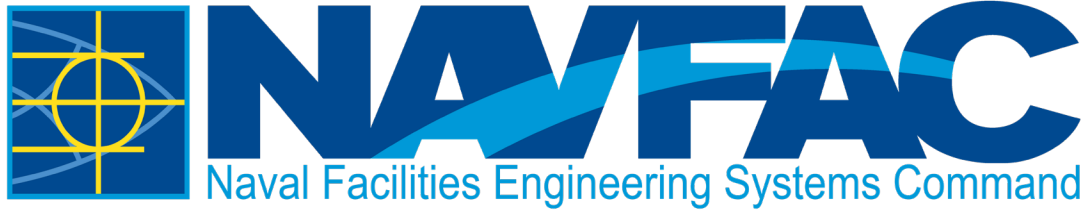


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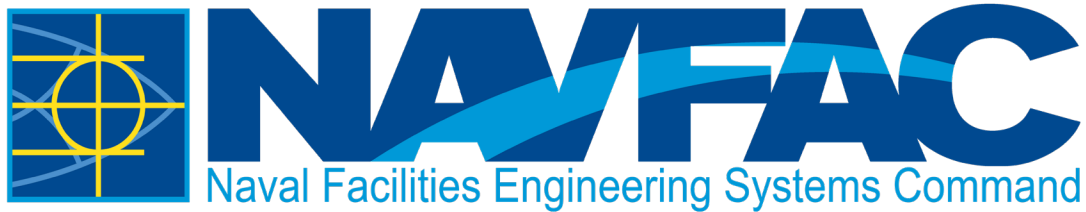


Naval Facilities Engineering Systems Command
Southwest
San Diego, California

DRAFT FINAL
Action Memorandum

Time-Critical Removal Action at MRP Site 1a and CAOC 10
Marine Corps Air Station Yuma, Yuma, Arizona
November 2025

Distribution Statement A: Approved for public release; distribution unlimited.



Naval Facilities Engineering Systems Command
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Action Memorandum

Time-Critical Removal Action at MRP Site 1a and CAOC 10

Marine Corps Air Station Yuma, Yuma, Arizona

November 2025

DCN: CW-1800-0181-007

Prepared for:

United States Department of Navy
Naval Facilities Engineering Systems Command Southwest
750 Pacific Highway
San Diego, California 92132-5190

Prepared by:



CAPE-Weston JV3, LLC
155 Kapalulu Place, Suite 111
Honolulu, Hawaii 96819

Contract: N62742-22-D-1800; Task Order: N6247325F0181

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**DRAFT FINAL
Action Memorandum**

**Time-Critical Removal Action at MRP Site 1a and CAOC 10
Marine Corps Air Station Yuma**

November 2025

I hereby certify that the enclosed Action Memorandum is proposed to be incorporated with Contract Number N62742-22-D-1800, Contract Task Order N6247325F0181. This Action Memorandum is in compliance with contract specifications and is submitted for Government approval.

Reviewed By:

[To be provided on Final version]

Kainalu Asam, PE
CAPE-Weston Project Engineer

Date

[To be provided on Final version]

Jesse Sims
CAPE-Weston Project Manager

Date

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Acronyms and Abbreviations

§	Section
AAC	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
Alliance	Alliance Compliance Group Joint Venture
ARAR	applicable or relevant and appropriate requirement
ARS	Arizona Revised Statute
CY	cubic yard(s)
bgs	below ground surface
BMP	best management practice(s)
CAOC	CERCLA Area of Concern
CAPE	Cape Environmental Management Inc
CAPE-Weston	CAPE-Weston JV3, LLC
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	contaminant of concern
CSM	conceptual site model
DEUR	Declaration of Environmental Use Restriction
DON	United States Department of the Navy
DOT	Department of Transportation
EE/CA	Engineering Evaluation/Cost Analysis
EOD	Explosive Ordnance Disposal
EPA	United States Environmental Protection Agency
ERA	ecological risk assessment
FFA	Federal Facilities Agreement
FS	Feasibility Study
ft	foot/feet
HHRA	human health risk assessment
Jacobs	Jacobs Engineering Group Inc.
LUC	land use control
MC	munitions constituent
MCAS	Marine Corps Air Station
MEC	munitions and explosives of concern
mg/kg	milligram per kilogram
MMEC	Multi-Media Environmental Compliance Group
MPPEH	material potentially posing an explosive hazard
MRP	Munitions Response Program
NAVFAC	Naval Facilities Engineering Systems Command
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	no further action
NPL	National Priorities List
NTCRA	non-time-critical removal action

OU	Operable Unit
PAH	polycyclic aromatic hydrocarbon
PCS	petroleum contaminated soil
PIKA-Pirnie	PIKA-Malcolm-Pirnie Joint Venture, LLC
Pub. L.	Public Law
RACR	Removal Action Completion Report
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RSL	regional screening level
sf	square feet
SI	Site Inspection
SLHHRA	screening-level human health risk assessment
SRL	Soil Remediation Level
TCLP	toxicity characteristic leaching procedure
TCRA	time-critical removal action
Tetra Tech	Tetra Tech EC, Inc.
TRPH	total recoverable petroleum hydrocarbons
Uribe	Uribe and Associates
U.S.	United States
USC	United States Code
UU/UE	unlimited use/unrestricted exposure

1.0 Purpose

CAPE-Weston JV3, LLC (CAPE-Weston) has been contracted by the Naval Facilities Engineering Systems Command (NAVFAC) Southwest to perform a Time-Critical Removal Action (TCRA) within portions of Munitions Response Program (MRP) Site 1a and a portion of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Area of Concern (CAOC) 10 at Marine Corps Air Station (MCAS) Yuma in Yuma, Arizona. Figure 1 shows the Site's location. The TCRA will be performed under NAVFAC Southwest Contract N62742-22-D-1800, Contract Task Order N6247325F0181 and in accordance with CERCLA. The proposed removal action for the area within MRP Site 1a and CAOC 10 is deemed consistent with the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) promulgated in 40 Code of Federal Regulations (CFR), Part 300. This Action Memorandum was prepared to request and document approval of the planned TCRA described herein.

MCAS Yuma was placed on the United States Environmental Protection Agency (EPA) National Priorities List (CERCLA Identification No. AZ0971590062) in 1990 after chlorinated solvents were detected in an on-site groundwater well. The EPA, Arizona Department of Environmental Quality (ADEQ), and United States Department of the Navy (DON) signed a Federal Facilities Agreement (FFA) in August 1991 to establish a framework and schedule for investigation and remedial actions. Thus, the facility has a complex history of environmental investigations, remedial actions, and often overlapping environmental site boundaries. The DON is the lead agency for MCAS Yuma, EPA is lead federal regulatory agency, and ADEQ is the lead state regulatory agency.

MCAS Yuma has a growing need to develop residential and recreational facilities within an area of MRP Site 1a and CAOC 10 (the TCRA area, referred to as the "Site"). The soil at the Site must be cleaned up to residential screening levels to allow for unlimited use and unrestricted exposure (UU/UE), rather than land use controls (LUCs), because of planned uses and proximity to existing homes. Due to the timeframe for construction of the residential facilities, this project has a planning period of less than six months. Therefore, the work will be carried out as a TCRA.

The nature and extent of contamination at the Site were defined by the Remedial Investigations (RI) for MRP Site 1a and CAOC 10 (PIKA-Malcom-Pirnie Joint Venture, LLC. [PIKA-Pirnie], 2014 and Jacobs Engineering Group Inc. [Jacobs], 1996). CAOC 10 currently has a remedy in-place consisting of institutional controls restricting land use to industrial uses (Uribe and Associates [Uribe], 1997). However, additional soil removal will be required to allow for UU/UE for a portion of CAOC 10 included in this TCRA (Figure 1). A Record of Decision (ROD) has not yet been issued for MRP Site 1a. The primary risk driver for MRP Site 1a and the applicable portion of CAOC 10 that will be addressed by this TCRA is polycyclic aromatic hydrocarbons (PAHs) in the surface soil (0 to 6 inches below ground surface [bgs]); however, lead in surface soil may also pose an unacceptable risk.

This TCRA will include excavation and off-site disposal of up to 25,820 cubic yards (CY) of contaminated soil. The excavation footprint is approximately 11.43 acres (497,950 square feet [sf]). Prior to excavation, waste characterization samples will be collected for waste profiling and disposal purposes; Figure 2 includes proposed waste characterization grids. It is proposed that the entire Site will be excavated to an initial depth of 1 foot (ft) bgs, resulting in an estimated volume of 18,443 CY of soil. Following excavation, confirmation samples will be collected from the excavation floor to verify if contaminated material has been removed or if over-excavation is required during this TCRA. Figure 3 presents the proposed confirmation sampling grid. For budgetary purposes, it is assumed that up to 40 percent of the Site may require additional excavation to 2 ft bgs, generating approximately 7,377 CY of additional soil. The areas requiring further excavation will be identified based on the results of confirmation sampling.

Preliminary field activities are expected to begin in mid-December 2025, followed by full fieldwork mobilization in February 2026. Figure 4 shows the proposed project schedule.

2.0 Site Conditions and Background

This section presents the Site's description, including location and site characteristics, and previous investigations, including previous releases and actions for MRP Site 1a and CAOC 10.

2.1 Site Description

MCAS Yuma, Arizona, is an aviation training facility with support facilities and services for the United States (U.S.) Marine Corps, visiting military, and interagency forces. The base is located in the southwestern corner of Arizona, adjacent to the California border. The base consists of approximately 4,720 acres of remote desert land in the southeastern section of Yuma. The northern boundary of the base is approximately 1.5 miles south of Interstate Highway 8. The southern boundary is 13 miles north of the U.S.-Mexico international border.

2.1.1 Physical Location

MRP Site 1 is in the southeastern part of MCAS Yuma, southeast of the runways and taxiways, and south of the installation's main buildings. MRP Site 1 was separated into two sites, MRP Site 1a and MRP Site 1b, as a result of a removal action conducted in 2015. Several CAOCs are located within the extent of MRP Site 1, including CAOC 10 (Ordnance Munitions Disposal Area). CAOC 10 was separated into CAOC 10a (Northern Missile Build-up Area) in the center of MRP Site 1a, and CAOC 10b (Former Ordnance Disposal Area) to the southwest. The TCRA area is located in the north-central area of MRP Site 1a and includes the eastern extent of CAOC 10a; however, for the scope of this TCRA and action memorandum, we are referring to CAOC 10a as CAOC 10 (not including CAOC 10b). The TCRA area is also included in the MCAS Yuma Storage Area Exposure Unit, and a small portion of the Residential and Recreational Facilities Exposure Unit (Figure 1).

2.1.2 Site Characteristics

MCAS Yuma facilities include hangars, warehouses, administrative buildings, barracks, residential housing units, and numerous other structures that date from World War II to the present. Within the TCRA area, there are three riprap-lined stormwater infiltration basins, on the north, northeast, and west sides, respectively. The Site is flat, sandy, and has sparse vegetation. Because of limited vegetation, habitat for biota is also limited (PIKA-Pirnie, 2014). An endangered species survey conducted in 1990 found no federally listed or threatened species within the boundaries of MCAS Yuma (Alliance Compliance Group Joint Venture [Alliance], 2011), and installation natural resources staff confirm that there continue to be no threatened or endangered species within the Site. A risk management decision was made to select soil cleanup levels for the TCRA that are protective of residential use because ecological receptors are not expected, given planned site uses and resulting incomplete exposure pathways as the result of a lack of ecological habitat.

MRP Site 1 covers 370 acres and contains three overlapping but distinct former small arms range boundaries: the Moving Base Range, the Skeet Range, and the Tower Trap Range. The TCRA area (comprised of a portion of both MRP Site 1a and CAOC 10) lies within the extent of the Moving Base Range but is outside the boundaries of both the Skeet Range and the Tower Trap Range (Figure 1). The Moving Base Range was established in 1942. This former small arms range consisted of an oval track that served as a firing line and 48 trap houses. The track was divided into the eastern and western ranges. It was used to train aerial gunners in proper firing techniques by placing the gunner in a vehicle, which was driven around the track, while the gunner fired at clay targets launched from the trap houses. The primary ammunition used on the Moving Base Range was number 7 ½ shot fired from 12-gauge shotguns.

CAOC 10 was used during World War II as a shooting range for bomber gun crews. Surface tanks and drums have also been stored in the area and surface spills, including liquid residues from ordnance-mixing operations, have been reported. The area continues to be used for storage and handling of ordnance.

2.1.3 Previous Investigations

2.1.3.1 CAOC 10 Investigations

CAOC 10 is one of several CAOCs located within Operable Unit (OU) 2 and overlaps with MRP Site 1a. These areas were characterized separately from the MRP Site and include CAOCs 6, 8a, 8b, 9, and 10. The CAOCs were investigated in the OU 2 RI, which consisted of sampling and analysis for a wide range of chemicals, including those that would be associated with former small arms ranges and skeet range use.

The primary finding of the field sampling and analysis program for CAOC 10 was the detection of total recoverable petroleum hydrocarbons (TRPH) and PAHs in surface soil and one anomalous lead concentration. PAHs were detected in surface soil at four locations during the RI (Jacobs, 1996). The maximum detected total PAHs (the sum of anthracene, benzo(a)pyrene, benzo(a)anthracene, and pyrene) was 21.9 mg/kg, and the maximum benzo(a)pyrene concentration was 2.2 mg/kg.

In a follow-up sampling program in August 1996 and February 1997, PAHs were found to be more widespread at CAOC 10 than indicated by the RI sampling program. Concentrations were one to two orders of magnitude greater (maximum total PAHs concentration of 217 mg/kg and maximum benzo(a)pyrene concentration of 43 mg/kg) than indicated by the initial RI soil sampling results.

In addition to the PAHs, a site characterization data gap study, performed in 2013, reported the cancer risk to hypothetical future residents from vapor intrusion into indoor air from soil gas was 3×10^{-6} . This value exceeded the upper range acceptable cancer risk of 1×10^{-6} , but is within the risk management range of 1×10^{-4} to 1×10^{-6} . The driver of the cancer risk was chloroform. Based on Figure 4-15 of the Final Site Characterization Summary Report, Data Gap Investigation Results, Operable Unit Areas 1 and 3; and Operable Unit 2 CERCLA Areas of Concern 1, 8a, 8b, and 10 (Sealaska Environmental Services, LLC, 2013), the soil gas sampling locations are

outside the extent of the proposed TCRA area. Therefore, vapor intrusion concerns are not discussed further in this Action Memorandum.

2.1.3.2 CAOC 10 Record of Decision

The Final OU 2 ROD, issued in December 1997, selected LUCs as the remedy for CAOC 10 to support future use for industrial/commercial purposes only (Uribe, 1997). Institutional controls were implemented through the Base Master Plan. A change in land use from industrial to residential use will require re-evaluation of the remedy. Subsequent investigations of MRP Site 1 did not include areas that overlapped with the CAOCs discussed above; investigations within MRP Site 1 were performed on the approximately 217 acres that are not overlapped by the CAOCs.

2.1.3.3 MRP Site 1 - Investigations

Before MRP Site 1 was separated into MRP Site 1a and MRP Site 1b, respectively, a Site Inspection in 2011 identified arsenic, lead, antimony, and carcinogenic PAHs at levels posing unacceptable risk to hypothetical future residents, while risks to workers were generally within acceptable limits except in localized areas (Alliance, 2011). In May–June 2014, an RI was conducted at MRP Site 1, collecting soil samples from the surface (0–6 inches bgs) and from the subsurface (36–42 inches bgs), to evaluate the presence of munitions constituents metals, and PAHs in previously uninvestigated areas (PIKA-Pirnie, 2014). The Site was divided into three exposure units for risk assessment: the Renewable Energy Project Site and Surrounding Area, the MCAS Yuma Storage and Surrounding Area, and the Residential Area Recreational Facilities and Surrounding Area.

2.1.3.4 MRP Site 1 - Human Health Risk Assessments

A HHRA and ecological risk assessment (ERA) were completed using the Navy's tiered approach. The HHRA (Tier 1A and 1B) found potentially unacceptable risks to hypothetical future residents from antimony, arsenic, lead, and certain carcinogenic PAHs, while risks to current/future industrial and construction workers were generally within acceptable limits, except for localized areas where soil contamination could still pose a concern. Following a 2018 non-time-critical removal action (NTCRA) (Tetra Tech EC, Inc. [Tetra Tech], 2019) and a 2019/2020 TCRA (Cape Environmental Management Inc [CAPE], 2020), a Feasibility Study (FS) for MRP Site 1a was conducted (MMEC, 2021a). A revised Screening-Level Human Health Risk Assessment (SLHHRA) presented as part of the FS, determined that residual metals (arsenic, lead, and antimony) do not exceed their respective residential screening limits in any of the exposure units; however, this was evaluated with a previous residential screening level for lead (400 mg/kg) versus the screening level used for lead in this TCRA (200 mg/kg, detailed in Section 4.0). The FS also evaluated the results of the SLHHRA to develop remedial action objectives and remedial alternatives.

2.1.3.5 MRP Site 1 - Remedial Action Alternatives

Three alternatives were then analyzed in the Feasibility Study for MRP Site 1a to provide the basis for selecting a remedy (Multi-Media Environmental Compliance Group, 2021a). The three alternatives identified were: No action; LUCs; or Excavation, Surface Soil Scraping with Offsite Disposal and LUCs. The DON recommended Alternative 2: LUCs for the 2018 NTCRA Area, Renewable Energy Project Site and Surrounding Area, and MCAS Yuma Storage and Surrounding Area, as presented in the Proposed Plan (MMEC, 2021b). The Final Proposed Plan was completed with no changes after the public meeting on November 30, 2021, and public comment period ending on December 15, 2021. Since that time, significant progress has been made on the ROD for MRP Site 1a. The proposed TCRA area detailed in this action memorandum will remediate a portion of the MCAS Yuma Storage and Surrounding Area currently proposed to be limited by LUCs and restricted to industrial or commercial use. The findings and results of the TCRA as they affect land use changes will be incorporated in the Final ROD.

2.1.4 Release or Threatened Release to the Environment of a Hazardous Substance, Pollutant, or Contaminant; and Conceptual Site Model

Prior use of MRP Site 1 as a small arms range, and CAOC 10 as a shooting range for bomber gun crews and tank/drum storage, has resulted in the release of contaminants to site soils. Risk assessment results for the areas within which the TCRA Site falls indicated that specific PAHs are associated with potentially unacceptable risk to the hypothetical future resident. Lead may also cause a potential unacceptable risk to future residents, due to a lower screening level for lead than what was evaluated during the FS and corresponding SLHHRA. A detailed conceptual site model (CSM) was developed for MRP Site 1 in the RI (PIKA-Pirnie, 2014), and for MRP Site 1a specifically in the Final FS (MMEC, 2021a). Exposure pathways identified in the CSM include only those associated with soil: incidental ingestion, direct dermal contact, and particulate inhalation. The CSM identified potential human receptors as current/future site workers (which includes both military personnel, such as U.S Marine Corps and Navy personnel, and civilian personnel, including those at MCAS Yuma), future construction workers (such as contractors installing, maintaining, and constructing utilities, structures, or other support activities for the airfield), and hypothetical future residents.

MCAS Yuma has an emerging need to place residential and recreational facilities within an area of MRP Site 1a. Due to the planned uses and proximity to existing residential areas, MCAS Yuma prefers that the Site be cleaned up sufficiently to allow for unlimited use and unrestricted exposure.

2.1.5 United States Environmental Protection Agency National Priorities List Status

MCAS Yuma is on the NPL list (CERCLA Identification No. AZ0971590062), which is a list of hazardous waste sites nationwide that pose the greatest risk to public health and thus require priority responses under CERCLA.

2.1.6 Maps, Photographs, and Other Graphic Representations

Figure 1 presents the location of MCAS Yuma in the region (Inset) and shows the overall features of the Site. Figure 2 identifies the proposed excavation boundaries for the TCRA and the waste sampling grid layout. Figure 3 identifies the proposed confirmation sampling grid layout. Figure 4 presents the proposed project schedule.

2.2 Other Actions to Date

A previous TCRA was conducted within an area of 2.9 acres that overlapped a portion of the Storage Area and a portion of the Renewable Energy Project Site. The area of that previous TCRA was subsequently separated into a new site called MRP Site 1b. In the previous TCRA, soil was excavated to a depth of 0.5-ft bgs across the Site. Confirmation samples were collected, resulting in some minor additional areas of excavation. Excavated soil was disposed of off-site at a non-hazardous waste disposal facility. MRP Site 1b subsequently received a finding of no further action (NFA). Results of the TCRA are presented in a Removal Action Completion Report (RACR) (Tetra Tech, 2015).

MRP Site 1a consists of all areas of MRP Site 1 except for the area of MRP Site 1b. A 2018 NTCRA addressed approximately 25 acres of the Renewable Energy Project Site by excavating about 19,436 CY of contaminated soil to meet industrial/commercial cleanup levels (Tetra Tech, 2019).

In 2019, a TCRA targeted 9.86 acres within the Residential/Recreational Facilities Area, excavating and stabilizing roughly 20,000 CY of lead-contaminated soil to achieve unrestricted use standards; the 2019/2020 TCRA area is located to the east of the TCRA area covered under this Action Memorandum (CAPE, 2020).

There has been no other previous actions at CAOC 10, other than the investigations described in Section 2.1.3.1. The proposed TCRA described in this Action Memorandum is the only currently planned action for MRP Site 1a and a portion of CAOC 10, as shown in Figure 1.

2.3 State and Local Authorities' Roles

As an NPL site, MCAS Yuma is under the regulatory oversight of both EPA and ADEQ. An FFA was signed by the U.S. Marine Corps, DON, EPA, and ADEQ. DON is the lead agency for MCAS Yuma, EPA is the lead federal regulatory agency, and ADEQ is the lead state regulatory agency. The subject work is being performed by NAVFAC Southwest under Contract Number N62742-22-D-1800, Contract Task Order N6247325F0181.

3.0 Threats to Public Health, Welfare, or the Environment

The following factors, identified in 40 CFR § 300.415(b)(2), were considered in evaluating the potential or actual threats to public health or welfare due to potential or actual releases into the environment and in determining the appropriateness of a removal action at the MCAS Yuma Storage Area and Residential and Recreational Facilities Area included within MRP Site 1a and CAOC 10 (the TCRA area):

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants, or contaminants
- Actual or potential contamination of drinking water supplies or sensitive ecosystems
- Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release
- High levels of hazardous substances or pollutants or contaminants in soil largely at or near the surface that can migrate or be released
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released
- Threat of fire or explosion
- Availability of other appropriate federal or state response mechanisms to respond to the release
- Potential to present an unacceptable level of carcinogenic risk
- Other situations or factors that may pose threats to public health or welfare or the environment

3.1 Threats to Public Health or Welfare

There is a potential for exposure to humans from site contaminants of concern (COCs) at concentrations above project soil cleanup levels for residential site use. Exposure pathways include direct contact with soil containing COCs, incidental ingestion of soil containing COCs, and inhalation of fugitive dust released from surface soil by the wind. Risk assessment results indicate that the risk to hypothetical future residential receptors is at the upper end of the risk management range. The installation prefers that the Site does not have LUCs due to planned uses and nearby residential areas. Installation plans require a planning period of 6 months or less. Therefore, a TCRA is necessary prior to the construction of residential and recreational facilities projects to provide short-term and long-term protection of human health and the environment by removing soil with known COC concentrations that exceed project soil cleanup levels for residential site use.

3.2 Threats to the Environment

Because of limited vegetation at the Site, the habitat for biota is limited. No federally listed or threatened species were found during a previous environmental survey within the boundaries of MCAS Yuma. Installation natural resources staff confirmed that there continues to be no threatened or endangered species within the Site's extent. The sparse environmental habitat, lack of observed species, and future planned residential uses, result in an incomplete ecological exposure pathway. Therefore, a risk management decision was made to select soil cleanup levels for the TCRA that are protective of residential use, because ecological receptors are not expected.

4.0 Endangerment Determination and Project Cleanup Levels

Based on review of historical site data and risk calculations (see Section 2), lead and PAH concentrations in soil at the Site present threats to human health. The primary dangers are direct contact, incidental ingestion, or inhalation of contaminated soil by future residential receptors. The Navy is taking action to address the identified dangers through implementation of the TCRA detailed in Section 5 of this Action Memorandum.

The soil cleanup goals to achieve UU/UE are based on:

- Lead Cleanup Goal: Updated Residential Soil Lead Guidance for CERCLA Sites and Resource Conservation and Recovery Act (RCRA) Corrective Action Facilities, EPA - Office of Land and Emergency Management, 17 January 2024 (EPA, 2024).
- PAH Cleanup Goals: Arizona Administrative Code Title 18, Chapter 7, Supplement Information 25-2, Article 2 Soil Remediation Levels (SRLs) provided in R18-7-205 (Pre-determined Remediation Standards) in Appendix A (Soil Remediation Levels – Residential 10^{-6} carcinogenic risk level) (ADEQ, 2009).

The soil cleanup goals for Site COCs are as follows:

- Lead – 200 mg/kg
- Benzo(a)anthracene – 0.69 mg/kg
- Benzo(a)pyrene – 0.069 mg/kg
- Benzo(b)fluoranthene – 0.69 mg/kg
- Dibenzo(a,h)anthracene – 0.069 mg/kg
- Indeno(1,2,3-cd)pyrene – 0.69 mg/kg

5.0 Selected Action and Estimated Costs

This section describes the TCRA field activities, schedule, and estimated costs.

5.1 Time-Critical Removal Action

The removal action objective of this TCRA is to remove PAH and lead-impacted soil located within MRP Site 1a and CAOC 10 that poses an unacceptable risk to human health. The project cleanup goals consist of the EPA regional screening level for lead (EPA, 2024) and ADEQ Soil Remediation Levels for PAHs (ADEQ, 2009). Based on the results of previous investigations and remedial action (see Section 2), the planned lateral excavation extent will be approximately 11.43 acres (497,950 sf). The entire site is proposed to be excavated to 1 ft bgs. The need for further excavation will be evaluated based on the results of confirmation sampling. For planning purposes, it is assumed that up to 40 percent of the Site will require additional excavation to 2 ft bgs.

5.1.1 Removal Action Description

This TCRA will include excavation and off-site disposal of up to 25,820 CY of contaminated soil from portions of MRP Site 1a and CAOC 10 (Figure 1). The TCRA will be performed over two mobilizations:

- Mobilization 1: Visual survey for munitions and explosives of concern (MEC), subsurface utility clearance, dig permit submission, pre-excavation topographic survey, and collection of pre-excavation waste characterization samples.
- Mobilization 2: Installation of erosion controls, excavation of Site to 1 ft bgs, off-site disposal of excavated soil, and collection of confirmation samples from the excavation floor, over-excavation to 2 ft bgs in select grid squares, post-excavation topographic survey, and site restoration.

5.1.1.1 Mobilization 1

Prior to the start of ground-disturbing activities, visual survey of the ground surface will be conducted by an Unexploded Ordnance (UXO) Technician II to ensure no MEC is present within the TCRA work area. An explosives safety briefing from the installation ESO will be conducted prior to commencement of Mobilization 1 and 2. The Site was a former small arms range and MEC is not anticipated to be present; however, the visual survey will be performed as a precautionary measure. A burial cache of 20-millimeter cartridges was discovered 0.5-miles from the 2025 TCRA Area. If MEC or material potentially presenting an explosive hazard is identified, the item location will be isolated and the installation's Explosives Ordnance Disposal (EOD) Office will be contacted for item removal/disposal. An Explosive Safety Submission Determination Request was submitted and approved by MCAS Yuma explosives safety officer in July, 2025 (CAPE-Weston, 2025a).

Third-party subsurface utility clearance will be completed using ground-penetrating radar to ensure utilities are not present within the planned excavation area. Additionally, a dig permit will be submitted and approved by the installation prior to the start of excavation activities (e.g., heavy equipment operations during Mobilization 2).

Following completion of the visual MEC survey, a pre-excavation topographic survey of the work area will be conducted by an Arizona-licensed surveyor to document existing conditions and mark out the extent of the excavation.

Following the visual MEC survey, and subsurface utility clearance, in-situ soil sampling will be performed to evaluate contaminant concentrations within the Site surface soil and soil underlying the riprap in the stormwater infiltration basins. The Site will be divided into a total of 37 grid squares (Figure 2). 17 grid squares will be evaluated for waste characteristics outside of the stormwater basins. 20 grid squares, within the existing excavated stormwater basins, will be evaluated for site COCs and waste characteristics. The grid squares will be confirmed by CAPE-Weston using survey equipment. One five-point composite sample will be collected from 0 to 1 ft bgs within each grid square.

The following waste characterization sample grids include three riprap-lined infiltration basins present at the Site (Figure 3):

- Northeastern basin: Grid numbers 1 through 6
- Northern basin: Grid numbers 7 through 16
- Western basin: Grid numbers 17 through 20

Riprap and gravel on the surface of the basins will be set aside to allow for representative soil samples to be collected. Aliquots for each grid square will be collected from the basin floors and sidewalls in a way that best represents the respective grid area; samples will not be differentiated between the basin floors and sidewalls. The northern basin sample grids will be analyzed for additional waste analytes due to potential off-site run-on contamination from the adjacent paved area to the north.

Waste characterization analytical results will be compared to applicable waste limits/criteria and landfill requirements to determine the proper waste classification and identify proper waste management and disposal requirements, for each grid square. Waste profiles will be prepared and provided to NAVFAC Southwest for review prior to obtaining a landfill clearance number from a RCRA Subtitle D or C landfill, as applicable, based on the analytical results.

Analytical results for Site COCs will be compared to the Site cleanup goals (Section 4.0) to determine if excavation is required within the stormwater basins.

5.1.1.2 Mobilization 2

Following receipt of analytical results of waste characterization samples collected during Mobilization 1 and approval of the waste profiles, the field team and equipment will be mobilized to the Site to perform excavation and off-site disposal, collect confirmation soil samples, and restore the Site.

A temporary laydown area will be established for equipment staging and placement of a temporary field office, storage, and sanitary facilities. A plastic safety fence will be installed around the excavation footprint to prevent trespass during excavation operations. Additionally, best management practices (BMPs) (such as straw wattles) will be installed to prevent off-site migration of soil during excavation activities. A fire hydrant located on-site will supply water to a tower, which will be used to refill the water truck for ongoing dust control. Dust monitoring will be performed at multiple locations, upwind and downwind from active work operations, in accordance with the APP (provided under separate cover). To minimize off-site tracking of soil, foreign object debris mats will be placed at the Site entrance. These mats, along with adjacent paved areas, will be cleaned daily using a skid steer equipped with a broom attachment. Designated personnel will inspect and brush truck tires and tailgates prior to exiting the Site. Excavation will not take place within 3-ft of existing telephone poles, roadways, and utilities.

Heavy equipment (e.g., excavator, loader) will be utilized to remove contaminated soil from the Site. The initial depth of removal across the Site is 1 ft bgs, resulting in an estimated volume of approximately 18,443 cy of soil. Visual inspections for remaining skeet fragments following the excavation will be conducted to ensure the excavated surface is free of remaining debris. Excavated soil will be temporarily stockpiled on-site pending off-site disposal. Based on historical lead concentrations, up to 20 percent of surface soil is anticipated to require stabilization prior to being removed from the Site. Stabilization will be performed using EnviroBlend (a monoammonium phosphate amendment) to reduce leachable lead concentrations to below the RCRA hazardous waste limit.

Excavated soil will be loaded into end dump trucks for transportation to an appropriate off-site landfill for final disposal. All haul trucks will be covered, and drivers will carry signed waste manifests prior to leaving the Site. It is assumed that all soil will be characterized as non-hazardous CERCLA waste, following stabilization if necessary. CAPE-Weston or NAVFAC RPM will notify the EPA of the type of CERCLA wastes that will be generated and the intended off-site disposal facility. The EPA will determine the acceptability of the disposal facility to receive, store, and dispose of the CERCLA waste, covered under the EPA Off-Site Rule CFR 300.440 (detailed in Table 1).

If samples collected within the stormwater basins during Mobilization 1 do not meet the project cleanup goals, CAPE-Weston will determine if complete removal of the existing riprap from the basins is necessary, or if a focused approach will be conducted per grid square. The riprap and/or gravel will be removed and stockpiled prior to soil excavation.

Following excavation to 1 ft bgs, respective grids will be resampled according to the procedure described in Mobilization 1. If the subsequent samples within the stormwater basins also exceed project cleanup goals, next steps will be discussed with the NAVFAC Southwest RPM. The project scope currently limits excavation within the basins to 1 ft bgs.

After excavation to the target depth of 1 ft bgs, the Site will be divided into a maximum of 96 grid squares, each representing an average of 5,187 sf for confirmation sampling (Figure 3). The total number of grid squares and average area per grid square are dependent on the results of the Mobilization 1 sampling effort within the stormwater basins. The confirmation sampling grid squares will be confirmed by CAPE-Weston using survey equipment.

For grids beyond the extent of the stormwater basins, one five-point composite sample will be collected from the excavation floor in each grid square. All samples will be analyzed for the Site COCs. If results for lead exceed the cleanup goal, then TCLP analysis will be performed for respective samples to determine if soil stabilization is required prior to disposal at an approved off-site landfill.

If confirmation sample results exceed the cleanup goals, the representative grid square will be over-excavated an additional 1 ft. Grid squares within the stormwater basin, if excavated, will not be over-excavated until directed by the NAVFAC Southwest RPM. Soil removed during over-excavation is assumed to be suitable for off-site disposal as non-hazardous waste (without soil stabilization), following the same handling and transport procedures as the preceding soil. After over-excavation (to a maximum of 2 ft bgs), additional confirmation samples will be collected from the excavation floor to verify that cleanup goals have been met. The lateral extent of contamination was previously delineated in the MRP Site 1 RI (PIKA-Pirnie, 2014) and OU 2 ROD (Uribe, 1997); therefore, confirmation sampling will not be required for excavation sidewalls. If cleanup goals are not met after excavation to 2 ft bgs in any grid square, next steps will be discussed with the NAVFAC Southwest RPM.

After reaching the final excavation depth across the Site, the edges of the excavation will be graded so there is not an abrupt transition between excavated and non-excavated areas. The final site grade will facilitate general surface flow towards the stormwater basins. After the project cleanup goals are achieved, backfill soil may be brought in to restore the function of the stormwater basins if the focused excavation approach is utilized within the basins. Otherwise, backfill material will not be imported. Riprap will be reinstalled at each sample location or excavated area within the stormwater basins. A post-excavation topographic survey will be conducted by an Arizona-licensed surveyor to document the final excavation.

Establishment of vegetation is not required. All construction BMPs, fencing, equipment, and materials will be removed from the Site following completion of grading and restoration activities, in preparation for the final acceptance inspection. Following the

final inspection and approval by the NAVFAC RPM and relevant personnel, all remaining on-site equipment, materials, and personnel will be demobilized.

5.1.2 Contribution to Removal Action Performance

This TCRA is an effective and efficient alternative that only requires physical removal and disposal of impacted soil. Following completion of the TCRA, if confirmation sampling results exceed the established cleanup goal, a human health screening evaluation will be required to assess whether remaining concentrations of COCs in soil require additional action or whether no further action is warranted for future residential use of the Site.

5.1.3 Engineering Evaluation and Cost Analysis

An engineering evaluation and cost analysis (EE/CA) is a specific document required for the evaluation of removal actions under CERCLA with the exception that an EE/CA is not required for a TCRA [40 CFR § 300.415(b)(4)]. Because this removal action is considered time critical, no EE/CA has been prepared. A cost estimate for this TCRA is provided in Section 5.2.

5.1.4 Applicable or Relevant and Appropriate Requirements

The evaluation of ARARs for the proposed TCRA at the Site within MRP Site 1a and CAOC 10 includes an initial determination of whether regulatory requirements identified as potential ARARs qualify as ARARs for the specific response action, and a comparison for stringency between federal and state regulations to identify the controlling ARARs. This TCRA is designed to be compatible with any future remedial action and identified ARARs support this compatibility to the extent practicable. The identification of potential ARARs is an iterative process. The final determination of ARARS will be presented by the DON in the Final version of this Action Memorandum.

NCP § 300.415(j) provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

NCP § 300.5 defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal environmental or State environmental, or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.

NCP § 300.5 defines relevant and appropriate requirements as cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of or consultation with administrative bodies, issuance of permits, documentation, reporting, recordkeeping, and enforcement are not ARARs for CERCLA actions confined to the Site. Any offsite activities (e.g., waste transport over public roadways and disposal offsite) must comply with all necessary federal, state, and local requirements, not just substantive requirements. Offsite requirements are not ARARs but must be followed under RCRA and DOT regulations, as CERCLA does not exempt offsite actions from administrative provisions.

Only State standards that are identified by a State in a timely manner and are more stringent than Federal requirements may be applicable or relevant and appropriate. Potential State ARARs were made available during agency review of this Action Memorandum. To qualify as a state ARAR under CERCLA and the NCP, a state requirement must be:

- A state law or regulation
- An environmental or facility siting law or regulation
- Promulgated (of general applicability and legally enforceable)
- Substantive (not procedural or administrative)
- More stringent than federal requirements
- Identified in a timely manner
- Consistently applied

ARARs are categorized as chemical, location, or action specific:

- Chemical-Specific ARARs set limits on concentrations of specific hazardous substances, contaminants, and pollutants in the environment. Examples of this type of ARAR are ambient water quality criteria and drinking water standards.
- Location-specific ARARs set restrictions on certain types of activities based on site characteristics. These include restrictions on activities in wetlands, floodplains, and historic sites and those that may impact protected wildlife species.
- Action-specific ARARs are technology-based restrictions that are triggered by the type of action under consideration. Examples of action-specific ARARs are regulations for waste treatment, storage, and disposal under RCRA.

ARARs must be identified on a site-specific basis from information about specific chemicals at the Site, specific features of the Site's location, and actions that are being considered as removal actions. As the lead Federal agency, the Navy has primary responsibility for identifying Federal ARARs at MRP Site 1a and CAOC 10. The substantive provisions of the requirements were identified as potential Federal and State chemical-, location-, and action-specific ARARs for PAH and lead -contaminated soil.

The ARARs for this TCRA are presented in Tables 1 through 3. The TCRA described in this Action Memorandum will comply with the substantive requirements of Federal and State regulations listed as ARARs.

5.1.5 Project Schedule

Preliminary field activities are expected to begin in mid-December 2025, followed by full fieldwork mobilization in February 2026, and to be completed by June 2026. The project schedule is included as Figure 4.

5.2 Estimated Costs

The costs of implementing this TCRA include Project Management and Meetings, Project Plans, Fieldwork, Reporting, and Project Closeout. Direct Removal Actions Costs include Mobilization/Site Preparation, Excavation, and Waste Management. Mobilization and Site Preparation costs include mobilization of temporary facilities, topographic surveys, utility surveys, and establishment of BMPs. Excavation costs include labor and equipment rental. Waste management costs include sampling, data analysis and validation, transportation and disposal of waste streams, and general supplies, services, and materials. Disposal fees will vary according to the volume and waste characteristics. The estimated costs, shown below, include the direct and indirect capital costs of the TCRA.

Work Element 1: Project Management	\$239,358.45
Task 1a: Task Order Management	\$217,749.09
Task 1b: Project Meetings	\$21,609.36
Work Element 2: Project Plans	\$61,416.01
Task 2a: Action Memorandum	\$21,991.74
Task 2b: Work Plan & Attachments	\$29,004.11
Task 2c: Health & Safety Plan	\$10,420.16
Work Element 3: Field Work	\$2,553,311.20
Task 3a: Mobilization, Demobilization & Site Prep	\$408,525.22
Task 3b: Excavation, Stockpile Management & T&D	\$2,144,785.98
Work Element 4: Report	\$27,503.11
Task 4a: Final Reports	\$27,503.11
Work Element 5: Project Closeout	\$4,842.88
Project Closeout	\$4,842.88
Total Costs for Time-Critical Removal Action Without Options	\$2,866,431.65
Option 1: Additional Removal Action Area	\$1,112,424.38
Option 1: Excavation, Stockpiling & T&D	\$1,112,424.38
Total Costs for Time-Critical Removal Action With Option 1	\$3,998,856.03

6.0 Expected Change in the Situation Should Action Be Delayed or Not Taken

If the proposed action is delayed or not performed at this time, substantial delays may occur to ongoing installation construction or hypothetical future residents could be exposed to unacceptable risk. Additionally, the contamination may spread to adjacent areas via runoff and/or wind erosion. As a result, the area and quantity of material that requires removal may increase, resulting in an increase in removal and disposal costs.

7.0 Public Involvement

The DON will comply with 40 CFR 300.415(n), which requires a notice of availability of the Administrative Record file. A notice of availability of this Action Memorandum will be published in a major local newspaper within 60 days of initiation of fieldwork. The official Administrative Record file for this project is compiled and maintained by NAVFAC Southwest. The Administrative Record is accessible on the Environmental Restoration Program Public Website¹ or can be requested from the Public Affairs Office via email usn.san-diego-ca.navfacswsanca.mbx.navfac-sw-pao-mailbox@us.navy.mil or in-person at 750 Pacific Highway, San Diego, CA 92132.

The regulations also require that a public comment period of not less than 30 days be provided from the time the Administrative Record file is made available to the public, and that a written response be prepared for significant comments as required by 40 CFR § 300.820(b)(3). The DON will respond to public comments prior to finalizing this Action Memorandum. A summary of the comments received on this document and the responses to those comments will be included in Appendix A of the Final version of this document.

¹ <https://www.navfac.navy.mil/Divisions/Environmental/Products-and-Services/Environmental-Restoration/Southwest/Yuma-MCAS/>

8.0 Outstanding Policy Issues

There are no outstanding policy issues for this TCRA.

9.0 Enforcement

This removal action is being undertaken voluntarily by the DON in accordance with CERCLA for MCAS Yuma. It complies with the Federal Facilities Agreement. The project includes preparation and submittal of a Work Plan, implementation of the removal action, and submittal of a RACR to document that the removal action objectives have been achieved. The regulatory agencies are anticipated to remain in an oversight role of the planning documents, removal action, and RACR to verify compliance with applicable regulations under CERCLA.

10.0 Recommendation and Signature

This Action Memorandum was prepared in accordance with current EPA and DON guidance documents for TCRAs under CERCLA (EPA, 2009; DON, 1996). This Action Memorandum documents, for the Administrative Record, the DON's decision to undertake a TCRA within an area of MRP Site 1a and CAOC 10 at the Storage Area and western extent of the Residential and Recreational Facilities Area at MCAS Yuma.

Documentation of regulatory concurrence with the Final Action Memorandum will be added to Appendix B on the Final version of this document.

[To be provided on Final version]

MCAS Yuma Commanding Officer
Col. Jared K. Stone.

Date

11.0 References

- Arizona Department of Environmental Quality (ADEQ), 2009. Arizona Title 18, Article 2 Soil Remediation Standards provided in R18-7-205 (Pre-determined Remediation Standards). March.
- Alliance Compliance Group Joint Venture (Alliance), 2011. Final Site Inspection Report, Munitions Response Sites 1, 2, 3, 4, 5, and 6, Marine Corps Air Station, Yuma, Arizona. May.
- CAPE Environmental Management Inc (CAPE), 2020. Final Removal Action Completion Report, Time Critical Removal Action at MRP Site 1a, Marine Corps Air Station Yuma, Yuma, Arizona. September.
- CAPE-Weston JV3, LLC (CAPE-Weston), 2025a. Explosives Safety Submission Determination Request, MRP Site 1a and CERCLA AOC 10 at MCAS, Yuma, AZ. July.
- CAPE-Weston, 2025b. Pre-Draft Combined Work Plan/Sampling and Analysis Plan, Time Critical Removal Action at MRP Site 1a and CERCLA AOC 10, MCAS Yuma, AZ. August.
- Jacobs Engineering Group Inc. [Jacobs], 1996. Final Marine Corps Air Station Yuma, Arizona, Operable Unit 2, Remedial Investigation (RI) Report. Final.
- MMEC (Multi-Media Environmental Compliance Group), 2021a. Final Feasibility Study Report, Munitions Response Program Site 1A. Prepared for Naval Facilities Engineering Systems Command Southwest. May 28.
- MMEC (Multi-Media Environmental Compliance Group), 2021b. Final Proposed Plan Cleanup of Residual Soils at Munitions Response Program 1A. Prepared for Naval Facilities Engineering Systems Command Southwest. November 01.
- PIKA-Malcom-Pirnie Joint Venture, LLC., (PIKA-Pirnie), 2014. Remedial Investigation Report. Munitions Response Program Site 01, Moving Base, Skeet, and Tower Trap Ranges, Marine Corps Air Station Yuma. Yuma Arizona. December.
- Sealaska Environmental Services, LLC., 2013. Final Site Characterization Report, Data Gap Investigation Results, OU-1 Areas 1 and 3, and OU-2 CERCLA AOC 1, 8A, 8B, and 10, Marine Corps Air Station Yuma, Arizona. October.
- Tetra Tech EC, Inc. (Tetra Tech), 2015. Draft Time-Critical Removal Action Closure Report Munitions Response Program Site 1b. June.
- Tetra Tech, 2019. Final Non-Time critical Removal Action Closure Report, Munitions Response Program Site 1a, Marine Corps Air Station Yuma, Arizona. July.
- United States Environmental Protection Agency (EPA), 2009. Superfund Removal Guidance for Preparing Action Memoranda. September.

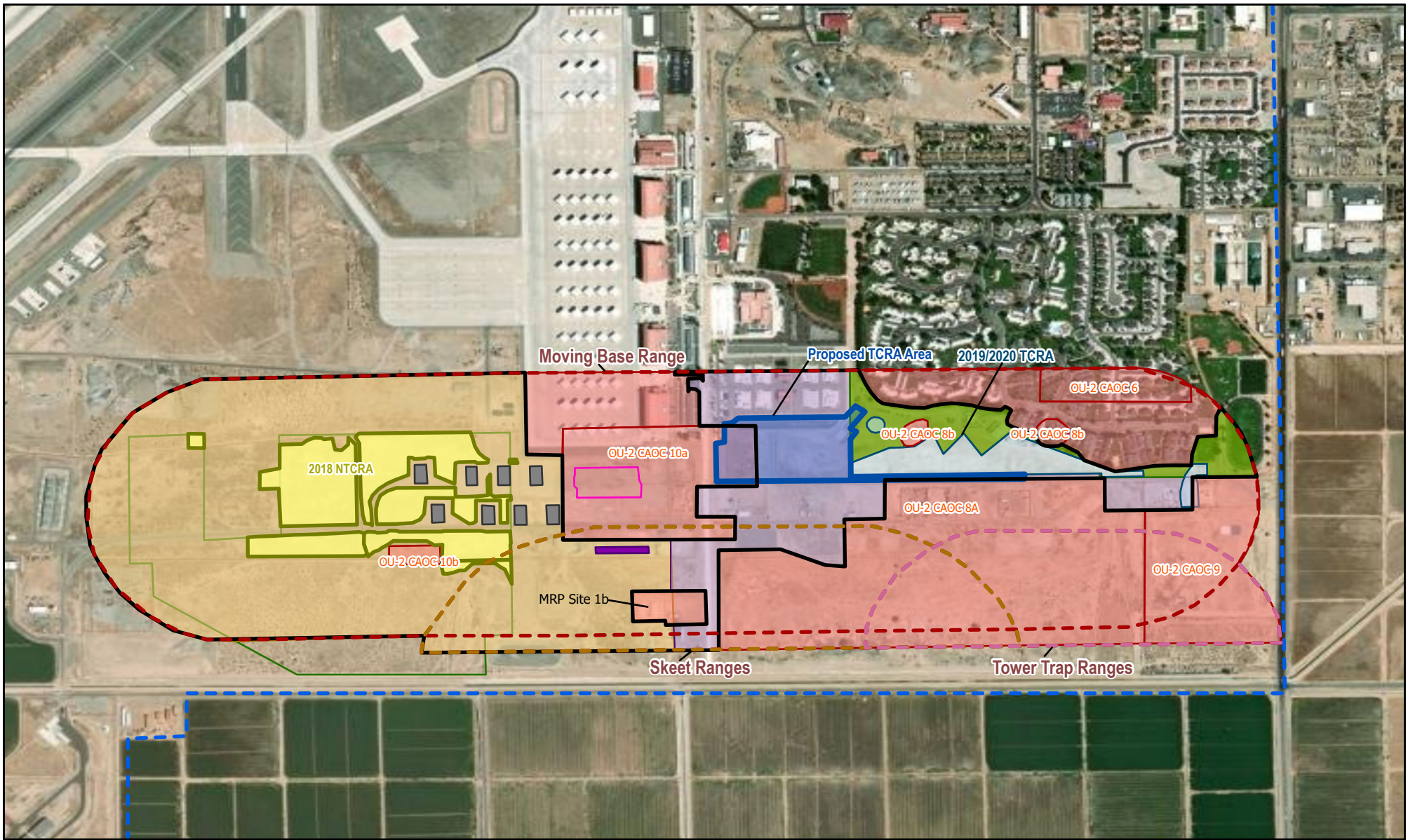
https://www.epa.gov/sites/default/files/2014-02/documents/superfund_removal_guide_for_preparing_action_memo.pdf.

EPA, 2024. Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, Office of Land and Emergency Management. 17 January 2024.

Uribe and Associates (Uribe), 1997. Final Record of Decision for Operable Unit 2, Marine Corps Air Station Yuma, Arizona. August.

Figures

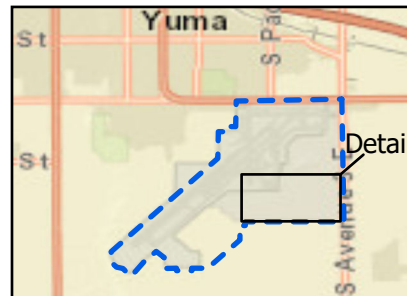
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Legend

- Proposed Renewable Energy Project Site
- Renewable Energy Project Site and Surrounding Area
- MCAS Yuma Storage and Surrounding Area
- Residential Area Recreational Facilities and Surrounding Area
- 2019/2020 TCRA Boundary
- Area Excluded from MRP Site 1a Feasibility Study
- Former Ammunition Storage Bunker
- Former Northern Missile Build-Up Area
- Former Southern Missile Build-Up Area
- 2018 NTCRA Boundary
- Moving Base Range
- Proposed TCRA Area
- MCAS Yuma Boundary
- MRP Site 1a Boundary
- Skeet Ranges
- Tower Trap

0 500 1,000 Feet

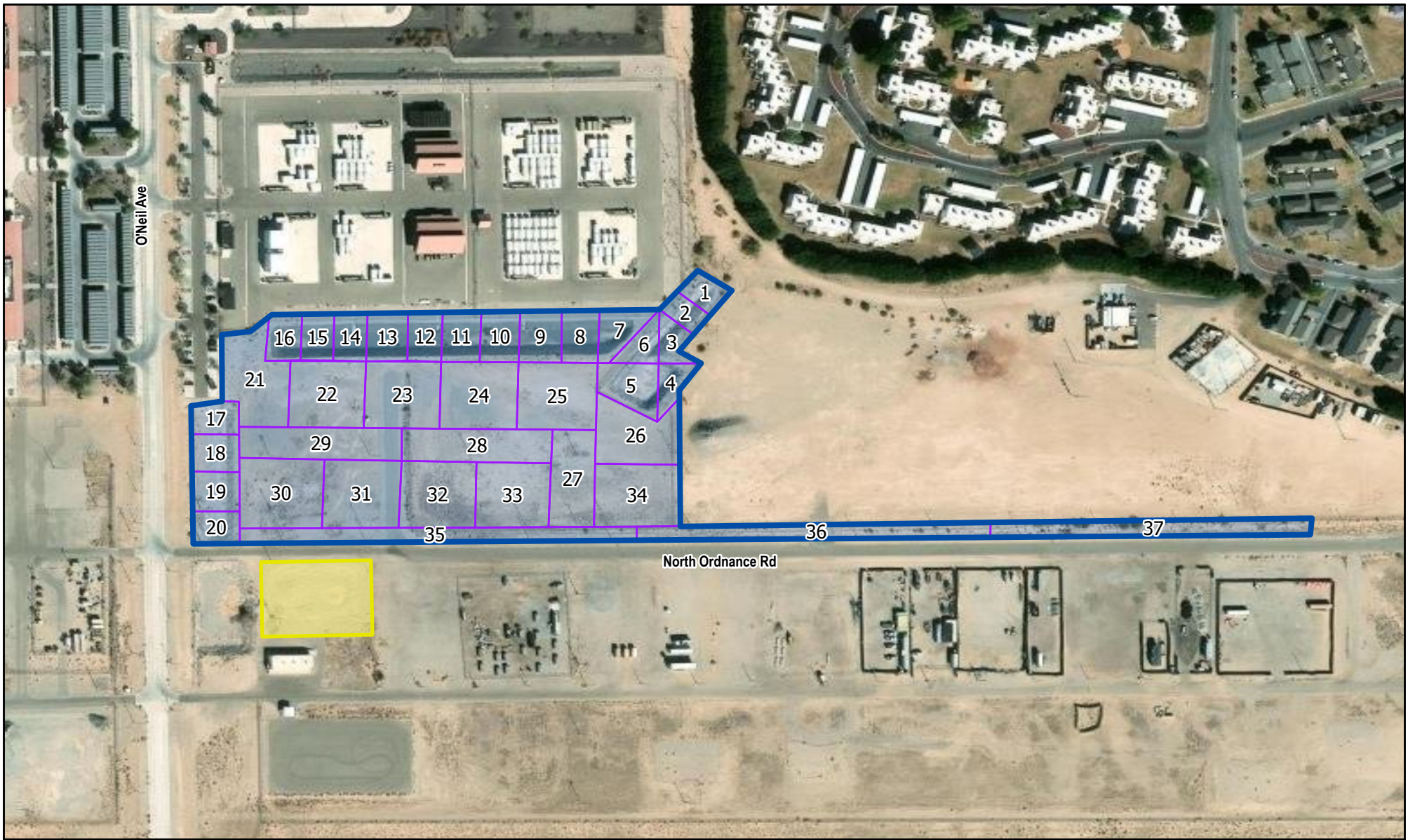


MRP Site 1 Features

Action Memorandum
MRP Site 1a and CAOC 10
Marine Corps Air Station Yuma, Arizona

PREPARED BY: Elisa Morgan	CONTRACT NO: N6274222D1800	October 2025
REVIEWED BY: Carson Bechtel	TASK ORDER: N6247325F0181	FIGURE: 1

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Legend

- Proposed TCRA Area
- Proposed Laydown Area
- Waste Sampling Grid

Notes:
The Proposed TCRA Area will be surrounded by perimeter safety fence.

0 250 500
 Feet

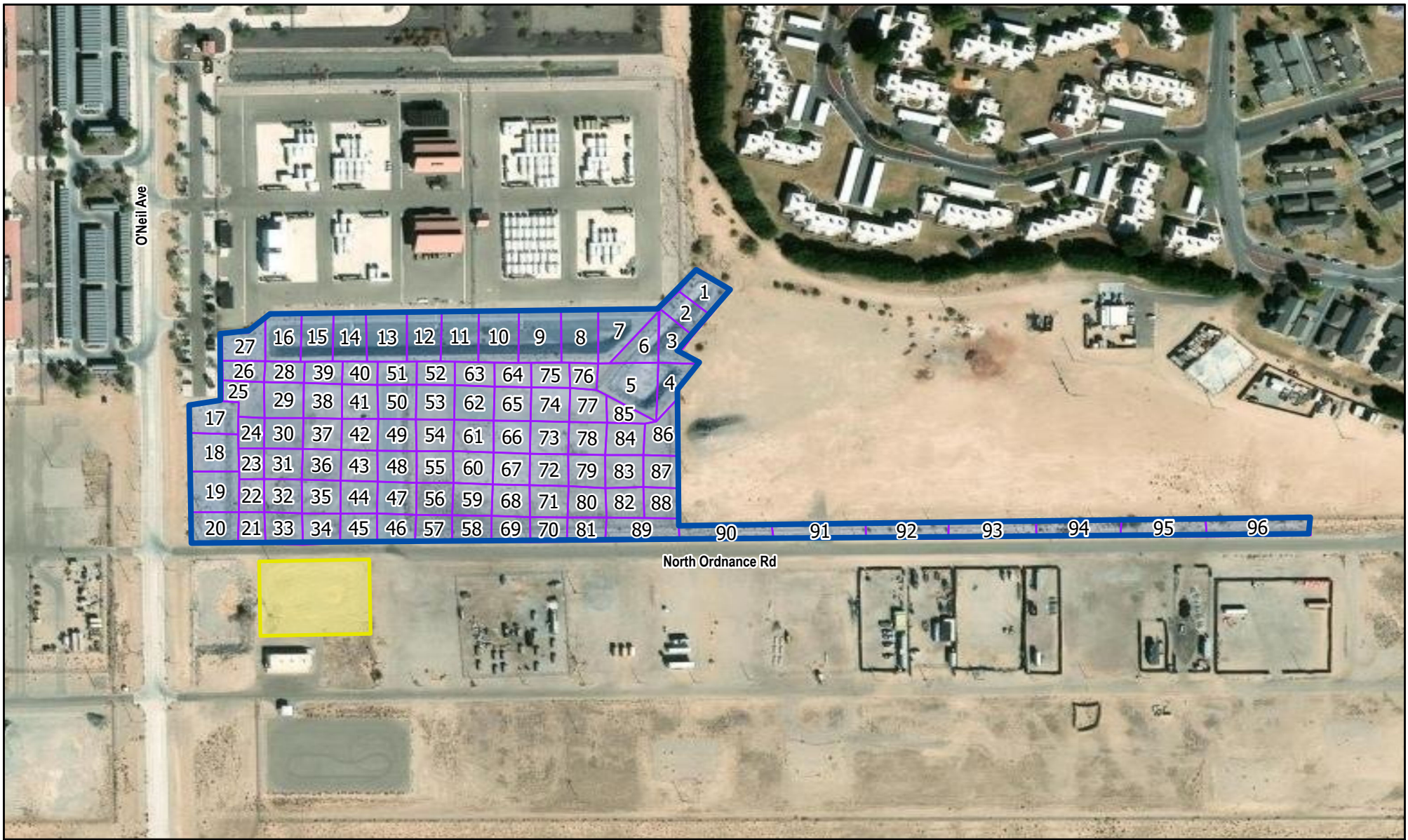


Waste Characterization Sampling Grid

Action Memorandum
MRP Site 1a and CAOC 10
Marine Corps Air Station Yuma, Arizona

PREPARED BY: Elisa Morgan	CONTRACT NO: N6274222D1800	November 2025
REVIEWED BY: Carson Bechtel	TASK ORDER: N6247325F0181	FIGURE: 2

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Legend

- Excavation Extent 2025
- Proposed Laydown Area
- Confirmation Sampling Grid

Notes:

The Proposed TCRA Area will be surrounded by perimeter safety fence.

Grid squares within drainage basins may not require excavation and confirmation sampling.

0 250 500 Feet



Confirmation Sampling Grid

Action Memorandum
MRP Site 1a and CAOC 10
Marine Corps Air Station Yuma, Arizona

PREPARED BY: Elisa Morgan	CONTRACT NO: N6274222D1800	November 2025
REVIEWED BY: Carson Bechtel	TASK ORDER: N6247325F0181	FIGURE: 3

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MRP Site 1A Yuma, AZ				Page 1 of 2			Data Date: 27-Oct-25			Date: 27-Oct-25 15:16			Layout: SBRAC V						
Activity ID	Activity Name	At pletion	Start	Finish	Qtr 4, 2025			Qtr 1, 2026			Qtr 2, 2026			Qtr 3, 2026			Qtr 4, 2026		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TCRA at MRP Site 1a at MCAS Yuma, AZ		384	20-Jun-25 A	20-Dec-26															
A1000	Contract Award Date	0	20-Jun-25 A																
A1010	Project Finish - Technical Completion Date	0		15-Dec-26														◆	
A1190	POP Expiration	0		20-Dec-26*														◆	
Work Element 1: Project Management and Mee		372	20-Jun-25 A	15-Dec-26															
A1470	Project Management	372	20-Jun-25 A	15-Dec-26	Project Management														
A1480	Project Kick-Off Meeting	2	01-Jul-25 A	02-Jul-25 A															
A1490	Fieldwork Kick-Off Meeting	1	21-Jan-26	21-Jan-26															
Work Element 2: Project Plans		151	20-Jun-25 A	27-Jan-26															
Action Memorandum		147	20-Jun-25 A	21-Jan-26															
A1020	Pre-Draft Action Memo	41	20-Jun-25 A	19-Aug-25															
A1030	Navy RPM and Installation Review	5	19-Aug-25 A	26-Aug-25															
A1040	Prepare Revised Pre-Draft Action Memo	4	26-Aug-25 A	02-Sep-25															
A1050	Navy Review/Approval	2	02-Sep-25 A	04-Sep-25															
A1060	Prepare Draft Action Memo	3	04-Sep-25 A	09-Sep-25															
A1070	Regulatory Review	35	15-Sep-25 A	31-Oct-25															
A1080	Prepare Draft-Final Action Memo and RTCs	1	03-Nov-25	03-Nov-25															
A1090	Navy Review/Approval of RTCs	5	04-Nov-25	10-Nov-25															
A1100	Prepare Final Action Memo	5	16-Dec-25	22-Dec-25															
A1101	Installation Review and Signature	20	23-Dec-25	21-Jan-26															
A1111	NIRIS Upload	0		21-Jan-26															
Public Notice		65	11-Sep-25 A	15-Dec-25															
A1510	Prepare Draft Public Notice	0	11-Sep-25 A																
A1520	Navy Review/Approval	0		12-Sep-25															
A1530	Publish Public Notice	0	12-Nov-25																
A1540	30-Day Public Review Period	22	12-Nov-25	15-Dec-25															
Work Plan		151	20-Jun-25 A	27-Jan-26															
A1160	Pre-Draft Work Plan	49	20-Jun-25 A	29-Aug-25															
A1170	Navy RPM and Installation Review	0	05-Sep-25 A	05-Sep-25															
A1180	Prepare Revised Pre-Draft Work Plans	5	15-Sep-25 A	19-Sep-25															
A1181	Navy RPM and Installation Review of Revised Version	4	23-Sep-25 A	26-Sep-25															
A1182	Revised Pre-Draft Work Plan	25	29-Sep-25 A	31-Oct-25															
A1183	Navy RPM Review/Approval	5	10-Nov-25	17-Nov-25															
A1192	Navy QAO Review	15	25-Nov-25	17-Dec-25															
A1193	Prepare RTCs	5	18-Dec-25	26-Dec-25															
A1195	Navy QAO and RPM Review/Approval of RTCs	5	29-Dec-25	05-Jan-26															
A1200	Prepare Draft Work Plan	5	06-Jan-26	12-Jan-26															
A1210	Regulatory Review	0	13-Jan-26	13-Jan-26															
A1220	Prepare RTCs	0	13-Jan-26	13-Jan-26															
A1230	Navy Review/Approval of RTCs	5	13-Jan-26	20-Jan-26															
A1240	Prepare Final Work Plan	5	21-Jan-26	27-Jan-26															
Health & Safety Plan		129	20-Jun-25 A	26-Dec-25															
A1110	Draft Health & Safety Plan (HSP)	94	20-Jun-25 A	31-Oct-25															
A1120	Navy / Installation / NMCFHPC Review	5	03-Nov-25	07-Nov-25															
A1130	Prepare RTCs	10	10-Nov-25	24-Nov-25															
A1140	Navy Review/Approval of RTCs	10	25-Nov-25	10-Dec-25															
A1150	Prepare Final HSP	10	11-Dec-25	26-Dec-25															
Explosive Safety Submission Determination Request		105	20-Jun-25 A	18-Nov-25															
A1580	Prepare ESS DR	18	20-Jun-25 A	16-Jul-25 A															
A1590	Navy and Installation ESO Review	0		17-Jul-25 A															
A1600	Prepare Revised ESS DR	0		17-Jul-25 A															

Remaining Level of Effort

Actual Work

Critical Remaining Work

Actual Level of Effort

Remaining Work

◆ Milestone

TASK filter: All Activities

Cape-Weston JV3, LLC

Date

26-Sep-25

Revision

001

Checked

Approved

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Tables

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Table 1: Action Specific ARARs

Action/Requirement	Citation	ARAR Determination	Comments
Resource Conservation and Recovery Act (42 USC. § 6901 et seq.)			
On-site waste generation. Person who generates solid waste shall determine whether that solid waste is a hazardous waste. Arizona regulation generally incorporates applicable federal regulations.	ARS Title 49, § 49-922; and AAC R18-8-261/262. The above State regulations incorporate 40 CFR 261 and 40 CFR 262.	Applicable for solid wastes generated during the TCRA	Applicable for any operation where waste is generated. The determination of whether wastes generated during remedial activities are hazardous (ignitable, corrosive, reactive, or toxic) will be made at the time that the wastes are generated, which typically involves sampling and analysis following EPA SW-846 methods.
On-site hazardous waste accumulation is allowed for up to 90 days as long as the waste is stored in appropriate containers and designated storage areas. Arizona regulation generally incorporates applicable federal regulations.	40 CFR 262 and 264 Subpart I	Applicable, if hazardous waste is generated during the removal action	Waste accumulation requirements would be applicable if lead shot wastes are present and segregated based on the hazardous waste determination described above for wastes classified as RCRA hazardous being accumulated on site. Containers of RCRA hazardous waste must be: • Maintained in good condition • Compatible with hazardous waste to be stored • Kept closed during storage, except to add or remove waste • Separated by means of a dike or other barrier if materials are incompatible
ADEQ Air Pollution Control			
Parties involved in remedial activities must ensure attainment of the following particulate matter standards: PM10 - The primary and secondary ambient air quality standard is 150 micrograms per cubic meter – 24-hour average concentration. PM2.5 - The primary ambient air quality standards for PM2.5 are 12 micrograms per cubic meter of PM2.5 – annual arithmetic mean concentration; and 35 micrograms per cubic meter of PM2.5 – 24-hour average concentration.	A.A.C. Title 18, Chapter 2, Sections 604, 606 through 607	Applicable	All individuals must take reasonable precautions and apply Best Management Practices (BMPs) to minimize airborne dust and particulate matter. A water truck will be used for dust suppression on roadways and within the TCRA area, as needed. Multiple air monitoring stations will be setup upwind and downwind of the TCRA area to ensure there is no offsite transport of air pollution.

Action/Requirement	Citation	ARAR Determination	Comments
Arizona Clean Air Act			
Parties involved in remedial activities should implement voluntary Best Management Practices to reduce or prevent PM10 particulate emissions for dust generating activities as soon as practicable before and during a day that is forecast to be at high risk of dust generation.	A.R.S. §§ 49-401 through 516	Relevant and Appropriate	Dust-generating operations relevant to this TCRA are: earthmoving, excavating, bulk material handling, operation of outdoor equipment, operation of outdoor equipment, operation of motorized machinery; establishing staging area, material storage areas, or access routes; and establishing or using unpaved haul or access roads. A water truck will be used for dust suppression on roadways, disturbed material, excavated or stockpiled material, and elsewhere as needed. Additional BMPs will be implemented as needed.
Arizona Department of Transportation, Hazardous Materials Transportation			
Hazardous waste must be transported in a manner so as to protect human health and the environment. Arizona regulation generally incorporates applicable federal regulations.	A.A.C. Title 17, Chapter 5, Section 209	Applicable, if hazardous waste is generated and transported during the TCRA	If hazardous waste is generated and thereafter transported during the TCRA, the following regulations will be followed for hazardous material transport: A.A.C. R17- 5-209 incorporates by reference, as amended, relevant parts of the Federal Hazardous Materials Regulations (49 CFR - Transportation, Subtitle B - Other Regulations Relating to Transportation, Chapter I - Pipeline and Hazardous Materials Safety Administration, Department of Transportation).
Arizona Hazardous Waste Disposal			
Hazardous waste must be properly managed, treated, stored, transported, and disposed of. Arizona regulation generally incorporates applicable federal regulations.	A.R.S. §§ 49-901 through 49-973	Applicable	All hazardous waste activities will be conducted in a manner consistent with Arizona's hazardous waste program and aligned with federal RCRA standards, ensuring protection of human health and the environment.

Action/Requirement	Citation	ARAR Determination	Comments
Arizona Hazardous Waste Management			
Hazardous waste, including waste relating to munitions or explosives must be properly managed, treated, stored, transported, and disposed of appropriately. Arizona regulation generally incorporates applicable federal regulations. R18-8-262(C): For the limited time period required to control, mitigate, or eliminate the immediate threat, persons responding to an explosives or munitions emergency in accordance with 40 CFR 264.1(g)(8)(i)(D) or (iv), or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii) are not required to comply with the standards of this part. As soon as the immediate response activities are completed, all standards of this part apply. For purposes of this rule, ADEQ does not consider emergency response personnel to be generators of residuals resulting from immediate responses, unless they are also the owner of the object of an emergency response. R18-8-263: Standards Applicable to Transporters of Hazardous Waste. All of 40 CFR 263 is incorporated by reference.	A.A.C. Title 18, Chapter 8, Sections 260 through 268	Applicable	A UXO Technician II will conduct a visual survey of the work area for MEC prior to commencing the TCRA. MEC is not anticipated to be present; the visual survey is a precaution. If MEC or material potentially presenting an explosive hazard is identified, the item location will be isolated and the installation's Explosives Ordnance Disposal Office will be contacted for item removal/disposal. All hazardous waste activities including those relative to munitions and explosives will be conducted in a manner consistent with Arizona's hazardous waste program and aligned with federal RCRA standards, ensuring protection of human health and the environment.

Action/Requirement	Citation	ARAR Determination	Comments
R18-8-264(C) applies to an emergency response that poses an immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 40 CFR 260.10. R18-8-266: Standards for the Management of Specific Hazardous Wastes and Specific Hazardous Waste Management Facilities. All of 40 CFR 266 is incorporated by reference.			
Arizona Pollutant Discharge Elimination System (AZPDES)			
General permit, AZG2020-001 CGP, authorizes, under the Arizona Pollutant Discharge Elimination System (AZPDES) program, stormwater discharges of pollutants associated with construction activity to all waters on the protected surface water list, including discharges to waters of the U.S. (WOTUS) and non-WOTUS protected surface waters. This general permit authorizes stormwater discharges associated with “construction activities,” that will disturb one or more acres of land, or will disturb less than one acre, but is part of a common plan of development that will ultimately disturb one acre or more (see 40 CFR 22.26(b)(15)(ii)). All discharges authorized by this general permit shall be consistent with the terms and conditions of the general permit. Permit coverage is required from the “commencement of construction activities” until “final	A.R.S. § 49, Chapter 2, Article 3.1 A.A.C. Title 18, Chapter 9, Article 9, and Chapter 11, Article 1 A.R.S. Title 49 Chapter 2, Article 3.1 et seq. (non-WOTUS). A.R.S. § 49-255.04 AZPDES Construction General Permit AZG2020-001 CGP	Not Applicable	EPA policy states that CERCLA on-site response actions do not require federal, state, or local permits (i.e., NOI for stormwater discharge), but must still comply with the substantive requirements of those permits as ARARs.

Action/Requirement	Citation	ARAR Determination	Comments
stabilization.” Persons seeking authorization for stormwater discharges under this general permit shall submit a Notice of Intent (NOI) to ADEQ. Prior to submission of an NOI, a Person seeking authorization to discharge under the general permit shall: Develop a SWPPP that meets the requirements of Part 6 of the permit, and that covers the entire site. The SWPPP shall be prepared by a qualified person, prior to submission of the NOI and shall be implemented prior to the start of construction activities. EPA policy on ARARs with respect to obtaining permits for activities at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites. EPA 540/F-93/009, OSWER 9355.7-03, NTIS: PB93-963325INZ, February 1992. “In implementing remedial actions, EPA has consistently taken the position that the acquisition of permits is not required for on-site remedial actions. However, this does not remove the requirement to meet (or waive) the substantive provisions of permitting regulations that are applicable or relevant and appropriate requirements (ARARs).”			

Action/Requirement	Citation	ARAR Determination	Comments
<i>EPA Off-Site Rule</i>			
The off-site rule applies to any remedial or removal action involving the off-site transfer of any hazardous substance, pollutant, or contaminant as defined under CERCLA sections 101 (14) and (33) ("CERCLA waste") that is conducted by EPA, States, private parties, or other Federal agencies, that is Fund-financed and/or is taken pursuant to any CERCLA authority, including cleanups at Federal facilities under section 120 of CERCLA, and cleanups under section 311 of the Clean Water Act (except for cleanup of petroleum exempt under CERCLA). Applicability extends to those actions taken jointly under CERCLA and another authority.	40 CFR 300.440	Applicable	CAPE-Weston or NAVFAC RPM will notify the EPA of the type of CERCLA wastes that will be generated and the intended off-site disposal facility. EPA (usually the EPA Regional Office) will determine the acceptability under this section of any facility selected for the treatment, storage, or disposal of CERCLA waste. EPA will determine if there are relevant releases or relevant violations at a facility prior to the facility's initial receipt of CERCLA waste. A facility which has previously been evaluated and found acceptable under this rule (or the preceding policy) is acceptable until the EPA Regional Office notifies the facility otherwise pursuant to § 300.440(d).
<i>Investigation Derived Waste Policy</i>			
The policy establishes guidance for managing Investigation-Derived Wastes (IDW) and describes various types and classifications of IDW. Management and disposal options will depend on whether the materials derived from investigative activities are solid waste, hazardous waste, or another type of waste, and the final disposition of IDW, whether on-site or off-site.	ADEQ Investigation Derived-Wastes (IDW) Policy. August 9, 2005, Rev. No. 1.	Relevant and Appropriate	The TCRA will incorporate the substantive provisions of this policy to ensure that all IDW is properly identified, handled, stored, and disposed of in compliance with ADEQ expectations (A.A.C. Title 18, Chapter 8) and federal RCRA standards (40 CFR 260 through 268).

Notes:

Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the United States Department of the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table, below each general heading; only substantive requirements of the specific citations are considered potential ARARs.

Abbreviations and Acronyms:

AAC = Arizona Administrative Code; ADEQ = Arizona Department of Environmental Quality; ARAR = applicable or relevant and appropriate requirement; ARS = Arizona Revised Statute; CFR = Code of Federal Regulations; RCRA = Resource Conservation and Recovery Act; SRL = Soil Remediation Level; TBC = To Be Considered; TCLP = toxicity characteristic leaching procedure

Table 2: Chemical Specific ARARs

Requirement	Citation	ARAR Determination	Comments
<i>Resource Conservation and Recovery Act</i>			
Defines RCRA hazardous waste. A solid waste is characterized as toxic if the waste exceeds the TCLP maximum concentrations.	40 CFR 261.10, 261.11 40 CFR 261 Subpart C Sections 261.20- 261.24	Applicable	These regulations are applicable to activities that generate waste for off-site disposal. The Navy will generate waste during implementation of this TCRA. The Navy will determine whether the waste meets the definition of RCRA hazardous waste when it is generated.
<i>Groundwater Protection Limits (ADEQ, 1996)</i>			
Sets screening levels to determine residual soil concentrations protective of groundwater.	AAC R18-11-405; A Screening Method to Determine Soil Concentrations Protective of Groundwater Quality (ADEQ, June 1996)	Applicable	ADEQ's screening levels for residual soil concentrations protective of groundwater will be used to guide cleanup goals and evaluate completion of TCRA.
<i>Arizona Aquifer Water Quality Standards (AWQS)</i>			
Sets chemical specific narrative and numeric groundwater standards.	ARS Section 49-223 AAC R18-11-Article 4 AAC R18-11-406. Numeric Aquifer Water Quality Standards: Drinking Water Protected Use	Not Applicable	This TCRA is not involving any groundwater remediation. There will be no discharges to groundwater (as would result from stormwater infiltration within areas being excavated) that would cause a pollutant to be present above a numeric standard in an aquifer classified for drinking water.
<i>Aquifer Identification, and Classification</i>			
All aquifers in the State identified are classified for drinking water protected use.	A.R.S.§ 49- 224(B)	Relevant and Appropriate	The TCRA will be performed ensuring that discharges do not impair aquifers presumed to be used for drinking water.

Requirement	Citation	ARAR Determination	Comments
Arizona Soil Remediation Standards, March 2009			
Provides the ADEQ Tier 1 residential cleanup standards for soil contamination.	A.R.S. §49-151 through -159 A.A.C. Title 18, Chapter 7, Sections 201 through 207	Applicable	Soils will be excavated and removed from a site intended for future UU/UE; therefore, the state's substantive residential cleanup standards will be accepted as the project cleanup goals for PAHs.
EPA Guidance for Lead Contamination in Residential Soil, January 2024			
Guidance for Lead contamination in Soil for future residential uses at CERCLA Sites and RCRA Corrective Action Facilities is provided by the EPA.	Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, United States Environmental Protection Agency (EPA) - Office of Land and Emergency Management, 17 January 2024 (EPA, 2024).	Applicable	Soils will be excavated and removed from a CERCLA site with lead-impacted soil. The updated EPA RSL of 200 mg/kg will be accepted as the project cleanup goal for lead.

Notes:

Statutes and policies and their citations are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table, below each general heading; only substantive requirements of the specific citations are considered potential ARARs.

Reference: PIKA-Pirnie 2014. Remedial Investigation Report. Munitions Response Program Site 01, Moving Base, Skeet, and Tower Trap Ranges, Marine Corps Air Station Yuma. Yuma Arizona. December.

Abbreviations and Acronyms:

§ = section; ARAR = applicable or relevant and appropriate requirement; ARS = Arizona Revised Statute; CFR = Code of Federal Regulations; ESA = Endangered Species Act; MRP = Munitions Response Program; Navy = Department of the Navy; Pub. L. = Public Law; U.S. = United States; USC = United States Code

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Table 3: Location Specific ARARs

Location/Requirement	Citation	ARAR Determination	Comments
<i>Archaeological Resources Protection Act of 1979, as Amended (16 U.S.C. § 470 aa – 470mm)</i>			
Restrictions and Notifications for archaeological discoveries. ARS 41-841(A): On lands owned or controlled by this state or any agency of this state a person shall not knowingly excavate in or upon any historic or prehistoric ruin, burial ground, archaeological or vertebrate paleontological site, or site including fossilized footprints, inscriptions made by human agency or any other archaeological, paleontological or historical feature. ARS 41-841(B): On lands owned or controlled by this state or any agency of this state a person shall not knowingly collect any archaeological specimen or vertebrate paleontological specimen without obtaining a permit authorizing the activity as provided under section 41-842. ARS 41-843. No person, institution or corporation shall deface or otherwise alter any site or object embraced within the terms of sections 41-841 and 41842, except in the course of activities pursued under the authority of a permit granted by the director of the Arizona state museum. ARS 41-844(A). A person in charge of any survey, excavation, construction or other like activity on any lands owned or controlled by this state, by any public agency or institution of the state, or by any county or municipal corporation within the state shall report promptly to the director of the Arizona state museum.	Pub. L. No. 96-95 16 USC. § 470aa – 470mm 41 ARS Sections 841-847, 865	Relevant and appropriate	Substantive provisions of this act (No person may excavate, remove, damage, or otherwise alter or deface, or attempt to excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands unless permitted) are relevant and appropriate for this project should archaeological resources be discovered during the course of excavation. Currently, there are no known or documented cultural resources or archaeological resources present at MRP Site 1a based on information provided in the RI Report (PIKA-Pirnie, 2014). If suspected archaeological resources are discovered during the excavation, work will stop, the Navy will be notified, and the items will be protected in place and not disturbed further until they can be properly evaluated by qualified archaeological personnel.

Location/Requirement	Citation	ARAR Determination	Comments
Endangered Species Act of 1973 (16 USC § 1531-1543)			
Federal agencies may not jeopardize the continued existence of any listed species or cause the destruction or adverse modification of critical habitat	16 USC § 1536(a)(2), and (h)(1)(B); § 1538(a)(1)(B) and (G); 50 CFR 200 and 402	Relevant and appropriate	Substantive provisions are considered relevant and appropriate for the removal action that no person may take any such species within the United States or territorial sea of the United States. Currently, MRP site 1a is not known specifically to contain federally listed threatened or endangered species under the ESA (PIKA-Pirnie, 2014) and is considered to lack critical habitat. However, there is a potential for several species that have special recognition status from federal, state, or local conservation agencies (PIKA-Pirnie, 2014) to be present in the Yuma area – the Yuma clapper rail [federally listed as endangered] (<i>Rallus longirostris vumanensis</i>), the Mojave desert tortoise [federally listed as threatened] (<i>Gopherus agassizi</i>), and the flat-tailed horned lizard [protected in Arizona] (<i>Phrynosoma mcallii</i>). In addition, the dune sunflower [federal species of concern] (<i>Helianthus niveus ssp. Tephrodes</i>), great egret [wildlife of special concern in Arizona] (<i>Ardea alba</i>), snowy egret [wildlife of special concern in Arizona] (<i>Egretta thula</i>), and the Western burrowing owl [vulnerable under National Heritage status] (<i>Athene cunicularia hypugaea</i>) may be present within 5 miles of MRP Site 1a. Actions undertaken during the removal action shall not result in a “take” of a listed species or loss of critical habitat. No critical habitat is present within the Site and installation natural resources personnel have determined that no listed species are present within the Site. If listed species are detected during the excavation, work will stop, the Navy will be notified, and installation natural resources staff will determine the course of action.

Location/Requirement	Citation	ARAR Determination	Comments
<i>Migratory Bird Treaty Act of 1972 (16 USC) §§ 703-712</i>			
Protects almost all species of native migratory birds in the U.S. from unregulated “take” which can include poisoning at hazardous waste sites.	16 USC § 703	Relevant and appropriate to any migratory birds present at the site.	The Site does not contain likely habitat for a migratory bird, because the Site is disturbed and mostly barren; however, migratory birds, including the Western burrowing owl (<i>Athene cunicularia hypugaea</i>), which is considered to be “partially migratory,” may be present at times. Other migratory birds, such as the great egret (<i>Ardea alba</i>) and the snowy egret (<i>Egretta thula</i>), are less likely to be present because there are no wetlands or surface waters at or in the vicinity of the Site. Substantive provisions are considered relevant and appropriate. The planned removal action will be conducted in a manner protective of potential migratory bird species, if present. The substantive provisions prohibit, at any time, using any means or manner, the pursuit, hunting, capturing, and killing or the attempt to take, capture, or kill any migratory bird. Also prohibited is the possession, sale, export, and import of any migratory bird or any part of a migratory bird, as well as nests and eggs. Actions undertaken during the removal action shall not result in a “take” of migratory birds.
<i>Protection and salvage of Native Plants</i>			
Protects native plants by regulating their collection, salvage, and transport, ensuring preservation of ecological, cultural, and aesthetic values.	A.R.S. § 3-906	Relevant and Appropriate	Native plants are not anticipated to be present. The site is sparsely vegetated and an endangered species survey found no federally listed threatened or endangered flora or fauna within MCAS Yuma Boundary (Alliance, 2011). A person shall not take, transport or possess any protected native plant taken from the original growing site in this state without possessing a valid permit. A permit to take, transport or possess native plants is nontransferable.

Location/Requirement	Citation	ARAR Determination	Comments
Arizona Taking of Birds			
Prohibits the unauthorized taking, injuring, harassing, or removal of birds, their nests, or eggs, except as may occur in normal horticultural and agricultural practices and except as authorized by commission order.	A.R.S. § 17-236(A)	Applicable	Site activities will be planned and conducted to avoid the taking, injuring, or harassment of birds, their nests, or eggs. Pre-construction surveys will be performed to identify active nests, and protective buffers will be established as needed. If any disturbance is unavoidable, coordination with the Arizona Game and Fish Commission will be initiated to obtain appropriate authorization.
Use of a Declaration of Use Restriction (DEUR)			
Subsequent Limitation on use of property - The owner of a property may elect to remediate the property to meet a site specific residential or nonresidential risk-based remediation standard or a predetermined residential or nonresidential risk-based remediation standard. The property is suitable for unrestricted use if it has been remediated without the use of engineering or institutional controls	A.R.S. §49-152(B)	Applicable	The site will be remediated to meet predetermined residential standards. The remedial action will aim to achieve unrestricted use without reliance on engineering or institutional controls.
Election of an engineering or institutional control - The owner of a property has elected to use an engineered or institutional control to meet the standards prescribed in A.R.S. §49-152 (B) or if concentrations remain on the property exceeding applicable residential standards, the property owner must record a restrictive covenant labeled as a Declaration of Use Restriction pertaining to the area of the property necessary to protect human health and environment and restrict residential land use.	A.R.S. §49-152(C)	Applicable	If engineering or institutional controls are necessary to meet applicable remediation standards, a Declaration of Use Restriction will be prepared for the affected portion of the Site. This will clearly define the restricted area, limit residential land use, and ensure long-term protection of human health and the environment. The controls and restrictions will be documented in the RACR and maintained as part of the site's future use plan.

Location/Requirement	Citation	ARAR Determination	Comments
Soil remediation standard - A person subject to this Article shall remediate soil so that any concentration of contaminants remaining in the soil after remediation is less than or equal to one of the following: 1. The background remediation standards prescribed in R18-7-204. 2. The pre-determined remediation standards prescribed in R18-7-205. 3. The site-specific remediation standards prescribed in R18-7-206.	A.A.C. R18-7-203	Applicable	The Site soil will be remediated so that post-cleanup contaminant concentrations meet pre-determined residential soil remediation standards (R18-7-205) (defined in Section 4.0). The selected standard will be documented in the verified through confirmation sampling to ensure compliance and protect human health and the environment.
Soil remediation standard - Background – (A) A person may elect to remediate to a background concentration for a contaminant. (B) A person who conducts a remediation to a background concentration for a contaminant shall establish the background concentration using all of the following factors: 1. Site-specific historical information concerning land use. 2. Site-specific sampling of soils unaffected by a release, but having characteristics similar to those of the soils affected by the release. 3. Statistical analysis of background concentrations using the 95th percentile upper confidence limit.	A.A.C. R18-7-204(A) (B)	Not Applicable	The Site soil will be remediated so that post-cleanup contaminant concentrations meet pre-determined residential soil remediation standards, rather than background levels.
Soil remediation standard - pre-determined – A. A person may elect to remediate to the residential or non-residential soil remediation levels (SRLs) in Appendix A. If allowed under R18-7-202(E), a person may also elect to remediate to the residential or non-residential SRLs in Appendix B. B. A person who conducts remediation pursuant to this Article shall remediate to the residential SRL on any property where there is residential use at the time remediation is completed.	A.A.C. R18-7-205	Applicable	The Site soil will be remediated so that post-cleanup contaminant concentrations meet pre-determined residential soil remediation standards.

Location/Requirement	Citation	ARAR Determination	Comments
Soil remediation standard - Site Specific - A person may elect to remediate to a residential or a non-residential site-specific remediation level derived from a site-specific human health risk assessment.	A.A.C. R18-7-206	Not Applicable	The Site soil will be remediated so that post-cleanup contaminant concentrations meet pre-determined residential soil remediation standards, rather than site specific levels.
Election of Declaration of Environmental Use Restriction under A.R.S. 152 - A property owner who elects to leave contamination on a property that exceeds the applicable residential standard for the property under R18-7-205 or R18-7-206, or elects to use an institutional control or an engineering control to meet the requirements of R18-7- 205, R18-7-206, or R18-7-207, shall record a DEUR pursuant to A.R.S. § 49-152 and comply with the related provisions of that statute and applicable rules.	A.A.C. R18-7-208	Applicable	If residual contamination after excavation exceeds pre-determined residential soil remediation standards under R18-7-206, next steps will be discussed with the NAVFAC RPM. If residual contamination exceeding pre-determined residential soil remediation standards is left in-place, or if institutional or engineering controls are used to meet these standards, a DEUR will be recorded for the affected portion of the property. This DEUR will define the restricted area, describe the controls in place, and ensure long-term protection of human health and the environment.

Notes:

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Abbreviations and Acronyms:

§ = section; AAC = Arizona Administrative Code; ARAR = applicable or relevant and appropriate requirement; ARS = Arizona Revised Statutes; CFR = Code of Federal Regulations; DON = United States Department of the Navy; EPA = U.S. Environmental Protection Agency; RCRA = Resource Conservation and Recovery Act; TCRA = time-critical removal action; USC = United States Code

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Appendix A: Response to Public Comments

This appendix will be updated in the Final version.

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Appendix B: Regulatory Concurrence

This appendix will be updated in the Final version.

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