



**Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310**

**FINAL
EXPLOSIVES SAFETY SUBMISSION
Revision 3
June 18, 2007**

**INSTALLATION RESTORATION SITE 1
FORMAL NAVAL AIR STATION ALAMEDA
ALAMEDA POINT, ALAMEDA, CALIFORNIA**

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Program Management Office West
1455 Frazee Road, Suite 900
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CONTRACT NO. N62473-06-D-2201
CTO No. 0015

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INSTALLATION RESTORATION SITE 1
FORMER NAVAL AIR STATION ALAMEDA
ALAMEDA POINT, ALAMEDA, CALIFORNIA

DCN: ECSD-RACIV-07-0327.R3



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A handwritten signature in black ink, appearing to read 'Abram S. Eloskof', written over a horizontal line.

Abram S. Eloskof, M.Eng., M.Sc., CIH
Project Manager



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On the portion of the berm suspected to contain buried debris, the procedures used for the disposal pit excavation will be used.

All of the soil will be transported to the lay-down pad, layered, and surveyed again for radiological sources. After the survey on the lay-down pad, the soil will be transported to the screening plant stockpile. This process will be repeated until the berm has been removed.

Recovered MPPEH items will be placed in a container at a temporary collection point awaiting transportation to the magazine. The collection point will be located near the excavation outside the established inter-line (IL) distance. The MPPEH items will be stored in wooden boxes (or other suitable containers). Near the end of each work day, the accumulated items will be counted, entered into the UXO acquisition log, and stored in the magazine until the certification/verification process is completed. These activities will take place in the MPPEH processing area.

6.5 SOIL SCREENING

The soil and debris from the debris pits and the former Firing-range Berm will be processed through a screening plant. The screening plant is anticipated to be a Trommel equipped with a 6-inch grizzly and a rotating drum (approximately 6 feet in diameter and 25 feet long) fitted with $\frac{3}{4}$ -inch screens. (A Trommel screening plant with 2 screen drums may be used if one can be located.) The $\frac{3}{4}$ -inch screen size will prevent 20mm projectiles from passing through it. The excavated soil/debris will be processed as follows:

- Loaders will place the soil atop the feed hopper grizzly. All soil clumps and objects larger than 6 inches will drop off the back of the grizzly, while soil and debris smaller than 6 inches in size will drop into the feed hopper, where it will be transported, via a conveyor, to the Trommel.
- Soil and debris larger than $\frac{3}{4}$ -inch will be transported out of one end of the Trommel drum. As shown in Figure 2-2, a conveyor will be placed there, which will move the material to a stockpile. A UXO technician will monitor the oversized materials on the conveyor for MPPEH items.
- Soil and objects smaller than $\frac{3}{4}$ inches (the “fines”) will pass through the Trommel screen and be carried by conveyor to another stockpile.

The UXO technician(s) monitoring the oversized materials from the Trommel as they travel down the conveyor will be stationed on an observation platform equipped with Lexan or plexi-glass shields and a “kill switch” to halt the screen plant if MEC/MPPEH items are observed. A quality control (QC) check of both the >6-inch and > $\frac{3}{4}$ -inch stockpiles will be performed and is discussed in Section 6.6. Figure 2-2 provides a drawing of the planned screening plant configuration.

A loader may be used to return soil clumps and other debris that do not break down in the Trommel to the feed hopper for reprocessing. Items that do not break down after several passes through the screen plant will be inspected with radiological instruments and metal detectors to determine if MEC/MPPEH or radiological items might be present inside the clumps. Those clumps that test positive for metal and/or radiation will be disassembled with armored EMM by cutting them into small segments with EMM buckets or crushing them with the tracks and/or buckets.

6.5.1 MEC and MPPEH

EZs will be established prior to operations in areas where an MGFDF has been identified and are discussed in Section 7.

MEC Procedures

If UXO technicians encounter a MEC item, excluding those classified as MPPEH during any step of the removal and screening process, they will direct that work be stopped and will notify the SUXOS. The SUXOS will then confirm the item's identity and if the EZ must be expanded, will consult with NOSSA N54, and then direct that the EZ be adjusted accordingly. The SUXOS will also make required notifications (PjM, RPM, Resident Officer in Charge of Construction, Caretaker Site Manager, Alameda Police, etc.), and the Bay Area Explosive Ordnance Disposal (EOD) Detachment, U.S. Air Force at Travis, will be requested to respond. The contact information for the EOD Detachment is found in standard operating procedure (SOP)-11, which is maintained in the project field office. While waiting for the EOD response, the SUXOS will supervise the preparation of the site for their arrival by placing barricades on the road at the EZ boundaries, photographing the MEC item, recording pertinent information, etc. When EOD personnel arrive, the project UXO technicians will provide assistance as necessary.

Encountering MEC with a Greater Fragment Distance than the MGFDF or Contingency MGFDF

If, while executing a munitions response, a MEC item is encountered with a greater fragmentation distance than the selected MGFDF or a greater fragmentation distance than the contingency MGFDF, the SUXOS will direct the cessation of removal operations and contact the PjM and UXO coordinator. The PjM will notify the DON Remedial Project Manager (RPM) and direct the UXO coordinator to liaise with NOSSA N5 to request permission to proceed after an EZ appropriate to the MEC item found is put in place, and to submit an amended ESS.

Encountering MEC with Approved Contingency MGFDFs

If a MEC item with a greater fragmentation distance than the selected MGFDF is encountered, the arcs and distances for the contingency MGFDF will be installed and the PjM will: (1) select a new

MGFD with a fragmentation distance greater than the MEC encountered from the list of contingency MGFDs in the ESS; (2) implement the increased protection required by the new MGFD; and (3) notify NOSSA N54 of the change in MGFD. If the newly encountered MEC has a MGFD less than the contingency MGFD, the PjM may submit a revised ESS to NOSSA N54. NOSSA shall provide the PjM with EZs specific to the new MGFD following guidance found in Department of Defense Explosives Safety board (DDESB) Technical Paper 16 *Methodologies for Calculating Primary Fragment Characteristics* (DDESB, 2003). The change in the MGFD will be documented in the After Action Report.

MEC Processing, Storage and Demilitarization

The MPPEH Processing and Storage Location (Magazine M354) will be used for the certification and verification process, where each item will receive a dual inspection and receive an explosive safety designation of 5X and safe. Following the inspections, the required documentation will be completed and the items stored in a drum or other suitable container. 5X material will not be commingled with items that have not undergone the certification/verification process. These activities are planned to take place inside Magazine M354.

When the removal action is complete, and all recovered 20mm TP projectiles will be demilitarized. The SUXOS will determine the method used for the demilitarization, and if the method for demilitarization is completed off-site, both the SUXOS and UXOQC will observe and photograph the demilitarized projectiles in accordance with Naval Sea Systems Command (NAVSEA) *Ammunition and Explosives Ashore; Safety Regulations for Handling, Storing, Production, Renovation and Shipping*. NAVSEA OP 5 (NAVSEA, 2006) para 13-15.6.

Demilitarization of 20mm projectiles that have been classified as 3X will be accomplished inside Magazine M353 with a hydraulically operated re-enforcing bar cutter that can cut up to 10 projectiles at once. The cutter will be placed inside the magazine and a metal sheet will be installed between the cutter and the magazine door. The cutter will be remotely operated outside the magazine, behind the magazine wall. Each projectile will be cut into two or three pieces. This procedure is valid for 20mm projectiles only.

6.6 QUALITY ASSURANCE/QUALITY CONTROL

This section provides an overview of significant QC information as it applies to the ESS. Specific and detailed components of the quality assurance (QA)/QC program have been finalized in the Site-specific Contractor Quality Control (CQC) Plan. The information presented below has been approved for contractor MPPEH work at the site under the TCRA.

Contractor Organization

QC is conducted using a three-phase control process that consists of preparatory, initial, and follow-up inspections. These are performed to ensure that processes are in control and opportunities for improving processes are captured and implemented. The three-phase QC program is based on the three phases of contractor QC procedures. Each significant activity identified as a definable feature of work at the site undergoes the three-phase control process.

QC inspectors who have stop-work authority and are organizationally independent from the processes are assigned to conduct QC inspections. The project is supported by a Program QC Manager who will visit the site on a regular basis.

The contractor PjM, Site Superintendent, and SUXOS are all committed to ensuring that the QC process is maintained. This level of commitment is implicit in the job description and the individual qualifications for the position.

Quality Assurance/Quality Control Processes

Each component of site work has a built-in QC function to ensure that safe work practices are followed, the provisions of the established plans are adhered to, and collected data is accurate and defensible. Detailed QA/QC procedures are outlined in the CQC Plan and in SOP-1, MPPEH Removal for the phases of the project.

Lot Acceptance and Rejection Criteria

Three debris streams will emerge from the Trommel, specifically:

- Objects larger than 6 inches that will accumulate below the grizzly
- Objects larger than $\frac{3}{4}$ inches that will leave the Trommel at the end opposite the feed hopper
- Objects smaller than $\frac{3}{4}$ inches (fines) that will leave the Trommel via a conveyor emerging from the side of the Trommel

The fines should not contain MEC/MPPEH items because of the size of the Trommel screens but will be monitored by UXO technicians. The other debris streams (“overs”) are suspected to contain MEC/MPPEH items of 20mm projectile size and larger. The conveyor carrying the over streams will be monitored by UXO technicians for MEC/MPPEH items.

The fine pile and both of the overs piles will be subjected to QC acceptance sampling for MEC/MPPEH items. The Project QCM, with input from the SUXOS will determine the makeup and size of the lots to be used for the sampling.

Currently the fines will be sampled on a 10% rate. The fines stockpile will be allowed to accumulate to 120 cy at the end of the Trommel. A front-end loader with a 3-cubic-yard bucket will remove 4 buckets of soil (lot) from the stockpile and spread the material at a location approved by the SUXOS. The material will be subjected to the QC acceptance sampling. If neither MEC/MPPEH items are found, the lot is accepted and the entire stockpile may be relocated to the main stockpile areas. If a MEC/MPPEH item is found, the lot is rejected and the entire stockpile must be re-processed through the Trommel.

Currently the overs will be sampled at a 100% rate. The overs will be stockpiled at the appropriate discharge points of the Trommel. A front-end loader with a 3-cubic-yard bucket will remove 12 cy (lot) from the stockpile and spread the material at a location approved by the SUXOS. The material will be subjected to the QC acceptance sampling. If neither MEC/MPPEH items are found, the lot is accepted and may be relocated to the main stockpile areas. If a MEC/MPPEH item is found, the lot is rejected and the lot must be re-processed through the Trommel.

As stated above the Project QCM has the authority to revise the lot size to assure that the QC acceptance sampling procedure is appropriate to field conditions.

Instrument Functionality Tests

All-metal detectors will be used on this project. A test plot with both ferrous and non-ferrous items will be installed and will be used to ensure that the instruments are capable of detecting all the surrogate MEC/MPPEH items upon initial receipt of the instruments, and daily, before work activities commence. The results of every functionality test will be recorded in the project QC log.

Demilitarization Inspection

A count of the projectiles will be maintained as they are demilitarized and the UXO QC person will inspect 10 percent of the demilitarized projectiles in each lot. The lot size will be selected based on the cutter used, and will either be numerical (i.e., 500, 1000) or time-driven (i.e., 1 hour, 3 hours, etc.). If a projectile is found in a lot that is not demilitarized, or demilitarized incorrectly, the lot is rejected and will require a 100 percent inspection by the UXO QC.

7.0 QUANTITY/DISTANCE

ESQD arcs and EZs will be established for this project and are explained in the sections that follow. The application of contingency MGFs are addressed in Sections 3.2 and 6.5.1.

7.1 MPPEH PROCESSING AREAS

Two barricaded undefined earth-covered magazines (ECMs) M353 and M354 are located in the magazine compound situated between IR Sites 1 and 2, and both magazines are currently empty. Previous authorization for use of Magazine M354 for the storage of UXO was granted by the Naval Ordnance Center in a letter (8020, Ser N7112/720) to the SSPORTS on November 6, 1998, (see copy of the letter in Attachment 1) for the storage of 15,000 pounds NEW for C/D 1.1 explosives.

Magazine M354

It is requested that ECM M354 be site approved as a processing facility to manually inspect/certify and store 100 pounds net explosive weight (NEW) of C/D 1.1 and inert materials based

7.3 PROTECTIVE AND ACCESS CONTROLS

The contractor will provide separation distance and shielding as required, establish EZs based on the process(es) being conducted, and ensure that related personnel, unrelated personnel, and the public are prohibited from entering those EZs. The north-south access gates and eastern fence line of IR Site 1 are all located beyond the EZ perimeter. These gates will remain locked while investigation/excavation work is being performed and a gated fence separates the main air station from the runway and tarmac areas. This gate also remains locked except for entering and exiting the tarmac areas. The EZs do not encumber a navigation channel; however, work will cease if private vessels enter into the EZ.

8.0 OFF-SITE DISPOSAL

Military EOD personnel will respond for all MEC items encountered and either detonate them on site or transport them to their bases for later treatment. Recovered TP projectiles will be demilitarized by cutting them in half with a remotely operated cutter. Following that operation, the metal fragments will be placed in drums, sealed, and disposed of in an approved landfill. The forms and records used to document the certification/verification process, the demilitarization, and the chain of custody through to the disposal facility will be retained in the project files for no less than 3 years.

The excavated soil and debris from the former Firing-range Berm and debris pits will be processed through a screening plant to remove MPPEH items and then disposed of off-site.

9.0 ENVIRONMENTAL CONSIDERATIONS

The planned work activities on IR Site 1 will not adversely affect wildlife or plant species native to the sites. Critical habitat will not be removed or damaged. A brief description of wildlife and wetlands is provided below for each of the sites.

9.1 WILDLIFE AND PLANT SPECIES

The runway tarmac, located approximately ½ mile southeast of IR Site 1, provides an important nesting habitat for sensitive species such as the California least tern (*Sterna antillarum browni*). This area falls outside the boundaries established for IR Site 1, and will not be impacted by the any of the work planned for this project.

Grasses are the dominant vegetation for IR Site 1 and feral rabbits, black-tailed jackrabbits, Canada geese, and European starlings are the dominant animal species on these sites. No listed or sensitive species are identified as inhabiting the area within the boundaries of the sites.

Wildlife species that are federally listed as endangered or threatened could potentially occur on any of the sites, based on their presence at similar areas in Alameda County. These species include the winter-run chinook salmon, tidewater goby, California brown pelican, California clapper rail, western snowy plover, California least tern, American peregrine falcon, Steller sea lion, and salt marsh harvest mouse. None of these species are known to currently inhabit the site, and they should not be affected by planned activities. The open water area adjacent to IR Site 2 is a wintering area for migratory birds and provides a resting and feeding habitat for waterfowl during the winter. The work planned for IR Site 1 should not affect any of the migratory waterfowl or water birds found offshore.

9.2 WETLANDS PROTECTION

Seasonal wetlands exist on IR Site 1 but they are all located east of the road that crosses the site, where no work will occur. The Project Biologist will inspect the site prior to beginning vegetation clearance activities to ensure that this status has not changed. Personnel assigned to the project will be directed to remain outside the area east of the road.

9.3 WILDLIFE PROTECTION

Wildlife species most susceptible to project activities include shorebirds and small mammals. These species may be adversely affected by the mowing of existing vegetation to a 4-inch height as required by the Navy. To minimize impacts to these species, the site biologist will perform a sweep in the work areas and around the magazines to ensure no nests or habitats are on the ground prior to the cutting. Vegetation trimming around the magazines is performed on an as-needed basis to remain in compliance with the Navy and biological surveys of the areas are completed prior to moving to ensure no active nest or habitats are present.

To prevent direct impacts to any special-status species, an environmental survey will be conducted by a qualified wildlife biologist not more than 48 hours prior to the start of field activities to confirm that federally listed species are not residing within the limits of the project activity areas.

9.4 PLANT COMMUNITY PROTECTION

None of the plant species found within IR Site 1 are state or federally listed. Some vegetation will be mowed to a maximum height of 4 inches to facilitate the surface sweep, geophysical and radiological surveys, investigations, excavations, and other planned activities.