total of 6 inches or greater thickness of clean backfill has been placed at each of the campsites in the Oak and Maple Camping Areas.⁶

2.3.4 Institutional Controls

Institutional controls have been implemented to ensure proper administrative and communication controls are achieved, as follows:

- **Safety Brochure for Lunga Recreation Area Visitors.** Restrictions for site use and site access have been incorporated into a Safety Brochure to be provided to all visitors to Lunga Recreation Area. Communication of munitions safety awareness (3Rs for Recognize, Retreat, and Report of potential munitions items) for visitors are identified within this Safety Brochure. The Safety Brochure is provided as **Appendix A**. The Safety Brochure will be provided to new visitors at the camp store and office used for new visitor registration and check-in. In addition, the Safety Brochure is also available at six kiosk locations (hardcopy and Quick Response [QR] Code format) as presented on **Figure 2-4**. The Safety Brochure is also available in .PDF format on the MCCS Lunga Park website (<https://quantico.usmc-mccs.org/recreation-fitness/recreation/outdoor-recreation/lunga-park>) and the MCBQ iSportsman website (<https://quantico.isportsman.net/files/documents/Lunga%20Park%20Safety%20Brochure.pdf>). The revised Safety Brochure was developed by MCCS and endorsed by NAVFAC Washington prior to issuance to the public, to ensure the munitions hazards are effectively communicated. Any future revisions to the Safety Brochure pertaining to munitions safety awareness will be provided to NAVFAC Washington for review and concurrence before issuance to the public.
- **Registration and Other Visitor Communication Outreach.** Supporting LUC restrictions are communicated to Lunga Recreation visitors through the Safety Brochure (**Appendix A**) and/or General Brochure (**Appendix B**) as identified in this plan. The General Brochure will be provided to new visitors at the camp store and office used for new visitor registration and check-in. In addition, the General Brochure is also available at six kiosk locations (hardcopy and QR Code format) as presented on **Figure 2-4** and in .PDF format on the MCCS Lunga Park website (<https://quantico.usmc-mccs.org/recreation-fitness/recreation/outdoor-recreation/lunga-park>).

⁶ COA 5 identified 16 inches of clean backfill for the campsites within the Oak Camping Area; however, 6 inches of backfill has been identified because of constructability concerns with the placement of the backfill and concerns with damaging existing trees because of root and tree trunk covering at 16 inches thickness.

- **Camping:** Camping is allowed in designated campsites only (within the Oak and Maple Camping Areas). Fires are allowed in designated fire rings only; no digging for fire pits or other holes at the recreation area is allowed. Campfires and cooking fires are restricted to designated fire rings and above ground grill locations. Camping restrictions are identified in the Safety Brochure.
- **Boating and Fishing:** No anchoring of any boats at the bottom of Lunga Reservoir is allowed; patrons should avoid any disturbance of the sediments at the bottom of the reservoir during boating and fishing activities. Boaters must check the flagpole at the boat launch area, and if the active range use flag is flying, then boaters shall not pass the safety danger zone buoys within the reservoir. Boaters and shoreline anglers must check in and out via iSportsman website (<https://quantico.isportsman.net/>). Boating and fishing restrictions are identified in both the Safety Brochure and General Brochure.
- **Swimming/Wading:** Swimming and wading are not authorized within the reservoir or anywhere at the recreation area. Swimming and wading restrictions are identified in both the Safety Brochure and General Brochure.
- **Munitions Safety Awareness Training for Lunga Recreation Area Staff.** Munitions safety awareness training (3Rs for potential munitions items) will be provided to MCCS and other MCBQ staff working at Lunga Recreation Area. **Appendix C** contains a suggested resource for munitions safety awareness training for Lunga Recreation Area staff.
- **Interim LUCs recorded in the Naval Installation Restoration Information Solution (NIRIS) LUC Tracker.** The interim LUCs identified for Lunga Recreation Area have been entered and will be maintained by NAVFAC Washington in the NIRIS LUC Tracker web-based management tool for administrative management and tracking by the Project Manager.
- **Excavation Permit Request Form.** MCBQ requires an excavation permit request form through the MCBQ Public Works Branch for any excavation activities. This permit process will be used as another administrative mechanism to provide potential excavators and construction staff notice of the potential munitions items, associated land use restrictions, and the need for onsite UXO construction support (depending on the depth and area of excavation). The MCBQ NREA Branch will identify this information during their review and approval of the excavation permit request form (Box 5.g. of the form).
- **Incorporation into MCBQ Installation Master Plan.** The land use restrictions associated with Lunga Recreation Area will be incorporated into the next version of the Installation Master Plan for MCBQ, to ensure long-term planning considers the potential for munitions and associated land use restrictions identified herein (MCBQ, 2015).⁷
- **Issuance of Marine Corps Base Order.** The notice that the southern parcel of Lunga Recreation Area is reopened for recreational use and this Interim LUC Plan will be promulgated throughout MCBQ through a Marine Corps Base (MCINCR-MCBQ) Order issued by the MCBQ Base Commander. This step will help to ensure that the interim LUCs associated with Lunga Recreation Area are communicated throughout the different organizations within MCBQ.

2.4 Unexploded Ordnance Construction Support

All projects with an intrusive component within the LUC areas identified on **Figure 2-1** will be subject to MCBQ approval through the excavation permit process specified in **Section 2.3.4**. Activities will proceed under the appropriate explosives safety requirements specified within an approved Explosives Safety Submission Determination Request (ESSDR) or Explosive Safety Submission (ESS) as warranted based on the activity.

⁷ The most recent Installation Master Plan for MCBQ was completed October 1, 2015.

2.4.1 Emergency Utility Repairs

Emergency utility repairs will be performed under the requirements of an ESSDR prepared for and approved by MCSC in accordance with Marine Corps Order 5100.29C (Marine Corps Explosives Safety Management Program), August 5, 2021. The following techniques will be used for emergency utility repairs:

- Onsite Construction Support. When emergency utility repairs are conducted in previously disturbed soil above existing underground utilities, UXO personnel will be onsite to provide oversight of soil excavation. At least one UXO-qualified person will be onsite continuously during ground-intrusive activities to observe excavation and other ground-disturbing activities. Ground disturbance may be conducted by non-UXO-qualified personnel using mechanical excavation methods and/or hand tools. If the UXO-qualified person observes suspected MEC/material potentially presenting an explosive hazard (MPPEH), MCBQ Explosive Ordnance Disposal (EOD) personnel will be notified. Suspected MEC/MPPEH will not be handled or otherwise disturbed.
- Anomaly Avoidance. If emergency utility pole installation is required, UXO personnel will conduct anomaly avoidance to select a location with no subsurface anomalies.
- Intrusive Investigation. If an anomaly-free location cannot be found for an emergency utility pole installation, manual excavation of soil will be conducted to expose the anomaly source to determine whether it is suspected MEC. The UXO team performing this work will be composed of at least one UXO Technician, a Senior UXO Supervisor, and a UXO Safety Officer.

2.4.2 Other Ground-disturbing Activities

The following requirements for an ESSDR or ESS apply to LUC Areas 1, 2, and 3 (**Figure 2-1**):

- LUC Area 1: An ESSDR or ESS will not be required for intrusive activities completed to a depth of 12 inches bgs or less (i.e., the top 1 foot); no UXO construction support will be required for this interval. For intrusive activities deeper than 12 inches bgs, an ESSDR and anomaly avoidance is required, or if anomaly avoidance cannot be implemented, then an ESS and onsite UXO construction support to investigate and remove subsurface anomalies at the location of the intrusive activity is required.
- LUC Area 2: An ESSDR or ESS and onsite UXO construction support will be required for any intrusive activities within this area (regardless of depth). An ESSDR and onsite UXO construction support is required for any intrusive investigation where anomaly avoidance can be implemented. If anomaly avoidance cannot be implemented, an ESS and onsite UXO construction support to investigate and remove subsurface anomalies at the location of the intrusive activity is required.
- LUC Area 3: As discussed in **Section 2.3.2**, there will be no intentional surface access within LUC Area 3 without onsite UXO construction support in the form of avoidance or surface clearance of metallic anomalies. An ESSDR or ESS and onsite UXO construction support will be required for any intrusive activities within this area (regardless of depth). An ESSDR and onsite UXO construction support is required for any intrusive investigation where anomaly avoidance can be implemented. If anomaly avoidance cannot be implemented, an ESS and onsite UXO construction support to investigate and remove subsurface anomalies at the location of the intrusive activity is required.

Detailed anomaly avoidance and/or construction support procedures will be described in the ESSDR or ESS based on project-specific requirements. The ESSDR or ESS will be prepared in accordance with the most current version of the Marine Corps Order 5100.29C (Marine Corps Explosives Safety Management Program). The ESSDR must be approved by MCSC before ground-disturbing activities begin. The ESS must be approved by the Department of Defense Explosives Safety Board or receive Service Approval from MCSC before ground-disturbing activities may begin.

2.4.3 Tree Management

The following UXO construction support requirements will be followed for ongoing tree management activities as part of this Interim LUC Plan related to the southern parcel and summarized in **Table 2-1**. The purpose of this section is to provide stakeholders involved in maintenance of the recreation area guidance for scenarios requiring UXO construction support and the necessity for an ESS or ESSDR accordingly.

- Scenario 1 (above grade tree management): No subsurface impacts
 - No onsite UXO construction support required.
 - Basis of Decision – It is highly unlikely UXO will be found within a tree trunk. Therefore, all above grade tree management will not require onsite UXO construction support regardless of tree diameter. MCBQ NREA forestry management practices must be followed.
- Scenario 2 (below grade tree management): If the tree is 3 inches diameter breast height (dbh) or less AND the subsurface soil disturbance is less than 12 inches bgs:
 - No onsite UXO construction support is required.
 - Basis of Decision – Trees/saplings 3 inches dbh and smaller were removed during the munitions removal actions and the surrounding subsurface was scanned and cleared. Therefore, intrusive actions less than 12 inches bgs do not require UXO construction support.
- Scenario 3 (below grade tree management): If the tree is 3 inches dbh or less AND the subsurface soil disturbance is greater than 12 inches bgs:
 - Onsite UXO construction support is required.
 - Basis of Decision – Although trees/saplings 3 inches dbh and smaller were removed during the munitions removal actions and the subsurface scanned and cleared, the reliable vertical depth of the remediation is limited to 12 inches bgs. Therefore, any intrusive actions below 12 inches bgs require UXO construction support.
- Scenario 4 (below grade tree management): If the tree diameter is greater than 3 inches (breast height):
 - Onsite UXO construction support is required.
 - Basis of Decision – A tree greater than 3 inches dbh may not have been removed during the munitions removal actions and may have resulted in an inaccessible zone around and below the tree trunk during this time. Therefore, the removal of all trees with a diameter greater than 3 inches dbh requires UXO construction support regardless of the depth of subsurface soil being impacted around it.

No stump grinding will be performed without UXO construction support as identified in **Section 2.4** above.

Table 2-1. Tree Management Summary Table

Subsurface Disturbance			Tree Diameter		Is Onsite UXO Construction Support Required?	Notes
None (surface only)	Less than 12 inches bgs	Greater than 12 inches bgs	Less than 3 inches dbh	Greater than 3 inches dbh		
X			X		No	Scenario 1
X				X	No	Scenario 1
	X		X		No	Scenario 2
		X	X		Yes	Scenario 3
	X			X	Yes	Scenario 4
		X		X	Yes	Scenario 4

2.4.4 Reservoir Water Level and Drought Monitoring

The water level elevation of Lunga Reservoir will be measured (in feet mean sea level [msl]) and recorded by MCCS on a weekly basis to assist with understanding water-level fluctuations within the reservoir and identifying drought conditions. Munitions cleanup activities have been performed on the Eastern Shoreline Area and Western Shoreline Area of Lunga Reservoir as illustrated on **Figures 2-1 and 2-5**. These cleanup activities provide protection against potential explosive safety concerns that exist within the Lunga Reservoir and support the recreational use of the shoreline and reservoir as detailed within this plan. However, under severe drought conditions, the reservoir water level may drop and the edge of water may recede resulting in the exposure of reservoir areas that have not undergone munitions cleanup efforts (portions of LUC Area 3).

Therefore, two Buffer Points (#1 and #2) have been identified as presented on **Figure 2-5** (inset) to provide recreation area staff an easy visual guide for water level assessment. The Buffer Points have been identified in order to maintain protective conditions along the reservoir shoreline based on a lateral buffer between the cleared and non-cleared areas of LUC Area 3 when the reservoir is open for recreational use. Buffer Point #1 is for the Eastern Shoreline and Buffer Point #2 is for the Western Shoreline. Additional rationale on Buffer Points #1 and #2 is provided below:

- **Buffer Point #1 (Eastern Shoreline Area):** Surface and subsurface MEC clearance efforts were within this area to an elevation of 279 feet msl via controlled lowering of the reservoir. An elevation of 280.5 feet msl has been selected to provide a buffer for this LUC Area. The elevation of 280.5 feet msl will offer approximately 15 feet of lateral distance between the edge of the water to the non-cleared area in the reservoir adjacent to the boat dock. The boat dock area is selected as an important point of reference because it is the area most likely for boat launches and returns given the previous (and assumed future) use of this area for rentals, and the proximity of the adjacent boat ramp located south of the boat dock area. In addition, elevation 280.5 feet msl is estimated to provide a lateral buffer of 8 feet to 150 feet along the remainder of the eastern shoreline depending on the variable ground surface slopes.
- **Buffer Point #2 (Western Shoreline Area):** Surface clearance within this area was completed; the estimated extent of the surface clearance is presented on **Figure 2-5**. Because surface clearance activities in this area were not completed to a consistent ground surface elevation, a buffer point was approximated for this area based on the comparison of aerial photography features (for example, the lateral extent of surface clearance vs. the lateral extent of the edge of water) in conjunction with known elevation/slope relationships. An elevation of 282 feet msl has been selected to provide a buffer for this area. The elevation of 282 feet msl is estimated to provide a lateral buffer (from the edge of the water to the non-cleared area of LUC Area 3) of 5 feet to 110 feet along the western shoreline depending on the variable ground surface slopes.

NAVFAC Washington has installed two fixed points of reference on the boat dock (Buffer Points #1 and #2) as shown on **Figure 2-5** to provide recreation area staff an easy visual guide for water level assessment. The relationship of the reservoir water level at these two buffer points (water level above or below the respective buffer point) will also be noted on a weekly basis during the water level elevation measurement.

As detailed in **Section 2.6**, if the edge of water within the reservoir recedes to or is close to either of these buffer points, the Lunga Advisory Council will meet and discuss potential short-term recreational use restrictions for the shoreline and reservoir. For example, if the edge of water in the reservoir recedes to Buffer Point #2 (estimated at 282 feet msl), it would be prudent for the Lunga Advisory Council to discuss restrictions on recreational access and use of the Western Shoreline Area adjacent to the TA-10B and TA-10C areas. If the edge of water in the reservoir then continues to recede to Buffer Point #1 (280.5 feet msl), then it would be prudent for the Lunga Advisory Council to discuss restrictions on recreational access and use of the Eastern Shoreline Area, in addition to the Western Shoreline Area.

In addition to the Buffer Points completed as described in this section, NAVFAC Washington completed the installation of a remote water level sensor in November 2023 to allow for an additional option to measure the water level elevation in the reservoir (in real time through a secure website). The remote water level sensor elevations can also be compared to the Buffer Point values to assess if severe drought conditions exist resulting in

the exposure of reservoir areas that have not undergone munitions cleanup efforts as described in this section. The remote water level sensor is located at the end of a metal gangway over the Lunga Reservoir adjacent to the Lunga Dam as illustrated on **Figure 2-5**.

2.5 Inspection Activities

NAVFAC Washington will conduct annual inspections under the ERP to ensure the interim LUCs are being appropriately implemented and any maintenance items identified for repair and correction.

2.5.1 Tree and Exposed Root Ball Survey

Once per year, NAVFAC Washington will conduct a tree and exposed root ball survey across UXO 034 (**Figure 2-6**). The purpose of this survey will be to identify locations where a tree with diameter of 3 inches or greater has fallen over and the underlying root ball has been exposed at the surface; the exposed root ball may be a source of potential MEC as this area was inaccessible to previous investigation and removal activities. This survey will be performed across the entire, accessible land area generally consisting of UXO 034 to the security fencing along and/or adjacent to the east and north boundaries of UXO 034 per **Figure 2-6**, and any exposed root balls will be identified by grid identification and handheld Global Positioning System for northing and easting coordinates. A photo of any associated exposed root balls will be recorded and the location will be flagged with survey flagging for follow-up inspection.

Any exposed root balls identified during the annual survey will then be subsequently investigated by a UXO team under an ESS to determine if any metallic anomalies are present within the root ball and to remove the anomaly (if the source of the anomaly is potentially MEC). Any anomalies that are not potential MEC, such as metallic cultural debris or munitions fragments with no explosive hazard, will not be removed during this investigation. The inspection of any MPPEH and demilitarization of any MPPEH/MEC items will be performed in accordance with the ESS. Note the survey and investigation for potential MEC items does not include any scope for addressing physical hazards of the fallen tree or the root ball to recreational users; any efforts required to cut the tree or fill a hole at the exposed root ball to avoid creating a slip, trip, or fall hazard will be the responsibility of MCCS.

The results of the NAVFAC Washington annual root ball survey and investigation/demilitarization of any MPPEH and MEC items will be documented in the Annual Inspection Checklist (**Appendix D**) as detailed in **Section 2.5.3**.

2.5.2 Camping Backfill Inspection

MCCS will conduct a visual inspection of each designated campsite after each rental to ensure the backfill layer (6 inches) has not been compromised (for example, a hole dug through the backfill) or eroded. If the backfill layer is compromised, MCCS will address by adding additional backfill or mitigating the impact otherwise as a maintenance item.

2.5.3 Annual Inspection Checklist

An Annual Inspection Checklist (**Appendix D**) will be completed during the annual inspection by NAVFAC Washington. The major elements of the inspection as presented in the checklist are:

1. Engineering Controls. Inspection of the fencing and signage specified in **Section 2.3.3**, to determine if interim LUCs are in-operation and if any repairs or modifications are needed. In addition, the backfill placed within the designated campsites will be inspected for any substantial erosion or loss of the 6 inches of backfill thickness.
2. Institutional Controls. Inspection and review of the institutional control requirements specified in **Section 2.3.4**.
 - a. Check that the Safety Brochure and General Brochure are being provided to Lunga Recreation Area visitors and that the content is consistent with **Appendixes A and B**. To ensure that the brochures are available and being provided to all Lunga Recreation Area visitors as part of check-in and recreation area entry. Also, check that the MCCS Lunga Park website and MCBQ iSportsman website contain the

brochures available for viewing and download. The following LUC information and restrictions will be confirmed in at least one of the brochures:

- i. Munitions safety awareness including 3Rs (Recognize, Retreat, and Report) and potential presence of munitions at Lunga Recreation Area.
 - ii. Restrictions regarding camping.
 - iii. Restrictions regarding boating. Requirements for no anchoring while boating in the reservoir will also be identified.
 - iv. Restrictions regarding fishing.
 - v. Restrictions regarding swimming and wading.
- b. Document that Munitions Safety Awareness Training for Lunga Recreation Area Staff is being completed. To document that the safety awareness training is available and being provided to MCBQ and other MCBQ staff working at Lunga Recreation Area.
 - c. Check the NIRIS LUC Tracker to ensure that the interim LUCs are identified. To confirm that the interim LUCs identified herein have been memorialized within the NIRIS LUC Tracker web-based management tool.
 - d. Review the Excavation Permit Request Forms to determine that the notice of potential munitions items was identified. To confirm if any excavation permit request forms were submitted for Lunga Recreation Area and, if so, that the notice of the potential munitions items, associated land use restrictions, and the need for onsite UXO construction support has been identified through the MCBQ NREA Branch approval of the form.
 - e. Review MCBQ Installation Master Plan to ensure that interim LUCs have been documented. To confirm if the Master Plan has been updated for MCBQ and, if so, have the appropriate land use restrictions been identified.
 - f. Confirm Marine Corps Base Order is in place. To confirm that a Marine Corps Base (MCINCR-MCBQ) Order has been issued and distributed by the MCBQ Base Commander with the land use restrictions and Interim LUC Plan herein.
3. Review Emergency MCBQ EOD Support Requests. To identify if MCBQ EOD support was required at Lunga Recreation Area with any investigation and removal of potential MEC items.
 4. Document Tree and Exposed Root Ball Survey and Investigation Results. To document the completion of the tree and exposed root ball survey and results of the metallic anomaly investigation by the UXO team.
 5. Review Actual Camping Use. To ensure that camping is only being performed in designated areas.
 6. Reservoir Water Level and Drought Monitoring: To confirm the fixed reference points (buffer points) on the boat dock are visible. To inspect and confirm operation of the remote water level sensor including recording of water level elevation data to the secure website. To confirm that reservoir water level conditions at the buffer points are being checked and documented on a weekly basis to ensure exposure of reservoir areas that have not undergone munitions cleanup efforts is not occurring. Reservoir water level measurements from the remote water level sensor may also be checked and documented relative to the buffer point elevations to meet this inspection requirement.
 7. Safety Danger Zone Buoys and Flags: To ensure Range Management buoys, flags, and associated access control marker system within the reservoir are present and working.

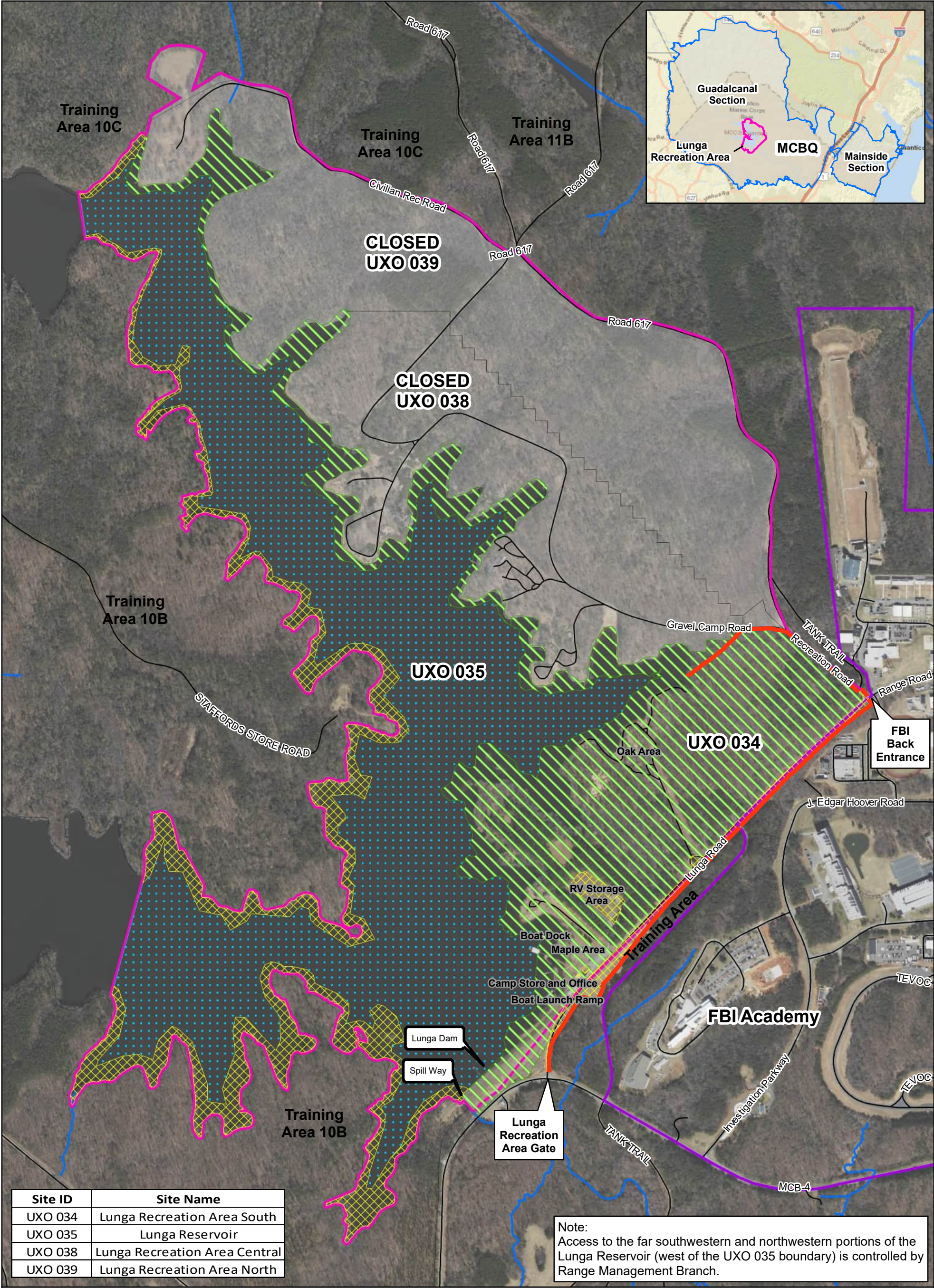
2.6 Lunga Advisory Council Meetings

Upon reopening of the southern parcel and reservoir, the Lunga Advisory Council will meet at least semiannually during the period the interim LUCs are in effect to discuss the status of the implementation of the interim LUCs

and any improvements related to the interim LUCs or the Interim LUC Plan herein. One of these meetings will occur within 60 days of the completion and submittal of the Annual Inspection Checklist.

The Lunga Advisory Council will also meet on an as-needed basis to discuss or coordinate other activities at Lunga Recreation Area that may impact the interim LUCs or the southern parcel and reservoir. Some examples of these activities are provided as follows:

- Severe drought conditions exist and therefore the water level in the reservoir exposes or is close to exposing the area in LUC Area 3 which has undergone no munitions cleanup efforts. This determination will be based on observations regarding the edge of water in the reservoir relative to Buffer Point #2 (282 feet msl) for the Western Shoreline Area and Buffer Point #1 (280.5 feet msl) for the Eastern Shoreline Area. Short-term recreational use restrictions for shoreline and reservoir uses may be required in this circumstance.
- Explosive safety considerations for ERP investigation and cleanup activities at adjacent UXO 038 and UXO 039 result in periodic, short-term closures for recreational use within portions of the reopened southern parcel and reservoir.
- Explosive safety considerations for ERP investigation and cleanup activities within UXO 035 (Lunga Reservoir) result in periodic, short-term closures for recreational use within portions of the southern parcel and reservoir.
- ERP investigation activities for soil and groundwater sampling within UXO 034 require small portions within the southern parcel to be closed for limited, short-term periods to allow for sample collection. Although no explosive safety considerations are anticipated for this work, these short-term closures may be required to minimize interactions and impacts with park users and patrons during sampling implementation.

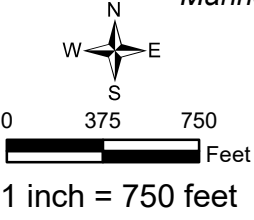


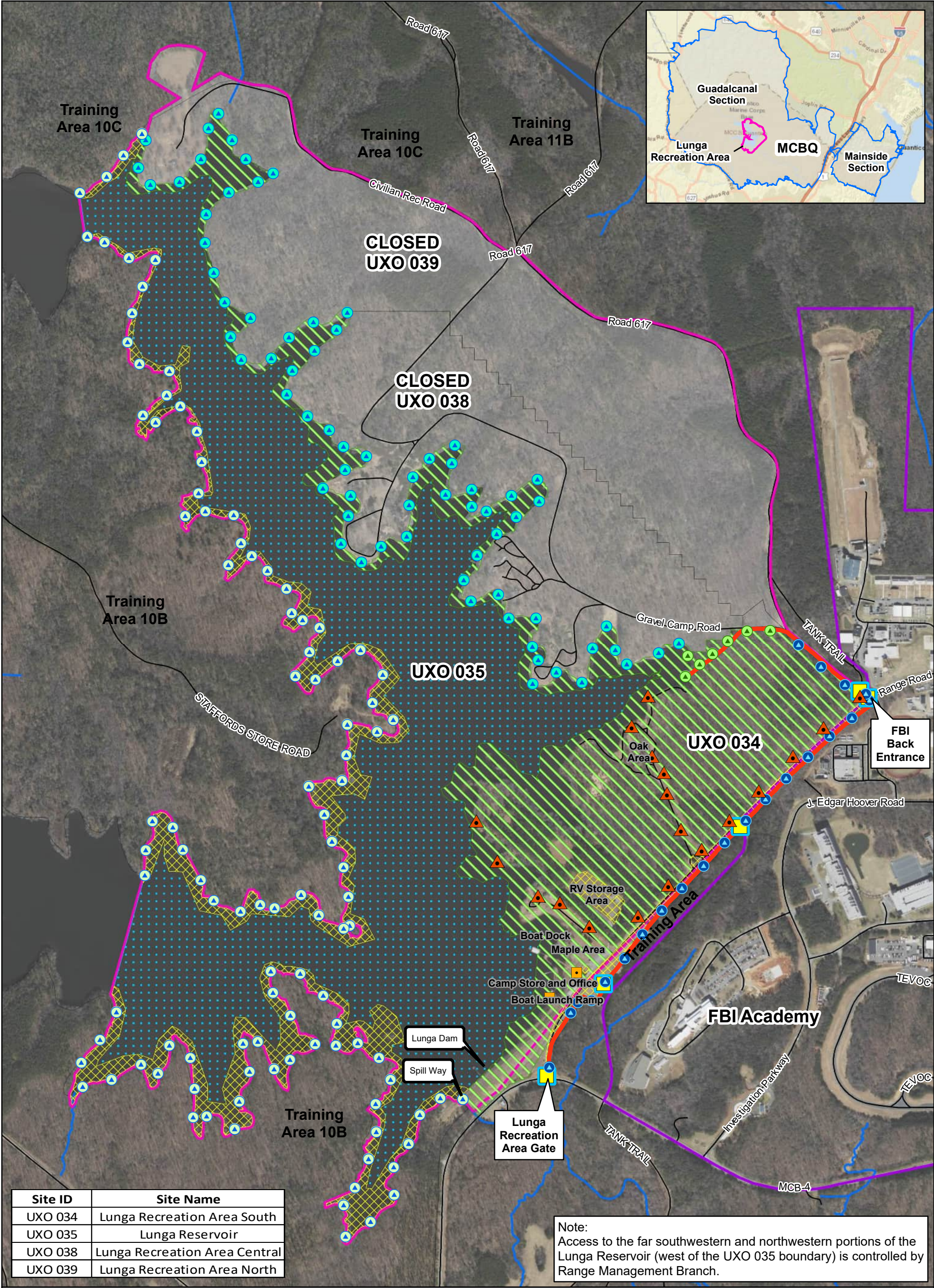
Site ID	Site Name
UXO 034	Lunga Recreation Area South
UXO 035	Lunga Reservoir
UXO 038	Lunga Recreation Area Central
UXO 039	Lunga Recreation Area North

- Security Fencing
- Roads
- Stream
- LUC Area 1 (Restrictions > 12 inches Deep)
- LUC Area 2 (Restrictions for Subsurface Use)
- LUC Area 3 (Water Access Acceptable; Restrictions for Any Ground/Lake Bottom Access)
- Lunga Recreation Area
- Area Closed for Recreational Use
- FBI Academy

Aerial Imagery
- Commonwealth of Virginia, 2021

Figure 2-1
Land Use Control (LUC) Areas - Lunga Recreation Area
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia





Legend

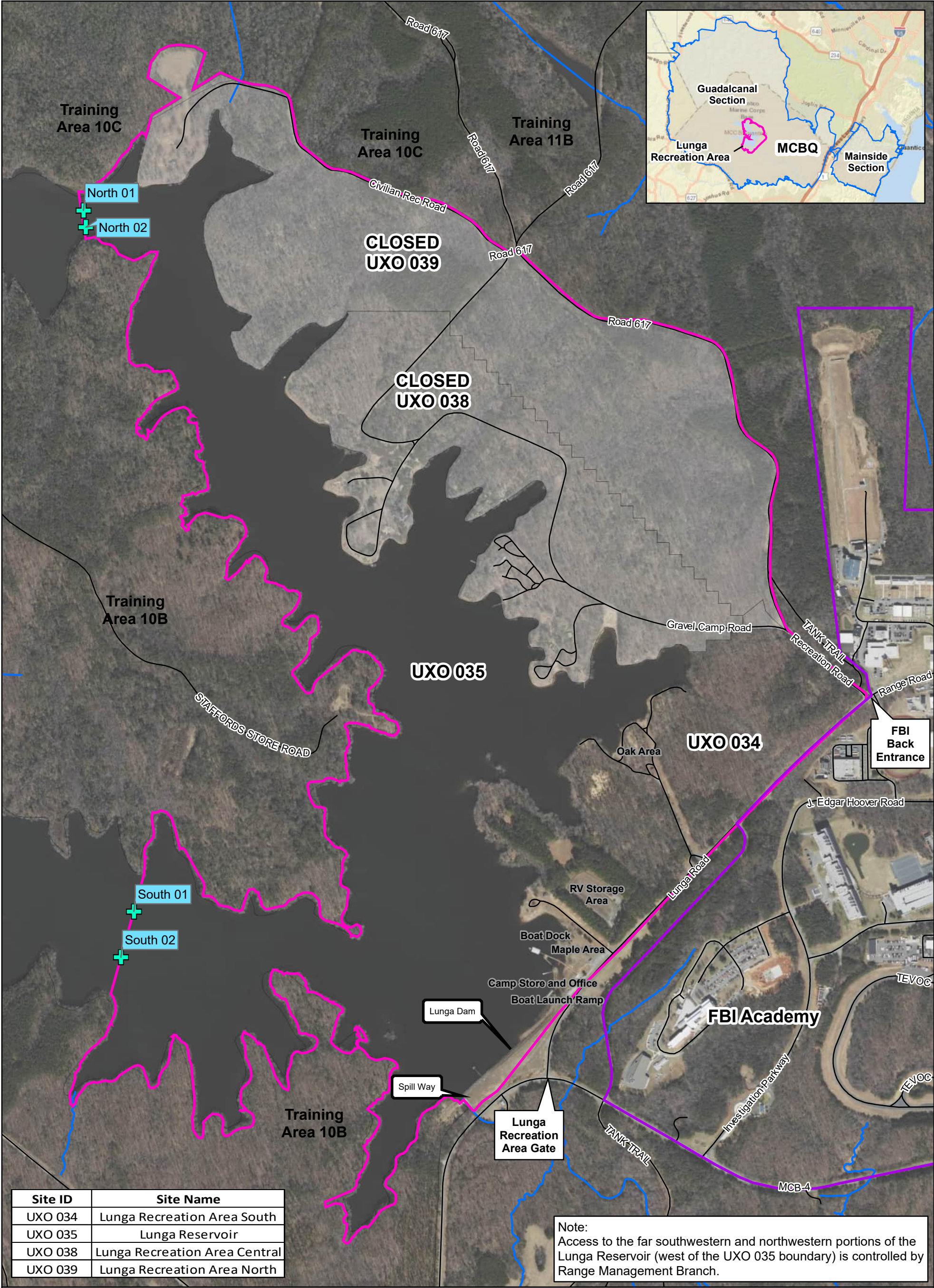
- Rootball Warning Sign
- Boat Launch Sign
- Boundary Control Line 1 Sign
- Boundary Control Line 2 Sign
- Boundary Control Line 3 Sign
- Boundary Control Line 4 Sign
- Gate
- Security Fencing
- Roads
- Stream
- LUC Area 1 (Restrictions > 12 inches Deep)
- LUC Area 2 (Restrictions for Subsurface Use)
- LUC Area 3 (Water Access Acceptable; Restrictions for Any Ground/Lake Bottom Access)
- Lunga Recreation Area
- Area Closed for Recreational Use
- FBI Academy

Aerial Imagery
- Commonwealth of Virginia, 2021

Figure 2-2
Boundary Control Lines, Fencing, and Signage
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia

0 375 750
Feet
1 inch = 750 feet

ch2m



- Legend**
- Safety Danger Zone Buoys
 - Roads
 - Stream
 - Lunga Recreation Area
 - Area Closed for Recreational Use
 - FBI Academy

Aerial Imagery
- Commonwealth of Virginia, 2021

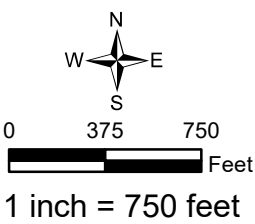
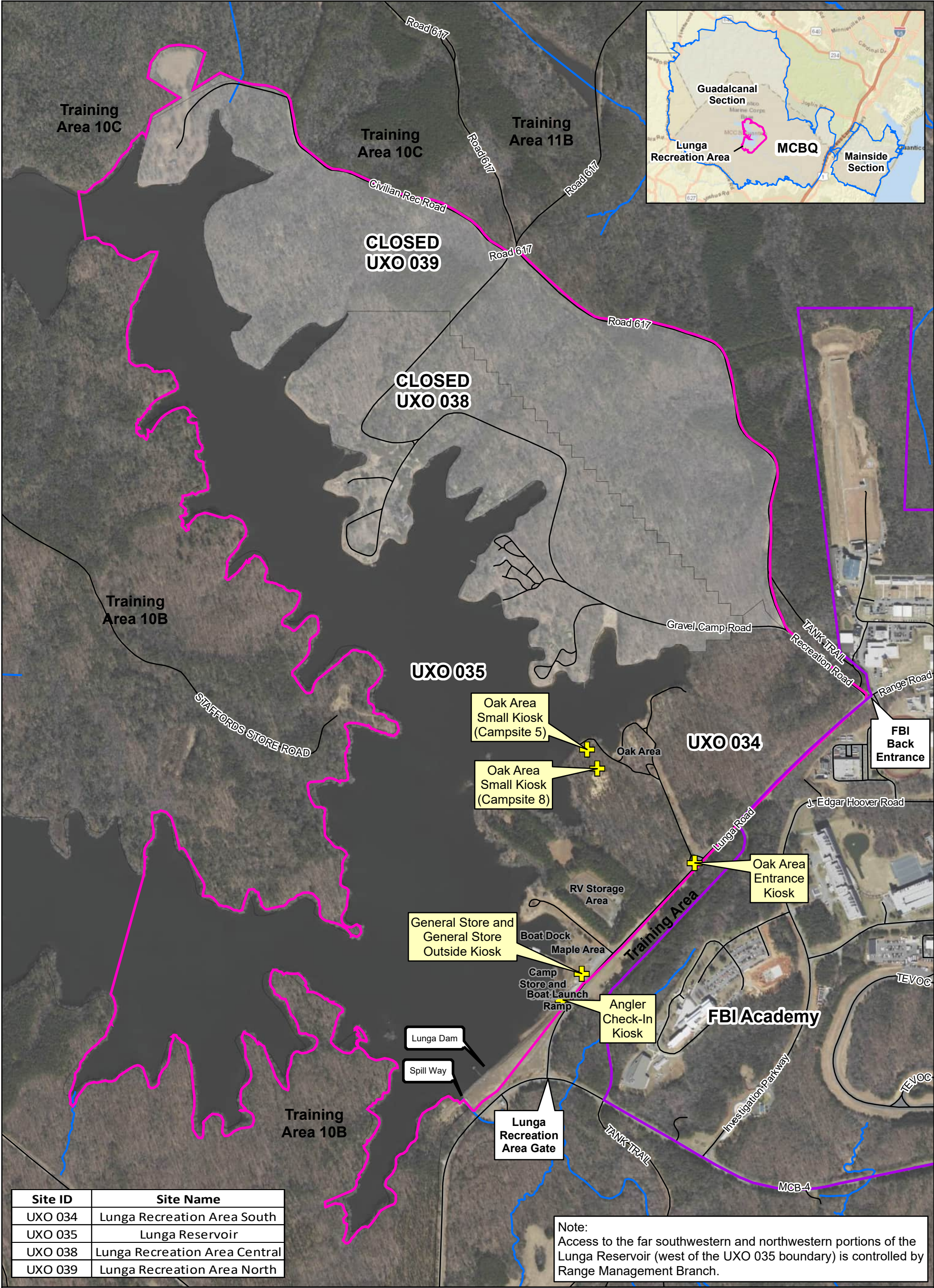


Figure 2-3
Safety Danger Zone Buoys– March 2024
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia



- Legend**
- Safety Brochure Kiosk Location
 - Roads
 - Stream
 - Lunga Recreation Area
 - Area Closed for Recreational Use
 - FBI Academy

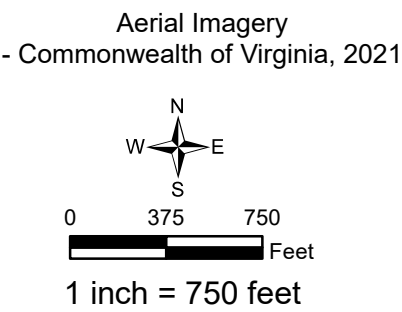
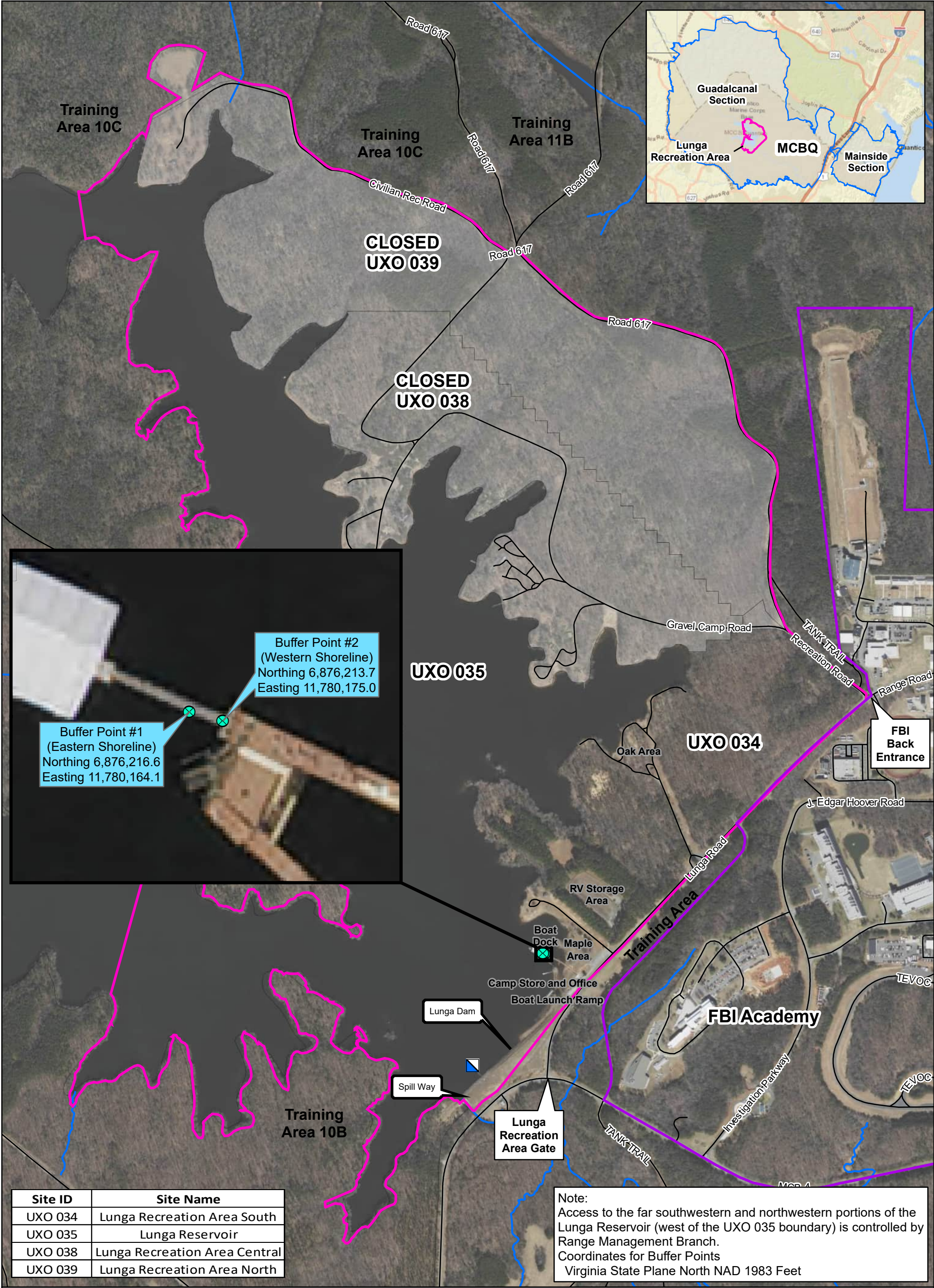


Figure 2-4
Safety Brochure Kiosk Locations – March 2024
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia



- Legend**
- Remote Water Level Sensor
 - Reservoir Buffer Point
 - Roads
 - Stream
 - Lunga Recreation Area
 - Area Closed for Recreational Use
 - FBI Academy

Aerial Imagery
- Commonwealth of Virginia, 2021

0 375 750
Feet
1 inch = 750 feet

Figure 2-5
Buffer Point and Remote Water Level Sensor Locations
- March 2024
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia



Virginia Geographic Information Network (VGIN)

- Legend**
- Tree and Exposed Root Ball Survey Grid
 - Tree and Exposed Root Ball Survey Area

Aerial Imagery - Commonwealth of Virginia, 2021

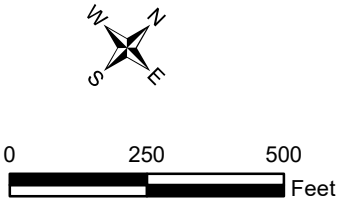


Figure 2-6
Tree and Exposed Root Ball Survey Area
Lunga Recreation Area Interim Land Use Control Plan
Marine Corps Base Quantico (MCBQ)
Quantico, Virginia

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Exhibit

Exhibit 1 - Land Use Controls and Responsible Party
Lunga Recreation Area, Interim Land Use Control Plan
Marine Corps Base Quantico, Quantico, Virginia

Land Use Control Types and Responsible Party			
Land Use Control (LUC)	Type of LUC	Section within Interim LUC Plan	Responsible Party for LUC Implementation
Fencing and Signage for Boundary Control Line 1	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Signage for Boundary Control Line 2	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Signage for Boundary Control Line 3	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Fencing and Signage for Boundary Control Line 4	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Root Ball Warning Signs	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Boating Notification Signs	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Safety Danger Zone Buoys and Flags	Engineering	2.3.3	Range Management Branch
Camping Area Backfill (Oak Camping Area)	Engineering	2.3.3	NAVFAC Washington Environmental Restoration
Safety and General Brochures for Lunga Recreation Area Visitors	Institutional	2.3.4	MCCS (NAVFAC Washington Environmental Restoration to review and concur on munitions safety awareness information)
Munitions Safety Awareness Training for Lunga Recreation Area Staff	Institutional	2.3.4	MCCS, Public Works Branch, FBI Academy, and NREA. Signature page(s) for completed training will be maintained by MCCS.
LUCs recorded in the Naval Installation Restoration Information Solution (NIRIS) LUC Tracker	Institutional	2.3.4	NAVFAC Washington Environmental Restoration
Excavation Permit Request Form	Institutional	2.3.4	Public Works Branch and NREA
Incorporation into MCBQ Installation Master Plan	Institutional	2.3.4	MCBQ G-F Installation and Environment and Marine Corps Combat Development Command through National Capital Planning Commission review and approval process
Issuance of Marine Corps Base Order	Institutional	2.3.4	MCBQ G-F Installation and Environment, Eastern Area Counsel, and Marine Corps Combat Development Command
Unexploded Ordnance Construction Support and Responsible Party			
Type of Activity for Unexploded Ordnance Construction Support		Section within Interim LUC Plan	Responsible Party for Support Implementation
Emergency Utility Repairs ESSDR: Development and approval by MCSC		2.4.1	NAVFAC Washington Environmental Restoration
Emergency Utility Repairs (Previously Disturbed Soil): UXO Construction Support (On-Site)		2.4.1	MCBQ EOD and/or MCBQ-contracted UXO Personnel
Emergency Utility Repairs (Emergency Utility Pole Installation): Anomaly Avoidance		2.4.1	MCBQ EOD and/or MCBQ-contracted UXO Personnel
Emergency Utility Repairs (Emergency Utility Pole Installation): Intrusive Investigation Required		2.4.1	MCBQ EOD and/or MCBQ-contracted UXO Personnel
Other Ground Disturbing Activity (ESSDR or ESS Required)		2.4.2	Type of explosive safety documentation (ESSDR or ESS) and responsible party determined based on the nature and entity performing the ground disturbing activity. For example, new building construction would be required to have an ESSDR or ESS as appropriate with UXO personnel provided by construction contractor performing the work
Inspection Activities			
Inspection Item		Section within Interim LUC Plan	Responsible Party for Inspection Item
Reservoir Water Level and Drought Monitoring Data (Weekly)		2.4.4	MCCS
Tree and Exposed Root Ball Survey (Annual)		2.5.1	NAVFAC Washington Environmental Restoration
Investigation of Root Balls identified during Annual Survey for MEC		2.5.1	NAVFAC Washington Environmental Restoration
Camping Backfill Inspection: Conduct a visual inspection of each designated campsite after each rental to ensure backfill layer has not been compromised		2.5.2	MCCS
Annual Inspection Checklist Completion		2.5.3	NAVFAC Washington Environmental Restoration
Repairs to Engineering Controls identified during Annual Inspection		2.5.3	NAVFAC Washington Environmental Restoration
Revisions to Institutional Control identified during Annual Inspection: Safety Brochure for Lunga Recreation Area Visitors, if required		2.5.3	MCCS
Revisions to Institutional Control identified during Annual Inspection: Lunga Park Information, Fees, and Charges Brochure, if required		2.5.3	MCCS
Revisions to Institutional Control identified during Annual Inspection: Munitions Safety Awareness Training for Lunga Recreation Area Staff, if required		2.5.3	MCCS, Public Works Branch, FBI Academy, and NREA
Revisions to Institutional Control identified during Annual Inspection: LUCs recorded in the Naval Installation Restoration Information Solution (NIRIS) LUC Tracker, if required		2.5.3	NAVFAC Washington Environmental Restoration
Revisions to Institutional Control identified during Annual Inspection: Excavation Permit Request Form, if required		2.5.3	Public Works Branch and NREA
Revisions to Institutional Control identified during Annual Inspection: Incorporation into MCBQ Installation Master Plan, if required		2.5.3	MCBQ G-F Installation and Environment and Marine Corps Combat Development Command
Revisions to Institutional Control identified during Annual Inspection: Issuance of Marine Corps Base Order, if required		2.5.3	MCBQ G-F Installation and Environment, Eastern Area Counsel, and Marine Corps Combat Development Command

Notes:
EOD = MCBQ Explosive Ordnance Disposal Unit
ESO = MCBQ Explosives Safety Office
ESS = Explosives Safety Submission
ESSDR = Explosives Safety Submission Determination Request
FBI = Federal Bureau of Investigation

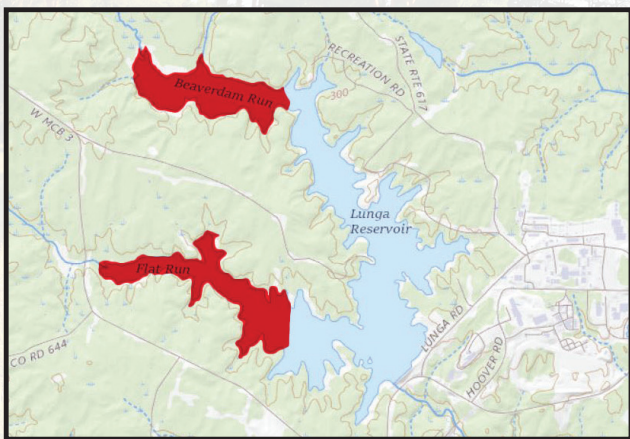
MCBQ = Marine Corps Base Quantico
MCCS = Marine Corps Community Services
MCSC = Marine Corps System Command
NAVFAC = Naval Facilities Engineering Command
NREA = MCBQ Natural Resources and Environmental Affairs Branch
UXO = Unexploded Ordnance

Appendix A
Safety Brochure
Accessed March 20, 2024

SAFETY OVERVIEW

While you're enjoying your stay at Lunga Park, we want you to be as safe as possible and be aware of potential hazards associated with outdoor recreation particularly in this area! Most hazards may be avoided just by staying in well-maintained areas. Please be aware of the following safety concerns:

-  **MUNITIONS** — Explosive hazards may be encountered. **DO NOT GO NEAR.** Report immediately.
-  **DIGGING** — Absolutely prohibited.
-  **SWIMMING** — Absolutely prohibited. Please stay out of the water **AT ALL TIMES.**
-  **POISON IVY** — Leaves of three, let them be.
-  **SNAKES** — Watch where you step.
-  **TICKS** — Using a DEET-based insect repellent is recommended.
-  **ARACHNIDS** — Using a DEET-based insect repellent is recommended.
-  **LIVE FIRE TRAINING** — Buoys will mark **OFF LIMITS** areas during live fire training.



Areas that are closed during live fire activity. Map provided by USGS.

ADDITIONAL INFORMATION

LUNGA PARK HOURS

Daily, Sunrise - Sunset

This is a family campground, please adhere to the speed limit (15 mph: road, 5 mph: campground) and quiet hours (9 PM - 6 AM). Pets must be leashed.

EMERGENCY NUMBERS

Security Battalion.....703.784.2251
Emergencies.....911



QUANTICO LUNGA PARK & RESERVOIR

Marine Corps Base Quantico West
703.784.5270



Revised 12/2023



SAFETY BROCHURE

ENCLOSURE (1)

EXPLOSIVES SAFETY

Lunga Park is part of Marine Corps Base (MCB) Quantico and was utilized as a military training area over 50 years ago before becoming a recreational area. Although extensive cleanup actions for munitions have been performed at Lunga Park and across Marine Corps Base Quantico, it is possible that munitions presenting an explosive hazard may be encountered at Lunga Park and other portions of Marine Corps Base Quantico. Munitions are projectiles, bombs, hand grenades, and other types of items that the military use in training and combat. A common term used for munitions that have not detonated is unexploded ordnance (UXO).



Munitions discovered on the premise. **DO NOT TOUCH.** Report immediately.

Munitions are designed to be dangerous and can explode if approached, touched, moved, or disturbed. Recreation area visitors should follow the 3Rs of explosives safety when visiting Lunga Park.

3Rs

- 1. RECOGNIZE:** When you may have encountered a munition and that munitions are dangerous.
- 2. RETREAT:** Do NOT approach, touch, move, or disturb the item; carefully leave the area.
- 3. REPORT:** Report the item and location to recreation area staff or military police.

POISON IVY

Poison ivy is a very common plant on the base. It can cause a severe rash in most people, and is highly toxic if ingested. Smoke from burning poison ivy can also cause dermatitis and internal problems. Poison ivy grows as a low ground cover, small shrub, or vine that climbs up trees, shrubs, and fences.

The plant is easily identified by its three irregularly shaped leaflets coming from a single stalk. The vine of older plants is thick and woody with a hairy appearance because of the numerous tendrils used to cling to trees. Being aware of its appearance is the best way to avoid getting the rash.



SNAKES

Over 20 species of snakes have been recorded at MCB Quantico, though only one venomous species, the copperhead, is native to the area. Nearly all snakes, including non-venomous species, will inflict a painful bite if they feel threatened. All snake bites should be treated by a physician.



DOs

- ✓ Look carefully before putting your hands or feet in places you cannot see.
- ✓ Use caution when moving brush piles and other objects that are lying on the ground.

DON'Ts

- ✗ Disturb or try to kill snakes (that's when most snake bites occur).
- ✗ Crawl into thickets without looking carefully.
- ✗ Fool around or show off with venomous snakes.

TICKS

As the most commonly encountered hazardous pest aboard MCB Quantico, ticks are active from early spring through late fall. Besides causing a persistent itchy swelling, several species of ticks carry diseases that may be transmitted to humans through their bites. Disease causing micro-organisms reside in the gut of the tick for all or part of their life cycle. These micro-organisms are passed to humans and other hosts while the tick is attached and feeding.

Using a DEET-based insect repellent on the skin and a permethrin-based insecticide on clothing is effective in preventing tick bites.

DOs

- ✓ Use a DEET-based insect repellent and a permethrin-based insecticide on clothing.
- ✓ Tuck-in clothing.
- ✓ Remove ticks promptly and clean area with soap and water or alcohol.
- ✓ Watch for several days for signs of rash or infection.

DON'Ts

- ✗ Don't apply hot matches, nail polish, or chemicals to the tick.
- ✗ Don't squeeze or crush the body, as this may expel micro-organisms from the tick's gut.



ARACHNIDS

Chiggers and itch mites are very small arachnids that can cause a great deal of itching and discomfort to their victim. The tiny, reddish adult chigger is just visible to the naked eye, while the larval stage that bites people is even smaller. The bite itches and commonly becomes infected. Chiggers and itch mites are reportedly abundant in blackberry thickets, weedy areas, and other dense vegetation.



PROHIBITED ACTIVITIES

NO DIGGING — Fire pits and holes are prohibited. Campfires and cooking fires are restricted to designated fire rings and above ground grill locations. Park users should avoid areas with downed trees, especially where root balls are exposed at the ground surface.

NO ANCHORING — Boating and fishing are allowed in Lunga Reservoir however, anchoring at the bottom of the reservoir will NOT be allowed. Patrons should avoid any disturbance of the sediments at the bottom of the reservoir during boating and fishing activities.

LIMITED WATER ACTIVITIES — Swimming, wading, skiing, paddle boarding, jet skis, and wind surfers are NOT AUTHORIZED. The bottom of the lake is deep mud that can easily entrap swimmers. Old ordnance percolation at the lake bottom can also be an issue.

Appendix B
General Brochure
Accessed March 20, 2024

CAMP SITE RENTALS

	Per Night
Tent Sites	\$25
Rustic Cabin	\$40 (2 nights minimum)

AUTHORIZED PATRONS

Per DoD policies, only authorized patrons (and guests) of MWR may be permitted access to Lunga Park in accordance with base access policies. The following individuals have full access to MWR services and programs:

- Active-duty service members and their families.
- Members of the National Guard, reserves and their families.
- Current and retired DoD civilian employees.
- Service academy and Merchant Marine cadets.
- FBI Academy Agencies Federal Employees
- Retired service members and their families.
- Honorably discharged veterans with a 100% service-connected disability.
- Medal of Honor recipients.
- Surviving family members of uniformed service members or retirees until they age out of eligibility or their dependent status associated with the deceased member or retiree changes.
- Boaters/Anglers registered through iSportsman are eligible to use boat and kayak ramps with an applicable launch fee payment.

Please refer to the MCBQ Visitor Control Center for any base access questions.

ADDITIONAL INFORMATION

LUNGA PARK HOURS

Daily, Sunrise - Sunset

This is a family campground, please adhere to the speed limit (15 mph: road, 5 mph: campground) and quiet hours (9 PM - 6 AM). Pets must be leashed.

GENERAL STORE & OUTDOOR GEAR RENTALS*

Daily 9 AM - 4 PM

* Hours are subject to change.

QUANTICO LUNGA PARK & RESERVOIR

Marine Corps Base Quantico West
703.784.5270



QUANTICO
**LUNGA
PARK**

GENERAL INFO



GO BOAT

Boating operations in a privately owned or MCCS rented vessels is permitted on Lunga Reservoir. Due to the discovery of unexploded ordnances within the shoreline and at the bottom of the reservoir, boating operations may be conducted under the following guidelines:

- No boats larger than 20 ft long may access the reservoir.
- Electric motors only will be used on Lunga Reservoir.
- Portable gas cans must be removed from any vessel entering the water and gasoline powered motors must remain out of the water.
- All boat ramp users (including kayakers) will be required to obtain a boat ramp pass from the Lunga Park General Store.
- All privately owned boats must register for an iSportsman account and check-in/check-out every visit:
www.quantico.isportsman.net.
- Jet skis, water skiing, paddleboarding, swimming, and wading are prohibited.
- NO alcohol or drugs will be allowed aboard any rental boat and no person under the influence of alcohol or drugs will be allowed aboard any rental boat.
- A Coast Guard approved PFD shall be worn at all times by all persons in watercraft underway.
- The universal distress signal in an emergency for all boats on the water is waving an oar overhead. All persons in such situations should attempt to stay in their boat until help arrives.
- Anchoring at the bottom of the reservoir is not permitted. Patrons should avoid any disturbance of the sediments at the bottom of the reservoir during boating activities.
- Buoys will mark "OFF LIMITS" areas during live fire training.
- Lunga Park staff, at their discretion, may at any time delay or cancel boat usage due to existing or projected inclement weather, i.e., gusty winds, thunderstorms.

BOAT RAMP FEES

	Daily	Annually
Boats	\$6	\$80
Kayak	\$3	\$40

BOAT RAMP HOURS OF OPERATION*

7 days a week, Sunrise - Sunset

* Hours are subject to change.



GO FISH

Fish found in the Lunga Reservoir are: bass, bluegill, crappie, pickerel, walleye, and white and yellow perch. Please refer to Virginia Department of Wildlife Resources at www.dwr.virginia.gov/fishing for state regulations on creel and size limits.

Fishing at Lunga is allowed from both a boat and from the shoreline. Areas outside park boundaries are within base training areas and are strictly off limits. Fishing is not permitted from the covered boat dock, the kayak launch area or the dock located next to the boat ramp. **Magnet fishing is prohibited.**

Anglers age 16 and older fishing these waters must have in their possession a Virginia freshwater fishing license per Virginia fishing regulations, available online at www.dwr.virginia.gov/fishing. All fishing licenses are purchased online. All fishermen must register for an account on iSportsman: www.quantico.isportsman.net. Please be advised that fishermen must check-in/check-out using the iSportsman online platform.

Anchoring at the bottom of the reservoir is not permitted. Patrons should avoid any disturbance of the sediments at the bottom of the reservoir during fishing activities.

Buoys will mark "OFF LIMITS" area during live fire training.

GO PLAY



Lunga Park's Maple Area is a picturesque setting to have a picnic, take a leisurely trail walk or get in a stress free run. Picnic sites are available when the park is open on a first come, first serve basis unless specifically reserved through the General Store.

A playground for children and beach volleyball is also available. Reservations for beach volleyball can be made at the General Store.

Pets are welcome to the park but must be leashed at all times. Pet waste should be picked up and properly disposed of.

Swimming and playing from the shoreline of the reservoir is strictly prohibited.

WATER SPORTS RENTAL FEES

	Per Hour	Half Day	Full Day
Kayak	\$5	\$20	\$30
Jon Boat	-	\$25	\$50
Twin Troller	-	\$25	\$50
Pedal Boat	\$7	\$11	-

PAVILLION RENTAL FEES

Maple	-	\$50	\$100
Oak (small)	-	\$50	\$100
Oak (large)	-	\$75	\$100

Fees for all watercraft include all necessary safety gear.

ENCLOSURE (1)

Appendix C
Munitions Safety Awareness Training for
Lunga Recreation Area Staff

Staff working at Lunga Recreation Area should be aware that they are working in, and adjacent to, areas that may have munitions from the previous use of the recreation area for military training over 50 years ago. For any staff working on Lunga Recreation Area, a simplified munitions safety awareness training will be completed as part of new staff onboarding and with a refresher training provided on an annual basis to understand the potential explosive hazard posed, and the potential need to identify and avoid munitions in the recreation area. The following items will be completed as part of this training:

1. Review of Safety Brochure for Lunga Recreation Area: Staff will review the updated Safety Brochure (specifically the Munitions Safety Awareness portion) developed for Lunga Recreation Area upon reopening.
2. Department of Defense Environment, Safety, and Occupational Health Network and Information Exchange 3Rs (Recognize, Retreat, Report) Explosives Safety Education Program: Each staff member will complete a web-based review of the munitions and explosives safety education program at <https://www.denix.osd.mil/uxo/>. The review will consist of the main page of the website and the 3Rs Guide – Outdoor Recreation available in Adobe®.pdf format at <https://www.denix.osd.mil/uxo/educational-resources/safety-guides/>. Alternatively, staff may complete the web-based 3Rs Training located at <https://denix.osd.mil/uxotraining/3RSTraining/index.html>. Additional 3R and explosive safety information on the website may be reviewed at the staff's discretion. The web-based review is assumed to take approximately 20 minutes of staff time.

If a potential munition is identified by or reported to Lunga Recreation Area staff, notification will be made to the Marine Corps Base Quantico Explosives Safety Officer who will determine if engagement of the Marine Corps Base Quantico Explosive Ordnance Disposal unit is required.

The review of the above items will be considered completion of the munitions safety awareness training for Lunga Recreation Area staff. A signature page will be maintained by Marine Corps Community Services to indicate who has completed this training and when the training was completed.

Signature Page

I have completed the Munitions Safety Awareness Training for Lunga Recreation Area Staff consisting of the review of:

1. Safety Brochure for Lunga Recreation Area.
2. Department of Defense Environment, Safety, and Occupational Health Network and Information Exchange 3Rs (Recognize, Retreat, Report) Explosives Safety Education Program at: <https://www.denix.osd.mil/uxo/>. Consisting of the main webpage and the 3Rs Guide – Outdoor Recreation available in Adobe®.pdf format at <https://www.denix.osd.mil/uxo/educational-resources/safety-guides/>. Alternatively, staff may complete the web-based 3Rs Training located at <https://denix.osd.mil/uxotraining/3RSTraining/index.html>.

Name	Organization	Date	Signature

Appendix D

Annual Inspection Checklist

Table 1. Annual Inspection Checklist for Land Use Controls

Lunga Recreation Area
Naval Facilities Engineering Command Washington

This checklist presents the results of an Annual Inspection of Land Use Controls (LUCs) conducted by Naval Facilities Engineering Systems Command (NAVFAC) Washington in accordance with the *Final Interim Land Use Control Plan, Lunga Recreation Area, Marine Corps Base Quantico, Quantico, Virginia*. The objectives of the LUCs at Lunga Recreation Area are as follows:

- Restrict activities within areas possibly containing munitions and explosives of concern (MEC) to prevent exposure that could result in an explosion, causing injury or death.
- Provide a long-term maintenance and inspection program to ensure the integrity of the LUCs is maintained and documented.

Inspection Items					
Inspection Item Number	Inspection Item	Inspection Completed (Y/N/NA)?	Summary of Inspection Performed	Corrective Actions Identified? (Y/N/NA)	Description of Corrective Action
1	Inspection of the fencing and signage to determine if LUCs are in operation and if any repairs or modifications are needed.				
2	Inspection of 6 inches of backfill thickness placed at designated campsites for any substantial erosion or loss of the 6 inches of backfill thickness (for example, a hole dug within and through the backfill layer).				
3	Check that the Safety Brochure and General Brochure are being provided to Lunga Recreation Area Visitors to ensure LUC restrictions are communicated to patrons of the recreation area. To ensure that the brochures are available (at the Camp Store and Office; and kiosks at/adjacent to the Oak and Maple Camping Areas). To ensure that the Marine Corps Community Services (MCCS) Lunga Park website (https://www.quantico.usmc-mccs.org/recreation/) and the MCBQ iSportsman website (https://quantico.isportsman.net/) contain the brochures for viewing and download. The following LUC information and restrictions will be confirmed in at least one of the brochures: • Munitions safety awareness including 3Rs (<u>R</u>ecognize, <u>R</u>etreat, and <u>R</u>eport) and potential presence of munitions at Lunga Recreation Area. • Restrictions regarding camping. • Restrictions regarding boating. Requirements for no anchoring while boating in the reservoir will also be identified. • Restrictions regarding fishing. • Restrictions regarding swimming and wading.				

Inspection Item Number	Inspection Item	Inspection Completed (Y/N/NA)?	Summary of Inspection Performed	Corrective Actions Identified? (Y/N/NA)	Description of Corrective Action
4	Document that Munitions Safety Awareness Training for Lunga Recreation Area Staff is being completed: To document that the safety awareness training is available and being provided to MCCS and other MCBQ staff working at Lunga Recreation Area.				
5	Check that LUCs are identified within the NIRIS LUC Tracker: To confirm that the LUCs identified herein have been memorialized within the NIRIS LUC Tracker web-based management tool.				
6	Review Excavation Permit Request Forms to determine that notice of potential munitions items was identified: To confirm if any excavation permit request forms were submitted for Lunga Recreation Area and, if so, that the notice of the potential munitions items, associated land use restrictions, and the need for onsite unexploded ordnance (UXO) construction support has been identified through the MCBQ Natural Resources and Environmental Affairs (NREA) Branch approval of the form.				

Inspection Item Number	Inspection Item	Inspection Completed (Y/N/NA)?	Summary of Inspection Performed	Corrective Actions Identified? (Y/N/NA)	Description of Corrective Action
7	Review MCBQ Installation Master Plan: To ensure LUCs have been documented; to confirm if the Master Plan has been updated for MCBQ and, if so, confirm the appropriate land use restrictions have been identified.				
8	Confirm Marine Corps Base Order in-place: To confirm that a Marine Corps Base Order has been issued and distributed by the MCBQ Base Commander with the land use restrictions and Interim LUC Plan.				
9	Review Emergency MCBQ Explosive Ordnance Detachment (EOD) Support Requests: To identify if MCBQ EOD support was required at Lunga Recreation Area with any investigation/removal of potential MEC items.				
10	Review Actual Camping Use: To ensure that camping is only being performed in designated areas.				
11	Reservoir Water Level and Drought Monitoring: To confirm the fixed reference points (buffer points) on the boat dock are visible. To inspect and confirm operation of the remote water level sensor including recording of water level elevation data to the secure website. To confirm that reservoir water level conditions at the buffer points are being checked and documented on a weekly basis to ensure exposure of reservoir areas that have not undergone munitions cleanup efforts is not occurring. Reservoir water level measurements from the remote water level sensor may also be checked and documented relative to the buffer point elevations to meet this inspection requirement.				

Inspection Item Number	Inspection Item	Inspection Completed (Y/N/NA)?	Summary of Inspection Performed	Corrective Actions Identified? (Y/N/NA)	Description of Corrective Action
12	Safety Danger Zone Buoys and Flags: To ensure Range Management buoys, flags, and associated access control marker system within the reservoir are present and working.				
13	Document Tree and Exposed Root Ball Survey and Investigation Results: To document the completion of the tree and exposed root ball survey and results of the metallic anomaly investigation by the UXO team.				

Notes:

Y – Yes

N – No

NA – Not applicable

Abbreviations/Acronyms:

EOD = explosive ordnance detachment

ERP = Environmental Restoration Program

FY = fiscal year

LUC = land use control

MCBQ = Marine Corps Installations National Capital Region – Marine Corps Base Quantico

MCBQ G-F = MCBQ Installation and Environment Division, G-F

MCCS = Marine Corps Community Services

MPPEH = material potentially presenting an explosive hazard

MEC = munitions and explosives of concern

msl = mean sea level

MSgt = master sergeant

NAVFAC = Naval Facilities Engineering Systems Command

NIRIS = Naval Installation Restoration Information Solution

NREA = Natural Resources and Environmental Affairs

PWB = Public Works Branch

SAA = small arms ammunition

UXO = unexploded ordnance

Inspection Certification:

Inspected by: _____

Company/Organization: _____

Date of Inspection: _____

Date of Last Inspection: _____

Signature

Date