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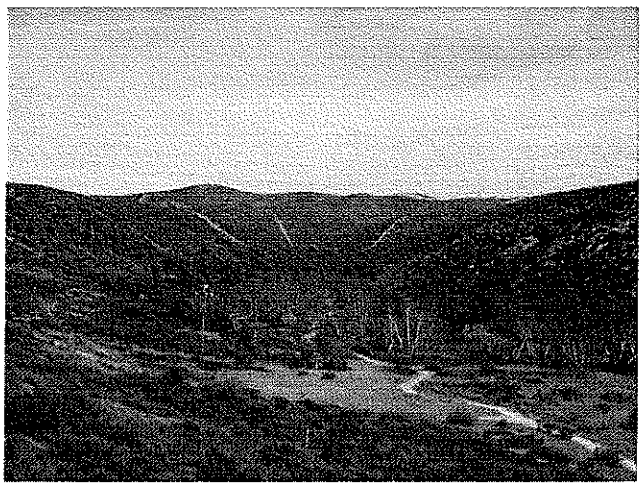
REVISION 2 of WORK PLAN with ADDENDUM II
EAST ELLIOTT PROJECT
SYCAMORE CANYON LANDFILL PHASE
SAN DIEGO, CALIFORNIA



Prepared for: U.S. Army Corps of Engineers, Los Angeles District

DACA09-01-D-0005
Task Order 001
J09CA006703

Prepared by: SCI UXO/OE Services

SCI UXO/OE SERVICES

(Nasus Holdings, LLC)

TITLE SHEET

SCI UXO/OE SERVICES
(NASUS HOLDINGS, LLC)
202 EXCHANGE PLACE
HUNTSVILLE AL 35806

CONTRACT: DACA09-01-D-0005
TASK ORDER NUMBER: 001

PROJECT NUMBER: J09CA006703
NAME OF PROJECT: EAST ELLIOTT PROJECT,
SYCAMORE CANYON LANDFILL PHASE

DATE OF PLAN: 7 December 2001
Revision #1: 11 February 2002
Revision #2: 21 May 2004
TITLE OF PLAN: East Elliott Project Work Plan,
With Addendum II

CONTRACTING AGENCY: LOS ANGELES DISTRICT, USACE
GEOGRAPHICAL USACE DISTRICT: LOS ANGELES, USACE

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ACRONYM LIST

AEDA	Ammunition, Explosives and Dangerous Articles (Changing to MPPEH)
AR	Army Regulation
BATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COR	Contracting Officer Representative
CWM	Chemical Warfare Material
DA	Department of the Army
DA Pam	Department of the Army Pamphlet
DMM	Discarded Military Munition
DoD	Department of Defense
EOD	Explosive Ordnance Disposal
EM	Engineer Manual
EMR	Electro-magnetic Radiation
EP	Engineer Pamphlet
ER	Engineer Regulation
FUDS	Formerly Used Defense Sites
GPS	Global Positioning System
HAZWOPER	Hazardous Waste Operations and Emergency Response
MC	Munitions Constituents
MCAS	Marine Corps Air Station
MEC	Munitions and Explosives of Concern (formerly OE)
MPM	Most Probable Munition
MPPEH	Material Potentially Presenting an Explosive Hazard
MRA	Munitions Response Area
MRS	Munitions Response Site
MSD	Minimum Separation Distance
MSDS	Material Safety Data Sheet
NEW	Net Explosive Weight
OE	Ordnance and Explosives
OSHA	Occupational Safety and Health Agency
PES	Potential Explosive Site
PM	Project Manager
PPE	Personal Protective Equipment
PTR	Public Traffic Route
QC	Quality Control
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act

SCI	SCI UXO/OE Services
SHA	Safe Holding Area
SPL	South Pacific, Los Angeles
SSHP	Site Specific Safety and Health Plan
SOW	Statement of Work
SUXOS	Senior Unexploded Ordnance Supervisor
USACE	US Army Corps of Engineers
UXO	Unexploded Ordnance
UXOSO	Unexploded Ordnance Safety Officer
UXOQCS	Unexploded Ordnance Quality Control Specialist
USACE	U.S. Army Corps of Engineers
USATEU	U.S. Army Technical Escort Unit

CHAPTER 1
INTRODUCTION

1.1 GENERAL INFORMATION.

1.1.1 PROJECT AUTHORIZATION. SCI UXO/OE Services received Contract DACA09-01-D-0005, Task Order 1 from the U.S. Army Corps of Engineers, Los Angeles District to safely and efficiently locate and remove Ordnance and Explosives (OE) on East Elliott, San Diego CA. This work falls under the Defense Environmental Restoration Program for Formerly Used Defense Sites and will be performed in a manner that is consistent with the National Contingency Plan and the Comprehensive Environmental Response, Compensation, and Liability Act and relevant Department of Defense and Army regulations and guidance for ordnance and explosive (OE) programs.

1.1.1.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS. See Engineering Evaluation/Cost Analysis dated August 1999, Montgomery Watson.

1.1.2 PROJECT STATEMENT OF WORK (SOW): See Appendix A for SOW.

1.2 PROJECT SITE LOCATION AND DESCRIPTION.

1.2.1 MAPS. See Appendix B for site maps.

1.2.2 LOCATION. East Elliott is an approximately 3,200-acre, roughly rectangular area approximately 12 miles northeast of downtown San Diego, California and immediately west and northwest of the City of Santee, California. East Elliott comprises the southeast corner of former Camp Elliott, a former Marine Corps training facility that was active in the 1940s and 1950s and once occupied 30,500 acres. The former Camp Elliott, East Elliott site, lies within the City of San Diego and is bordered by the following features:

- Oak Canyon to the west
- Marine Corps Air Station (MCAS) Miramar to the north and west
- Sycamore Canyon to the east
- The City of Santee to the east and south
- State Highway 52 and Mission Trails Regional Park to the southwest

1.2.3 TASKING This Work Plan encompasses those areas of Sections 2 and 3 as detailed below:

The approximately 110 acres includes roads and trails and a designated area of approximately 107 acres. The 107-acre area is bounded by Little Sycamore canyon to the east, Miramar ~~tot he~~ to the north, the power line access road to the south, a trail that runs north/south and bisects sector 2 to the west (Map in Appendix B). The following roads and trails, approximately 3 acres

total, are included in this tasking: the road that enters sector 3 from Mission Trails, under state highway 52, up to the point where it intersects the second power line access road, power line access road from Spring Canyon to the bottom of Little Sycamore Canyon and all other roads/trails that are utilized by personnel for hiking and trail bikes throughout Sector 2 and the eastern portion of sector 3, between the creek bed in ~~Little Sycamore Canyon.~~ Spring Canyon to the creek bed in Little Sycamore Canyon.

1.3 SITE HISTORY.

The area encompassing Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following four general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, post-World War II (1945 to 1960); and
- Camp Elliott closure (1960 to August 1999).

A more detailed history of Camp Elliott is presented in the Archives Search Report (Montgomery Watson, 1995) and the Engineering Evaluation/Cost Analysis (Montgomery Watson, 1999)

1.4 TOPOGRAPHY.

The site is mostly undeveloped. Narrow ridges and canyons trend north to south through the site. Intermittent streams flow southward toward the San Diego River, which is approximately 0.4 miles south of East Elliott. Topography is typified by moderate to steep slopes that are predominantly vegetated with native grassland, coastal sage or black sage habitat, or chaparral. ~~Deciduous trees and other riparian vegetation are locally abundant in the two largest canyons in East Elliott, Oak Canyon and Spring Canyon.~~ Deciduous trees and other species native to riparian habitat are locally abundant in the southern end of both Spring and Little Sycamore Canyons, in narrow corridors along each creek bed. A woodland dominated by two species of live oak characterizes most of Oak Canyon. Several dirt roads and trails are located within East Elliott, particularly along ridges and within canyons. Many of these roads are accessible only by 4-wheel-drive vehicles. Most access to the site is provided by roads and trails that enter East Elliott from the south and east.

1.5 CLIMATE.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low (°F)	48	50	52	55	58	61	65	66	65	60	53	49
High (°F)	65	66	66	68	69	72	76	77	77	74	71	66
Rain (in.)	2.2	1.6	1.9	0.8	0.2	0.1	Trace	0.1	0.2	0.4	1.1	1.4

Note: Temperatures can reach above 100 degrees during the summer months especially in the canyons

CHAPTER 2
TECHNICAL MANAGEMENT PLAN
DID OE-005-02, 000303

2.1 GENERAL. This project involves a surface/subsurface clearance of the site in those grids that are accessible to personnel and will not require but only minimal vegetation trimming. All munition items encountered will be destroyed in place.

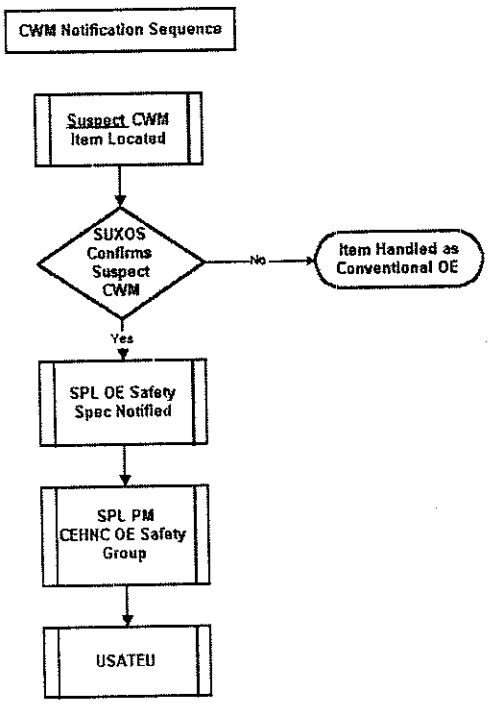
2.1.1 IDENTIFICATION OF GUIDANCE, REGULATIONS, OR OTHER POLICY UNDER WHICH THE OE OPERATIONS WILL BE CONDUCTED.

DoD 6055.9-STD DoD Ammunition and Explosives Safety Standards:
☛ provide the maximum possible protection to personnel and property, both inside and outside the installation, from the damaging effects of potential accidents involving DoD ammunition and explosives;
☛ limit the exposure of a minimum number of persons, for a minimum time, to the minimum amount of ammunition and explosives consistent with safe and efficient operations.

- 29 CFR 1910.120, OSHA Hazardous Waste Operations and Emergency Response
- DoD 6055.9-STD DoD Ammunition and Explosives Safety Standards
- Army Regulation (AR) 385-64, Ammunition and Explosives Safety Standards
- Department of Army Pamphlet (DA Pam) 385-64, Ammunition and Explosives Safety Standards
- Engineer Regulation (ER) 385-1-92, Safety and Occupational Health Requirements for HTRW Activities
- Engineer Pamphlet (EP) 1110-1-18, Ordnance and Explosives Response
- Engineer Manual (EM) 385-1-1, USACE Safety and Health Requirements Manual

2.1.2 DISCUSSION, ASSUMPTIONS, AND PROCEDURES TO BE FOLLOWED RELATING TO THE DISCOVERY OF CWM ON A CONVENTIONAL ORDNANCE SITE.

The East Elliott project is not a suspected Chemical Warfare Material (CWM) site. However, if suspected CWM is encountered, the area will be immediately secured and personnel will withdraw upwind from the work area. The notification sequence will follow the below flow chart:



2.1.3 PROCEDURES TO BE EMPLOYED IN THE EVENT THAT UXO CANNOT BE DESTROYED ON SITE AND IF AN UNIDENTIFIED UXO IS LOCATED.

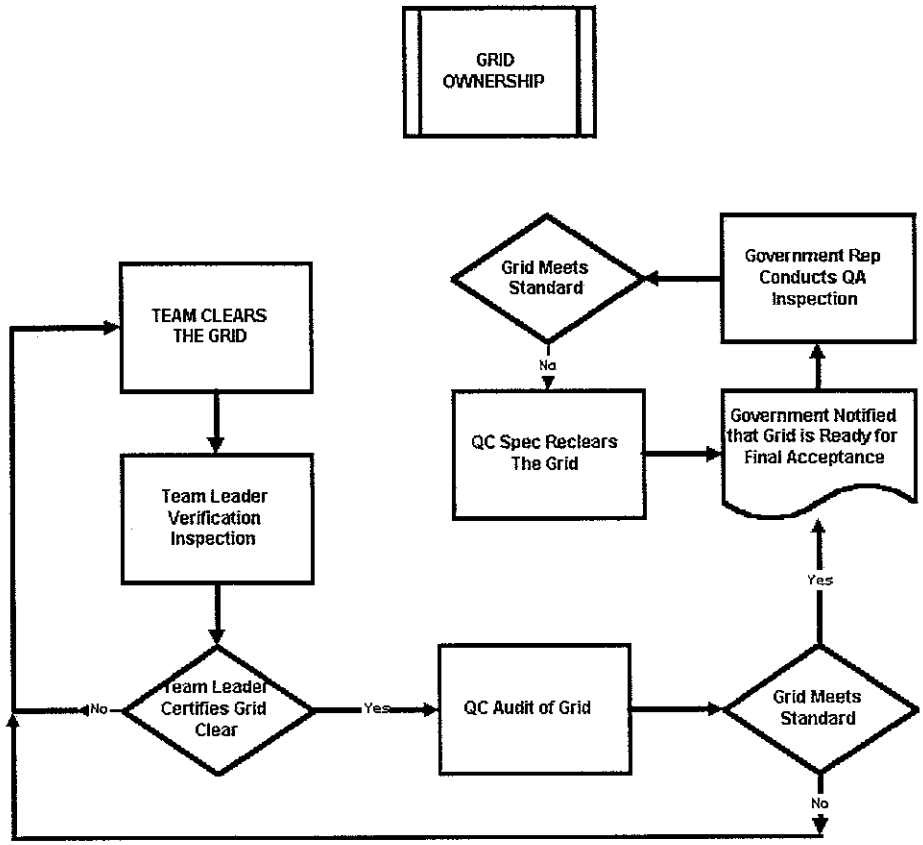
In the event that an UXO cannot be destroyed onsite, or if an unidentified UXO is located, the USACE onsite Safety Representative will be notified for appropriate support.

2.1.4 TECHNICAL SCOPE OF THE PROJECT, GRID SIZES, GRID LAYOUT, AND SOFTWARE TO BE USED IN REMOVALS.

2.1.4.1 GRIDS. The project site will be surveyed and marked out in 100' x 100' grids. The grids will be oriented to True North, starting at the road entering the site under state highway 52. See Map in Appendix B

The production objective is for each team to clear 5 grids per day.

2.1.4.2 GRID OWNERSHIP. The team that clears a grid, "owns it" See below figure.



In the grid "ownership" process, the team members are responsible to effectively conduct a surface/subsurface clearance. The team leader is responsible to verify that the team has not overlooked any ordnance-related items. The team leader will not allow the team to depart the grid until such time as the team leader is sure that the grid is clear. When the team leader certifies that the grid is clear, the UXO QC Specialist will conduct the search effectiveness inspection to assure that the grid is clear. Once the UXO QC Specialist accepts the grid and tells the Government QA Representative that the grid is ready for the government final acceptance inspection, the grid becomes the "property" of the UXO QC Specialist. Should the grid fail the Government QA Inspection, the UXO QC Specialist is responsible for clearing the grid until it passes the Government QA Inspection.

The team leader will assure that the separation of personnel, on the sweep line, is adequate to avoid interference between the instruments, yet sufficient to assure complete ground coverage. This site contains varying terrain – different sweep techniques, to include varying sweep line intervals, may be required based on the terrain. If the terrain is too steep to sweep safely, that portion of the grid not swept will be mapped. ~~It is the team leader's responsibility to devise the clearance method(s) suitable to the specific grid to assure complete clearance.~~

2.1.4.3 SCI FORM P139, GRID INFORMATION SHEET (Appendix D). This form will be prepared for each grid and will be completed, in pencil/ink, by the Team Leader of the team

tasked to clear the grid. Upon completion of the grid, the Team Leader will sign the form and pass it to the Senior UXO Supervisor for his initials and subsequent passage to the UXO QC Specialist for the search effectiveness inspection.

The Senior UXO Supervisor will assure that a computer generated SCI Form P139 is completed and appropriate signatures and initials are affixed.

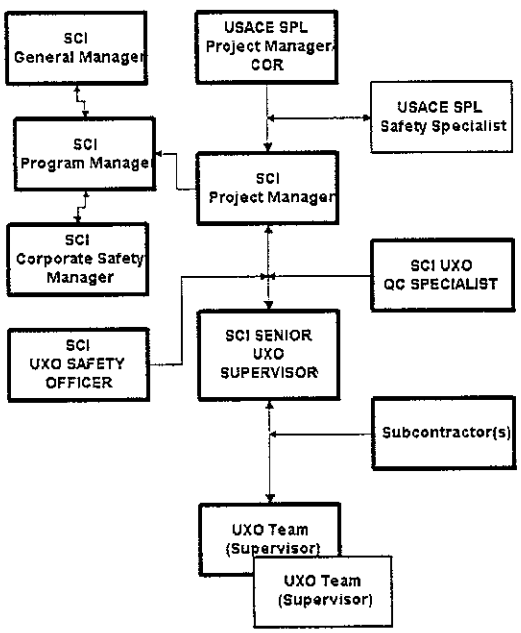
~~2.1.4.4 SOFTWARE. See Chapter 7~~

2.1.5 EXPECTED NUMBER OF EXCAVATIONS AND PROCEDURES TO BE EMPLOYED IF CHANGED SITE CONDITIONS OCCUR.

Based on the information provided in the EE/CA, it is projected that approximately 22 anomalies will be encountered per grid – 67% of them on the surface and 33% subsurface, with the average depth being 4.6".

Change in site conditions: Should site conditions change that are beyond the statement of work or affect the efficient accomplishment of the project's objective, an appropriate entry will placed in the Daily Activities Report which documents the change.

2.2 ORGANIZATIONAL CHART



2.2.1 RESPONSIBILITIES OF PERSONNEL

2.2.1.1 General Manager. The General Manager, Mr. Douglas A. Lamothe will act as the Quality Manager and in this role will assure that the Division Quality Management Program and the Site Specific Quality Control Plan are followed.

2.2.1.2 Program Manager. The Program Manager, Leo H. Carden, has the responsibility for program oversight.

2.2.1.2 Project Manager. The Project Manager (PM) has the following responsibilities:

- Communicating with the customer; through the customer's PM and/or COR;
- Coordinating the preparation of the Work-plan;
- Executing all contractual directions received from the customer's PM and/or COR;
- Managing the project and overseeing the overall performance of all individuals on the project team;
- Coordinating and overseeing all subcontract work, which includes interfacing with the subcontractors to keep them advised of the scope of work, schedule and budgets;
- Controlling the contractual cost and schedule targets; and
- Resolving project challenges.

2.2.1.3 Senior UXO Supervisor. The Senior UXO Supervisor (SUXOS) has the following responsibilities:

- Assisting in the development of site-specific work plans;
- Identifying personnel and equipment requirements;
- Supervising all field team leaders, to include subcontractors;
- Identifying potential problem areas and investigating corrective measures; and
- Assisting with the preparation of all project reports

The SUXOS's supervisor is the PM. The SUXOS has Stop-Work Authority.

2.2.1.4 UXO Safety Officer (UXOSO). The UXOSO has the following responsibilities:

- Implementing all site Safety and Health Plan requirements, contained in Chapter 6;
- Analyzing any potential safety problem and implementing safety-related corrective actions;
- Performing specified on-site training requirements;
- Conducting daily tailgate safety meetings;
- Conducting periodic safety inspections; and
- Recommending changes to level of personal protection equipment (PPE) to the PM as site conditions warrant.

The UXOSO's supervisor is the PM; however, he is authorized direct communication with the Corporate Safety Officer, and if needed, the General Manager. The UXOSO will work closely with the SUXOS. The UXOSO has Stop-Work Authority.

2.2.1.5 UXO Quality Control Specialist (UXOQCS). The UXOQCS has the following responsibilities:

- Implementing the Quality Control Plan contained in Chapter 9 of this Work Plan.

The UXOQCS's supervisor is the PM; however, he is authorized direct communications with the General Manager. The UXOQC will work closely with the SUXOS. The UXOQCS has Stop-Work Authority.

2.2.1.6 UXO Technician III (Team Leader). The Team Leader has the following responsibilities:

- Supervision of up to 6 team members;
- Accomplishing assigned tasks in a safe and efficient manner;
- Providing input to the SUXOS on methods to improve operations;
- Identifying and reporting conditions adverse to quality;
- Report all UXO and OE-related finds to the SUXOS;
- Providing a quality end-product in accordance with this Work Plan.

The Team Leader's supervisor is the SUXOS. The Team Leader has Stop-Work Authority.

2.2.1.7 UXO Technician II. The UXO Tech II has the following responsibilities:

- Perform all assigned tasks in a safe and efficient manner;
- Identifying and reporting conditions adverse to quality; and
- Providing input to the Team Leader on methods to improve operations.

The UXO Tech II's supervisor is the Team Leader. The UXO Tech II has Stop-Work Authority regarding safety.

2.2.1.8 UXO Sweep Personnel. These non-UXO qualified personnel have the following responsibilities:

- Perform all assigned tasks in a safe and efficient manner.
- Operate Schonstedt detector to locate surface and subsurface anomalies
- Will not handle UXO

Sweep personnel's supervisor is the Team Leader. Sweep personnel have Stop-Work authority regarding safety.

2.2.1.9 Identified Personnel – See Appendix E. Without a mobilization date, recruiting of staff and commitments are not possible. All UXO personnel will be approved by SPL prior to mobilization.

2.2.2 COMPOSITION AND MANAGEMENT OF TEAMS

2.2.2.1 Each UXO team shall consist of one UXO Technician III and six members ~~Each UXO team shall consist of one UXO Tech III,~~ (three UXO Tech II, and three UXO Sweep personnel).

2.2.2.2 An UXO Tech III shall supervise all UXO operations and team members operating within the exclusion zone. These may include UXO clearance teams, labor teams and disposal operations.

2.2.2.3 The Senior UXO Supervisor shall supervise no more than ten UXO Tech III's, and there shall be no more than one Senior UXO Supervisor on an OE project

2.2.2.4 When teams are working in close proximity to each other, the minimum team separation distance for all teams shall be the greater of 200 feet or the K50 distance of the most probable munition (MPM) for the OE area.

2.3 DESCRIPTION OF MOBILIZATION PLANS, OFFICE SETUP, AND OTHER PRELIMINARY ACTIVITIES.

2.3.1 Pre-mobilization – See Project Schedule in Appendix G

Premobilization activities will include the following:

- final arrangements for, and delivery of the office trailer, telephone and utilities hookup;
- office furniture and computers purchase, delivery and setup;
- HAZWOPER training for local hire non-UXO qualified personnel;
- Explosive safety and UXO identification training;
- Schonstedt instrument training for UXO Sweepers;
- Interviewing and hiring of field office administrator;
- Purchase and delivery of site equipment;
- Confirmation of site boundaries; and
- Initiate surveying and mapping activities

Schonstedt instrument training for UXO Sweep personnel will consist of classroom and hands-on instruction in the operation and maintenance of the Schonstedt instruments. Hands-on will involve the test grid and locating emplaced magnetic items.

2.3.2 Mobilization.

Mobilization activities will include the following:

- Conducting site-specific training for all site personnel;

2.4 PROCEDURES FOR SITE PREPARATION AND ACTIVITIES SUCH AS BRUSH CUTTING, AND GEOPHYSICAL TEST PLOTS.

The field office trailer will be located in the area of the land fill office. This site has been used in the past for a site trailer, so no site preparation is required.

Only minimal vegetation trimming is allowed with the concurrence of the CESPL Ecologist.
A geophysical test lane will be established for this clearance. A 37mm AP projectile will be buried at 12 inches and a 75mm projectile will be buried at 30 inches. Both will be in a horizontal position.

Motor vehicles will be restricted to existing, actively used roads, during normal operations. Trails, which once were roads, will be avoided during normal operations. Personnel will drive as near as practical to the work site and walk into and out of the grid(s). In the event of a medical or fire emergency, vehicles will be utilized wherever necessary.

2.5 PROCEDURES TO BE FOLLOWED WHEN PERFORMING STATISTICAL SAMPLING, IF APPLICABLE.

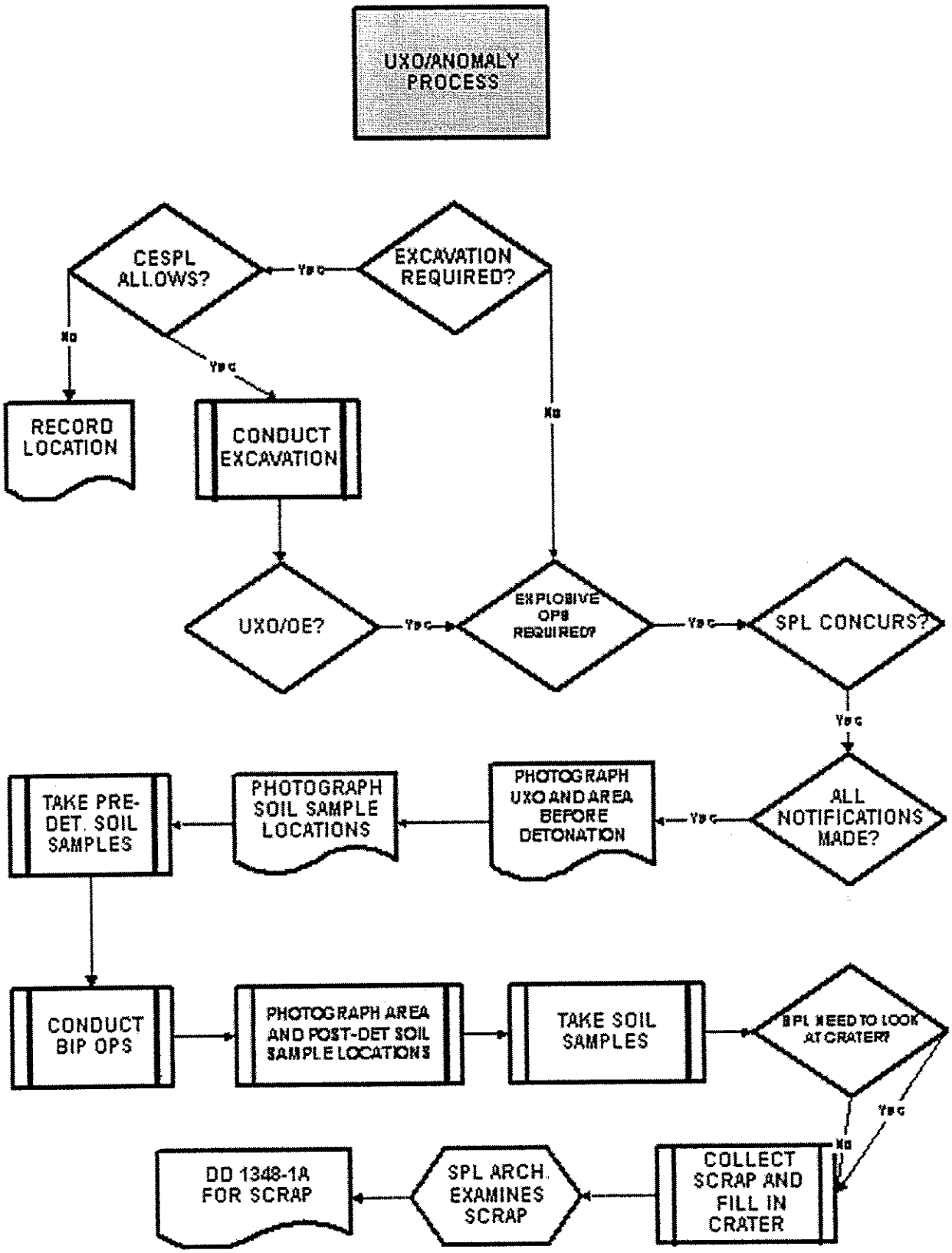
~~Not applicable~~ Statistical sampling is not applicable to this project

2.6 DETAILED PROCEDURES FOR REPORTING AND DISPOSITION OF UXO.

2.6.1 Responsibilities of Personnel

Personnel responsibilities are identified in paragraph 2.2.1 above.

The following flowchart will assist guiding personnel in the process:


UXO/ANOMALY PROCESS
EXCAVATION REQUIRED?
Yes
CESPL ALLOWS?
No
Yes
RECORD LOCATION
CONDUCT EXCAVATION
No
UXO/OE?
Yes
EXPLOSIVE OPS REQUIRED?
Yes
SPL CONCURS?
Yes
ALL NOTIFICATIONS MADE?
Yes
PHOTOGRAPH UXO AND AREA BEFORE DETONATION
PHOTOGRAPH SOIL SAMPLE LOCATIONS
TAKE PRE-DET. SOIL SAMPLES
CONDUCT BIP OPS
PHOTOGRAPH AREA AND POST-DET SOIL SAMPLE LOCATIONS
TAKE SOIL SAMPLES
SPL NEED TO LOOK AT CRATER?
Yes
No
COLLECT SCRAP AND FILL IN CRATER
SPL ARCH. EXAMINES SCRAP
DD 1348-1A FOR SCRAP

2.6.2 Safety Precautions

- All SCI and subcontractor personnel will adhere to the safety precautions outlined in this work plan. Violation of UXO-related safety precautions will be grounds of dismissal.
- All personnel involved in the disposal/demilitarization of UXO/OE will be aware of and adhere to established safety precautions. All personnel will be alert for circumstances not covered in this work plan and stop operations until those circumstances have been addressed. Safety and safe working practices are established habits for SCI and subcontractor personnel when working with or in the vicinity of items which are potentially dangerous by reason of their explosive, flammable, or toxic characteristics.

2.6.2.1 General Safety Precautions.

- Review electromagnetic radiation (EMR) hazards and precautions and electrical grounding procedures.
- Carry blasting caps in approved containers, and keep them out of the direct rays of the sun.
- Do not handle, use, or remain near explosives during the approach or progress of an electrical storm. All persons will retire to a place of safety at a distance specified by the Senior UXO Supervisor based on the circumstances.
- Do not use explosives or accessory equipment that are obviously deteriorated or damaged. They may detonate prematurely or fail completely.
- Do not abandon any explosives. Fatal or serious accidents can result from such careless practice.
- Do not use unexploded dud ordnance items for demolition purposes. They may be in an extremely sensitive and hazardous condition.
- Disposal/Demilitarization operations will not be initiated until at least one-half hour after sunrise and will be concluded by at least one-half hour prior to sunset. SCI's normal work schedule will be 0700-1730, Monday through Thursday. Earlier start time may be implemented dependent upon the anticipated heat temperature.
- Restrict and control access to the disposal site to a minimum of authorized personnel necessary for safe conduct of the disposal operations.
- Do not carry fire- or spark-producing devices into a disposal site except as specifically authorized.
- Do not smoke except in areas specifically designated. After smoking, assure that all burning tobacco is extinguished.
- Avoid inhaling, and skin contact with explosives, the smoke, fumes, vapors of explosives, and related hazardous materials.

2.6.2.2 Handling Demolition Materials.

- Do not strike, tamper with, or attempt to remove or investigate the contents of a blasting cap (electric or non-electric), detonator, or other explosive initiating device. A detonation may occur.

- Do not pull on the electrical lead wires of electric blasting caps, detonators or other electro-explosive devices. A detonation may occur.
- Do not attempt to remove an unfired or misfired primer or blasting cap from a coupling base. There is a high risk of an explosion.
- Always point the explosive end of blasting caps, detonators, and explosive devices away from the body during handling. This will minimize injury should the item explode.
- Shaped charges - be certain there is no obstruction in the conical cavity or between the charge and the target, as any obstruction will materially reduce the penetration effect.

2.6.2.3 Electro-magnetic Radiation (EMR) Hazards. Prior to application of detonation-in-place procedures, an EMR survey shall be conducted to determine if there are any transmitting antennas of radio, radar, or other electro-magnetic-generating devices located in the vicinity.

2.6.2.3.1 Radio Frequency (RF) EMR. RF EMR consists of waves of electrical energy. These waves are radiated in a line-of-site from the antennas of electronic devices that transmit radio, radar, television, or other communication, to include cellular telephones, or other communication or navigation radio frequency signals. The factors to be considered when evaluating the degree of hazard that the EMR (RF) energy represents are:

- the strength of the field (its power);
- the frequencies transmitted;
- the distance from the transmitter antenna to the ordnance; and
- the amount or type of protection available.

2.6.2.4 Blasting caps and safe distances. Every wire, including a blasting cap lead, by virtue of its length/configuration, is tuned or receptive to a specific frequency. Stretched out the leads act as a dipole antenna, coiled they can act as a closed loop antenna. Therefore, there is no lead wire configuration, which is guaranteed safe. Electric blasting caps should be kept in a sealed metal container until ready for use.

Minimum Safe Distances Between Mobile RF Transmitters and Electric Blasting Operations

Transmitter Power (Watts)	MF 1.6 to 3.4 MHz Industrial	HF 28 to 29.7 MHz Amateur	VHF 35 to 36 MHz 42 to 44 MHz 50 to 64 MHz	VHF 144 to 148 Mhz 150.8 to 161.6 MHz	UHF 450 to 460 MHz Cellular Car Phones above 800 MHz
5[1]	30	70	60	20	10
10	40	100	80	30	20
50	90	230	180	70	40
100	120	320	260	100	60
180[2]	170	430	350	130	80
250	200	500	410	160	90

[1] Citizens band radio (Walkie-Talkie) (26.96 to 27.41 MHz) - minimum safe distance -five feet. Double sideband - 4 watts maximum transmitter power - hand-held, 5 feet; vehicle mounted, 65 feet. Single sideband - 12 watts peak envelope power - handheld, 20 feet; vehicle mounted, 110 feet.
[2] Maximum power for 2-way mobile units in VHF (150.8 to 161.6 MHz range) and for 2-way mobile and fixed station units in UHF (450 to 460 MHz range).

500[3]	280	710	580	220	120
600[4]	300	780	640	240	140
1,000[5]	400	1,010	820	310	180
10,000[6]	1,240	3,200	2,600	990	560

2.6.2.5 Lightning, Electric Power Lines, and Static Electricity.

- Lightning is a hazard to both non-electric and electric-blasting caps. A strike or a nearby miss is almost certain to initiate either type of cap and other sensitive explosive elements such as caps in delay detonators. Lightning strikes, even at remote locations, may cause extremely high local earth currents, which may initiate electrical firing circuits. Effects of remote lightning strikes are multiplied by proximity to conducting elements, such as those found in buildings, fences, railroads, bridges, streams, and underground cables or conduit. The only safe procedure is to suspend all blasting activities during electrical storms and when one is impending. All blasting activities will be suspended when lightning-thunder storms are within ~~5~~ 10 miles of the project site.
- Electrical firing will not be performed within 155 meters of energized power transmission lines. When it is necessary to conduct disposal operations at distances closer than 155m to electric power lines, non-electric firing systems will be used or the power lines de-energized.
- Many electric blasting caps have been detonated because they grounded static electricity that was in the air. Static electricity is produced by a great variety of causes; among them, dust storms, which have caused a large number of detonations; snow storms, less dangerous, but known to have cause premature explosions; and escaping steam, known to have charged the air and detonated electric caps. Enough static electricity to detonate electric caps also can be generated by such sources as moving belts and revolving automobile (truck) tires. Static electricity is an increased hazard when operating in an extremely cold climate or area of low humidity.

2.6.3 UXO Identification

All UXO will undergo an initial assessment to positively identify the piece of ordnance, to include fuzing, condition, and filler. No disposal procedures will be applied until the item has positively identified.

See Appendix F for information on the most probable munitions to be encountered on this project. Other pertinent publications will be maintained in the site office.

2.6.4 UXO Transportation

Transportation of UXO will not occur on this project.

2.6.5 UXO Safe Holding Areas

[3] Maximum power for major VHF 2-way mobile and fixed station units is 35 to 44 MHz range.
[4] Maximum power for 2-way fixed station units in VHF (150.8 to 161.6 MHz range).
[5] Maximum power for amateur radio mobile units
[6] Maximum power for some base stations in 42 to 44 MHz band and 1.6 to 1.8 MHz bands

No UXO Safe Holding Areas will be established on this project and all UXO will be detonated in place.

2.6.6 Operations in Populated/Sensitive Areas

Each team will have a portable barricade in the team vehicle. If a trail is adjacent to the grid being cleared, the barricade will be placed on the trail. A **DANGER EXPLOSIVES KEEP OUT** sign in English/Spanish will be mounted on the barricade. It is anticipated that some bike riders and hikers will ignore the barricade, so personnel will be alert for intruders into the clearance area. When intruders are detected, all operations will cease until such time as the intruders are escorted out of the exclusion area. The Team Leader will annotate the down time on the grid sheet.

Re operations in sensitive areas – see Chapter 12.

2.6.7 Engineering Controls for Intrusive Operations and Intentional Detonations

2.6.7.1 Intrusive Operations

This project requires the trails that start adjacent to California State Highway (CSH) 52 to be cleared. A portion of this clearance action is also adjacent to the landfill road. See map.

If an anomaly is encountered within 1701 feet {Minimum Separation Distance for the Most Probable Munition (75mm) – See paragraph 2.8 and Appendix F} of either CSH 52 or the landfill road, the Government-furnished Miniature Open Front Barricade (MOFB) will be utilized. The MOFB is designed to defeat primary fragments to the rear and sides of the MOFB in the case of an accidental/unintentional detonation during intrusive activities. The MOFB will be placed over the anomaly to be excavated with the front facing away from CSH 52 or the landfill road. The MOFB is not designed to reduce the effects of blast overpressure. The minimum separation distance to the sides and rear of the MOFB is 200 feet. The minimum separation distance to the front of the MOFB will remain at 1701 feet.

The MOFB consists of ¼ inch aluminum plates welded together to form a basic barricade with aluminum channels to hold additional plates in place on the sides and roof. The MOFB is 3 feet wide by 3 feet tall in the front, sloping to a height of 2 feet in the rear. For the MPM on this project site, the required thickness of aluminum to prevent perforation is 1.45 inches.

If an anomaly is encountered within 200 feet of CSH 52 or the landfill road, the MOFB will be utilized and the traffic will be stopped until investigation of the anomaly is complete.

2.6.7.2 Intentional Detonations (Blow-in-Place).

Dependent upon the location of an intended detonation, i.e., in close proximity to Sycamore Landfill Road or Little Sycamore Canyon road or the landfill, sandbags will be utilized ~~sandbagging and the "kiddie pool" will take place.~~ When using sandbags to mitigate fragmentation and blast effects, the provisions of HNC-ED-CS-S-98-7 dated August 1998 will be followed.

~~SCI intends to utilize the "kiddie pool" process whenever possible to minimize frag and fire. When the item is a surface UXO requiring disposal, a sandbag base will be laid around the UXO and a sheet of plywood will be placed on top of the sandbags and the "kiddie pool" will be placed on top of the plywood and filled with water.~~

~~When the UXO has been uncovered subsurface, the plywood will be laid on the ground and the "kiddie pool" will be laid on top of the plywood, and filled with water.~~

If possible, a string-type trimmer will be used to clean dried grasses as close to the ground as possible to reduce fire risk.

2.6.8 Demolition Operations

2.6.8.1 Blow-in-Place Operations. SCI will utilize electrically initiated means of detonation on all demolition operations, unless an EMR survey indicates the presence of overhead electrical lines, then non-electrical procedures will be used. There are overhead electrical lines transgressing the site. In the vicinity of the overhead electrical lines, non-electrical procedures will be used.

2.6.8.1.1 Preparation for Firing.

- Use standard blasting caps of at least the equivalent of a commercial No. 8 blasting cap [or commercial equivalent, i.e., exploding bridge wire detonator].
- Use electric blasting caps of the same manufacture, whenever possible, for each demolition shot involving more than one cap
- Keep blasting caps in approved containers, located at least 7.62 meters (25 feet) from other explosives, until they are needed for priming.
- Do not bury blasting caps. Use detonating cord to position blasting caps above the ground. Buried blasting caps are subject to unobserved pressures and movement, which could lead to premature firing or misfires

2.6.8.1.2 Electric Priming

- Test electric-blasting caps for continuity at least 50 feet downwind from any explosives prior to connecting them to the firing circuit. Upon completion of testing, the lead wires will be short-circuited by twisting the bare ends of the wires together. The wires will remain shunted until ready to connect to the firing circuit.

- Unroll the lead wires so that the cap is as far as possible from the operator and pointing away from him/her. Place the blasting cap in a hole or behind a barricade before removing the shunt and testing for continuity. Make sure the cap does not point toward other personnel or explosives.
- Use only the special silver-chloride dry cell battery in the testing galvanometer, if applicable. Other types of dry cells may produce sufficient voltage to detonate blasting caps.
- Do not connect the blasting machine to the firing wires until all pre-firing tests have been completed and until ready in all respects to fire the charges.
- Do not hold the blasting cap directly in the hand when uncoiling the leads. Hold the wires approximately 152 millimeter {6 inches} from the cap. This will minimize injury should the cap explode. The lead wires should be straightened by hand and not thrown, waved, or snapped to loosen the coils.
- Do not remove the shunt from the lead wires of blasting caps except for testing for continuity or actual connection into the firing circuit. The individual removing the shunts should ground himself prior to this operation to prevent accumulated static electricity from firing the blasting cap.
- Keep both ends of the firing wires shorted or twisted together except for testing or firing. Do not connect the blasting caps to the firing circuit unless the power ends of the firing circuit leads are shortened.
- Keep all parts of the firing circuit insulated from the ground or other conductors such as bare wires, rails, pipes, or other paths of stray current.

2.6.8.1.3 Firing Demolition Charges

- Keep the power end of the firing wire shunted until ready to connect the blasting machine.
- The signal for detonation will be given by the UXO person in-charge only after all personnel in the area have reached cover or a safe distance from the charge.
- Prior to making connections to the blasting machine, test the firing circuit for electrical continuity.
- The UXO person in-charge will order the firing wires to be connected to the blasting machine, maintaining control over the activating device, while verifying that the area is clear of personnel, animals, and equipment, including aircraft.
- When using a firing panel, lock the switch in the open position until ready to fire. The single key will be in the possession of the UXO person in-charge.
- Do not complete the circuit at the blasting machine (panel) or give the signal for detonation until directed to do so by the UXO person in-charge.
- Do not attempt to fire a single electric blasting cap, or a combination of electric blasting caps in a circuit with less than the minimum current required by the total circuit. Misfires can be expected where this occurs.
- Search the area after each firing for any remaining explosive components and loose explosives. Explosive components found should be individually blown in place without moving. Scattered explosive material should be carefully gathered and destroyed by burning, or by detonation with the next shot. If left in place these items can create an additional explosive hazard. This search includes verifying that a secondary item is not present in the

area after conducting "blow-in-place" operations. Always check the "blow-hole" for secondary items and remove all OE-related scrap and fragmentation.

2.6.8.2 Non-Electric Priming. This project site contains an overhead electrical line system that runs through it. In the event that demolition activities are required in the vicinity of the power lines, non-electric priming will be used.

2.6.8.2.1 Procedures:

- Shocktube, non-electric detonators, and a non-electric initiator will be utilized.

2.6.9 Ordnance Accountability Log. An ordnance accountability log will be maintained. It will be maintained utilizing Microsoft Word following the below format.

UXO/OE Item	Quantity	Condition	Location (GPS)	Disposition	Donor Materials Used

The Senior UXO Supervisor will assure the accountability log is maintained and current

The UXO QC Specialist will audit to verify the accuracy of this log.

2.6.10 PHOTOGRAPHIC RECORDS.

2.6.10.1 Still Photographs. Color photographs of major project tasks will be a component of the project's Final Report. To enable this requirement to be met, a photographic record will be maintained of major project tasks. A digital camera will be utilized. Photographs will be taken of the following, as a minimum:

- Site before operations start;
- All UXO (with a large number ruler for scale);
- All demolition shots (before and after explosion to include the overall nature of vegetation in the immediate area, in addition to the ground surface);
- Soil sample locations;
- OE-related scrap prior to turn-in;
- Operations in progress;
- Unusual events/activities

2.6.10.2 Videotape. A videotape record will be made of all site activities. A minimum of 45 minutes is required to be provided to the client at the project's end. At least three 60-minute tapes shall be completed to allow for editing

2.7 DETAILED PROCEDURES FOR MANAGING, REPORTING, VENTING, AND DISPOSING OF OE SCRAP AND NON-OE SCRAP. See Chapter 15

2.8 MINIMUM SEPARATION DISTANCES FOR MPM (75mm)

Minimum Separation Distances
East Elliott
75 mm M48
18 September 2001

REQUESTED BY: B J Allen
PREPARED BY: Michelle Crull, PhD, PE

This form shows calculated distances only. It does not constitute approval. Concurrence of CEHNC-OE-S is required to determine the applicable distance for a specific site.

In accordance with (IAW) EM 1110-1-4009, use of the range to no more than 1 hazardous fragment/600 sq ft as the minimum separation distance for accidental detonations requires written justification, a risk analysis, calculation of this distance by CEHNC-ED-CS-S, and concurrence of CEHNC-OE-S.

CALCULATIONS FOR UNINTENTIONAL DETONATIONS

Maximum Fragment Range = 1701 ft
Range to No More Than 1 Hazardous Fragment/600 sq ft = 234 ft
Range to 0.9 psi Overpressure (K50) = 60 ft

IAW EM 1110-1-4009, the minimum separation distance for intentional detonations may not be less than the default distance provided in DoD 6055.9-STD or the maximum fragment range or the K328 overpressure distance.

CALCULATIONS FOR INTENTIONAL DETONATIONS

Maximum Fragment Range = 1701 ft
K328 Overpressure Range = 396 ft

The primary fragmentation characteristics used in the calculation of the values listed above were computed IAW CEHNC-ED-CS-S-98-1. The maximum fragment range was calculated using the maximum weight fragment and the initial velocity from these characteristics in the computer software TRAJ. The range to no more than 1 hazardous fragment/600 sq ft was calculated IAW CEHNC-ED-CS-S-98-2

SANDBAG ENCLOSURE FOR INTENTIONAL DETONATIONS

Required Sandbag Thickness = 24 in with 6" standoff between munition and sandbags
Sandbag Throw Distance = 125 ft
Minimum Separation Distance = 200 ft

Minimum Separation Distances
East Elliott
75 mm M48
18 September 2001

The required sandbag thickness and the sandbag throw distance were calculated IAW CEHNC-ED-CS-S-98-7. A copy of HNC-ED-CS-S-98-7, "Use of Sandbags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions" must be available on site. This report may be downloaded from the USAESCH homepage at http://www.hnd.usace.army.mil/oew/tech/AnalyticalTools/analindx.htm The first time you access the site you will have to register. You will be notified by e-mail when your login and password have been activated. You must have a login and password to download the report.

WATER MITIGATION FOR INTENTIONAL DETONATIONS

Water Containment System (see HNC-ED-CS-S-00-3)	Minimum Separation Distance (ft)
1100 gallon tank	200

The water containment system and the minimum separation distance were determinined IAW HNC-ED-CS-S-00-3. A copy of HNC-ED-CS-S-00-3, "Use of Water for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions" must be available on site. This report may be downloaded from the USAESCH homepage at http://www.hnd.usace.army.mil/oew/tech/AnalyticalTools/analindx.htm The first time you access the site you will have to register. You will be notified by e-mail when your login and password have been activated. You must have a login and password to download the report.

MINIMUM SEPARATION DISTANCES WHILE USING MOFB DURING INTRUSIVE ACTIVITIES

Design of the Miniature Open Front Barricade (MOFB) is in accordance with HNC-ED-CS-S-98-8, "Miniature Open Front Barricade". This document was approved by the DDESB. This report may be downloaded from the USAESCH homepage at http://www.hnd.usace.army.mil/oew/tech/AnalyticalTools/analindx.htm The first time you access the site you will have to register. You will be notified by e-mail when your login and password have been activated. You must have a login and password to download the report. DDESB has placed certain restrictions on the approved usage of the MOFB. These are listed in the approval letter in the front of the report.

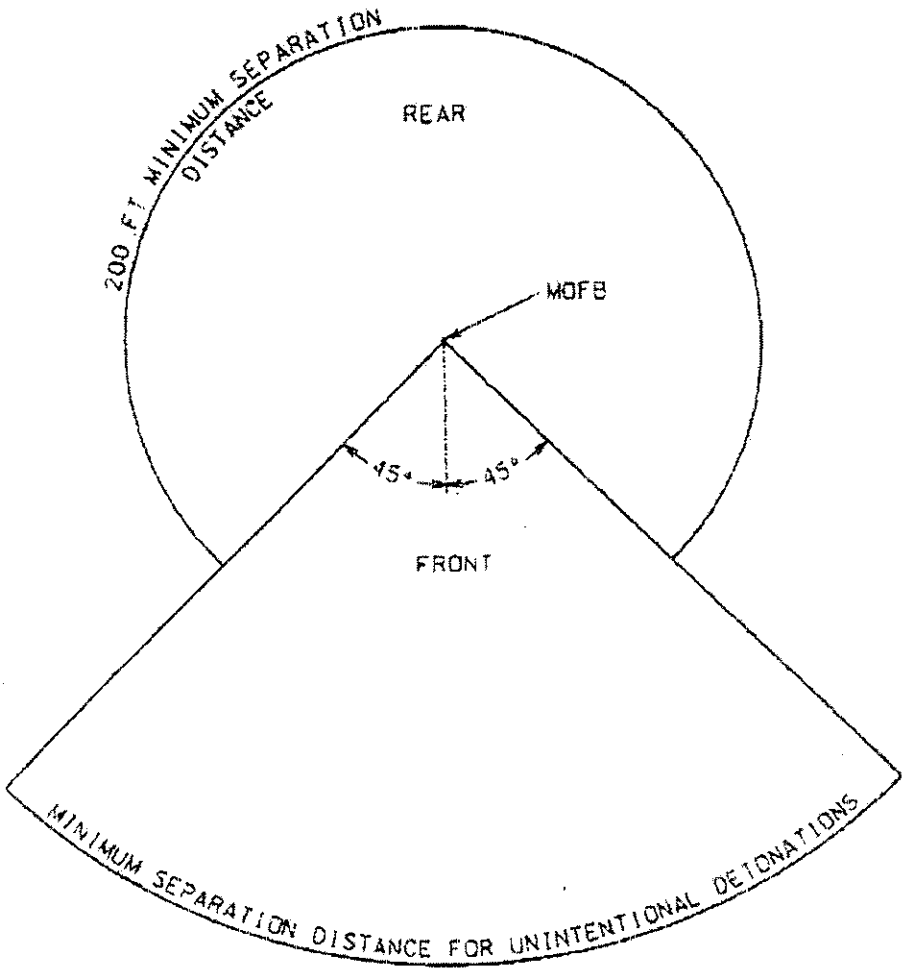
Thickness of Aluminum Required to Prevent Perforation = 1.45 in

Minimum Separation Distances
East Elliott
75 mm M48
18 September 2001

The MOFB is designed to defeat fragments to the rear and sides of the MOFB in the case of an accidental/unintentional detonation during intrusive activities. The fragment distances to the front of the MOFB are the same as the fragment distances without the MOFB (see figure). The MOFB is not designed to reduce the effects of blast overpressure. The MOFB may not be used for intentional detonations. The minimum separation distances to the rear and sides of the MOFB must be maintained based on the expected throw distance of the MOFB itself.

Minimum Separation Distance to sides and rear = 200 ft
Minimum Separation Distance to front = 1701 ft
K50 distance = 60 ft

Minimum Separation Distances
East Elliott
75 mm M48
18 September 2001



MINIMUM SEPARATION DISTANCE FOR UNINTENTIONAL DETONATIONS
USING MINIATURE OPEN FRONT BARRICADE DURING INTRUSIVE ACTIVITIES

SIGNATURES:

Michelle Crull 9/18/01
Subject Matter Expert

Arthur Dohmann 9/19/01
CEHNC-ED-CS-S Branch Chief

CHAPTER 3
EXPLOSIVES MANAGEMENT PLAN
DID OE-005-03, 000303

3.1 LICENSE/PERMITS.

3.1.1 City of San Diego Explosive and Blasting Permit – 77-104 AP issued May 8, 2001. Copy will be maintained at the on-site office and a copy will be carried in vehicle transporting hazardous materials.

3.1.2 County of San Diego Sheriff's Explosive Permit and Handler's Cards – EP-0726 issued May 3, 2002, expires May 3, 2003.

3.1.3 State of California Department of the Highway Patrol Hazardous Materials Transportation License – renewed March 7, 2002, expires April 4, 2003. License Number 132817. CHP Carrier Number CA-211498. Copy will be maintained at the on-site office and a copy will be carried in vehicle transporting hazardous materials

3.1.4. Bureau of Alcohol, Tobacco and Firearms Permit – Manufacturer of High Explosives Number 1-AL-089-20-4D-00065 expires April 1, 2004. Copy will be maintained at the on-site office.

3.2 ACQUISITION PLAN.

Basic Load. The basic load for this project is as follows:

60 each Orange Cap Booster, 1 pound, Class 1.1D, UN0042
50 each Charge, Shaped, 22 gram 1.4S, UN0441
500 feet Cord, Detonating, Flexible, 80 gr., Class 1.1D, UN0065
24 each Electric Det, Class 1.4B, UN0255
30 each Nonelectric Det, Class 1.4B, UN0361
30 each Nonelectric Det, EZTL surface connector, Class 1.4B, UN0361
2500 feet Shock tube lead-in-line Class 1.4S, UN0349

3.2.1 Acquisition Source:

All materials will be obtained from Southwest Drilling, Inc., PO Box 1677, Lakeside CA 92040

3.3 INITIAL RECEIPT

3.3.1 PROCEDURES FOR RECEIPT FROM VENDOR.

Upon receipt of donor materials, an inventory will be conducted to ascertain:

- correct type;

- correct quantity; and
- serviceable condition.

Discrepancies will be reported to the vendor immediately.

Upon receipt of donor materials, a DA Form 3020 Magazine Data Card (Appendix D) will be completed for each item. One copy will be kept in the magazine with the materials and one copy will be kept in the on-site project files in the donor accountability file.

- A copy of the invoice(s) for the incoming donor materials will be kept in the on-site donor materials accountability file.
- Upon receipt, a separate SCI Memorandum will be prepared, with the following information, and retained on-site:
  - Date of acquisition
  - Name or brand name of manufacturer
  - Manufacturer's marks of identification
  - Quantity
  - Description
  - Name, address, and license number of the persons from whom the explosive materials are received

3.4 STORAGE

3.4.1 ESTABLISHMENT OF EXPLOSIVE STORAGE FACILITIES.

All materials will be stored off-site at Baxter Blasting Company, El Cajon CA. Two Type II magazines will be utilized. These magazines are located within a secure storage facility belonging to Baxter Blasting Company and sited and licensed by the County of San Diego CA

3.4.2 PHYSICAL SECURITY OF EXPLOSIVE STORAGE FACILITIES.

The storage area is under 24-hour surveillance and the security fence is alarmed

3.5 TRANSPORTATION PLAN

3.5.1 PROCEDURES FOR TRANSPORTING FROM STORAGE FACILITY TO DISPOSAL LOCATIONS AT THE PROJECT SITE. SCI will comply with all California State and U.S. Department of Transportation policies and procedures relative to transporting donor materials from the storage area to the project site.

3.5.1.1 General

- No one shall smoke, or carry matches or any other flame-producing device, or carry firearms or cartridges while in or near a motor vehicle transporting explosive materials

- No one shall drive, load, or unload a motor vehicle transporting explosive materials in a careless or reckless manner. Installation speed limits will be strictly followed.
- No driver shall consume alcohol within 8 hours of operating a vehicle transporting explosive materials.
- A driver who requires the use of a hearing aid shall wear it and have it in operation at all times when operating a vehicle transporting explosive materials.
- Every person who operates a motor vehicle shall possess at all times while operating the vehicle, a valid commercial driver's license.
- No vehicle shall be placed in service until it has been inspected and found to be in a safe operating condition.

3.5.1.2Transportation Vehicles

- Vehicles used for transporting explosive materials shall be strong enough to carry the load and be in good mechanical condition. The bed of the truck utilized to transport the materials will be covered with a sheet of plywood.
- No mixed loads are allowed (i.e., explosives and fuel). When transporting explosives, only explosives will be in the bed of the vehicle.
- Motor vehicles, when used for transporting any quantity of explosive materials, shall display required placards.
- Each motor vehicle used for transporting explosive materials shall be equipped with fire extinguishers as follows:
  - Trucks of less than 14,000 pounds GVW rating - minimum of two extinguishers with total fire extinguisher rating of at least 4-A: 20-B:C.
  - Extinguishers shall be equipped with a device permitting visual determination of charged condition
  - Extinguishers shall be located where they are accessible for immediate use
  - Extinguishers shall be examined and recharged periodically

3.5.1.2.1 Operation of Transportation Vehicles

- Motor vehicles transporting explosive materials shall be driven by, and be in the charge of, a properly licensed driver, not less than 21 years of age. The driver shall be physically fit, careful, capable, reliable, and able to read and write the English language. The driver shall not be an unlawful user of, or addicted to, alcohol, narcotics, or dangerous drugs. The driver shall be familiar with applicable local, state, and Federal laws and regulations governing the transportation of explosive materials.
- The operator of the vehicle shall have a Commercial Drivers License (CDL) with a Hazardous Materials Endorsement (California Class C Commercial with 'H').
- Except under emergency conditions, no vehicle transporting explosive materials shall be parked before reaching its destination, even though attended, within 300 feet any highway adjacent to or in proximity to any bridge, tunnel, dwelling, building, open fire, or place where people work, congregate, or assemble. Do not park on or within 5 feet of the traveled portion of a public street or highway except for brief periods when necessary for operation and it is

impractical to park any other place. When parking on private property, including fueling or eating facilities, the knowledge and consent of the person in charge of the property is required and they must be aware of the nature of the hazardous material on board.

- Every motor vehicle transporting any quantity of 1.1, 1.2, and 1.3 explosive materials shall, at all times, be attended by a driver or other employee of the company. Such attendant shall have been:
  - made aware of the class of explosive material in the motor vehicle and of its inherent dangers;
  - instructed in the measures and procedures to be followed in order to protect the public from such inherent dangers;
  - familiarized with the vehicle he is assigned to attend; and
  - trained, authorized, and enabled to move the vehicle, when required.

- Tires shall be checked for proper inflation and general condition after each two hours or 100 miles of travel, whichever occurs first, and at every rest stop. Flat or overheated tires shall be removed from the vehicle immediately. After removal, the tire shall be placed far enough from the vehicle so that a spontaneous ignition of the tire will not endanger the vehicle or its cargo.
- No spark-producing metal, spark-producing metal tools, oils, matches, firearms, electric storage batteries, flammable substances, acids, oxidizing materials or corrosive compounds shall be carried in the body of any motor vehicle transporting explosive materials.
- Vehicles transporting explosive materials shall avoid congested areas and heavy traffic and shall follow routes when designated by local authorities.
- Delivery shall only be made to authorized persons and into authorized magazines.
- Motor vehicles transporting explosive materials shall come to a full stop before crossing any railroad track or main highway, and shall not proceed until the driver determines that the way is clear. The stop shall occur within 50 feet but not closer than 15 feet from the railroad track(s). The driver must not shift gears while crossing.
- Only authorized persons or passengers are permitted on any motor vehicle transporting explosive materials.
- In the event of an accident involving any motor vehicle transporting Class 1 (explosive) materials, every available means shall be employed to prevent individuals, other than those employed in the protection of persons or property or in the removal of hazards or wreckage, from congregating in the vicinity. Such means shall also be employed to prevent smoking, to keep flame away, and to safeguard against the aggravation of the hazard present, and to warn other users of the highway.
- In the event that any motor vehicle laden with or carrying Class 1.1 explosives is entangled with another or with any other object or structure following an accident, no attempt shall be made to disentangle either vehicle, or the laden vehicle from the object or structure, until the cargo, together with any fragments thereof, is removed to a place at least 61m (200 feet) from the vehicle (and preferably 61m (200 feet) from any habitation)
- Compatibility requirements will be followed.
- A valid legible copy of the California Hazardous Materials Transportation License shall be carried in the vehicle and presented to a CHP Officer upon request.

3.5.1.2.2 Vehicle Inspection

Transportation of donor materials from magazines to project site. All SCI vehicles will be inspected, by the operator, utilizing DD Form 626 Motor Vehicle Inspection (Transporting Hazardous Materials) (Appendix D) prior to transporting any explosive materials. The reverse of the form contains completion instructions. During shipment of materials, the completed form will be kept with the shipping document (DA Form 581). The completed form(s) will be kept in the vehicle during movement and turned into the SUXOS at the end of the day.

3.5.1.2.3 Transportation of Detonators in the Same Vehicle with Explosives. In the transportation of explosive materials, it is often desirable to transport detonators on the same vehicle with other explosive materials. This is acceptable with certain detonators as long as they are placed in an IME-22 Container, which SCI will utilize on this project.

- Detonators, if they are classified as 1.4B or 1.4S, may be transported on the same vehicle with other explosives provided the detonators are shipped in accordance with the IME-22 specifications.
- Detonators classified as 1.1B, which contain not more than one gram of explosives (excluding ignition and delay charges) and are electric detonators (electric blasting caps) with leg wires four feet or longer, or are detonators (blasting caps) with empty plastic tubing leads twelve feet or longer, may be transported on the same vehicle with other explosives provided the detonators are shipped in accordance with the IME-22 specifications

3.5.1.3 Route Map. The route map is located in Appendix B.

3.5.2 SHIPPING DOCUMENTS

3.5.2.1 DA FORM 581. This form will be used as the shipping document for transporting donor materials from the magazine area to the project site.

- The form will be completed as per the instructions on the reverse side of the form.
- A copy of the form will accompany the shipment from the magazine area to the site
- The form will be carried in a pouch on the driver's side door, or otherwise, in clear view within reach while the seat belt is fastened

3.5.2.2 DD FORM 836. This form will be used as the shipping document for transporting donor materials (Hazardous Materials) from the magazine to the project site.

- The form will be completed as per the form's instructions.
- A copy of the form will accompany the shipment from the magazine area to the site.
- The form will be carried in a pouch on the driver's side door, or otherwise, in clear view within reach while the seat belt is fastened.

3.6 RECEIPT PROCEDURES

3.6.1 ACCOUNTING PROCEDURES FOR EACH ITEM OF DONOR EXPLOSIVES FROM INITIAL DELIVERY UNTIL THE ITEM IS EXPENDED OR RELIEVED FROM ACCOUNTABILITY.

3.6.1.1 INITIAL RECEIPT – see 3.3.1 above

3.6.1.2 ISSUING PROCEDURES

- SCI personnel will generate a DA Form 581, Request for Issue and Turn-in of Ammunition. This form serves as an issue/turn-in tracking document between SCI and the magazine location.
- The explosive items are then issued to SCI personnel and the items are deducted from the stock listed on the magazine data card.
- The DA Form 581 also serves as the shipping document – see above.
- The individual on the site that receives the donor materials will sign the DA Form 581 in Block 31a and 31b.
- Upon conclusion of the disposal operations, the senior individual involved with the disposal operations (the end user) will place his signature in the Remarks Section certifying that all of the materials listed on the DA Form 581 have been expended.
- The completed form, with all signatures, will be provided to the SUXOS at the end of the day.

3.6.2 IDENTIFY INDIVIDUALS AUTHORIZED TO RECEIVE, ISSUE, TRANSPORT, AND USE EXPLOSIVES BY CONTRACT POSITION AND THOSE INDIVIDUALS SHALL ASSUME ACCOUNTABILITY BY SIGNING THE RECEIPT DOCUMENT.

The below named personnel (contract positions) are authorized to receive, issue, transport, and use explosives on this project:

- ➡ Project Manager
- ➡ Senior UXO Supervisor
- ➡ UXO Safety Officer
- ➡ UXO Technician III

The UXO QC Specialist and USACE Safety Specialist is authorized access to the magazine to audit accountability and storage procedures.

3.7 INVENTORY

3.7.1 PROCEDURES FOR PHYSICAL INVENTORY OF EXPLOSIVES IN STORAGE FACILITIES.

- An inventory will be conducted at least every 7 calendar days to verify the accuracy of the amounts indicated on the DA Form 3020-R. The results of the inventory will be annotated on the forms, both in the magazine and in the project office. The same individual will not conduct consecutive inventories. The Senior UXO Supervisor will designate an alternate inventory individual. The alternate will not be the UXO QC Specialist.
- A closeout inventory will be conducted at the conclusion of project to validate the materials on-hand.

3.7.2 PROCEDURES FOR RECONCILING DISCREPANCIES RESULTING FROM INVENTORIES.

- Inventory discrepancies will be resolved immediately. If it is determined that a theft or loss has occurred, refer to 3 8 below

If an inventory identifies a discrepancy, a different individual will conduct a second inventory to verify the discrepancy.

If an inventory identifies a discrepancy, all records will be double-checked to assure that correct numbers have been utilized.

If the records double-check fails to correct the discrepancy, all parties involved in the receipt, issue, and use of the materials will be interviewed to determine possible reason(s) for the discrepancy.

If the discrepancy still exits, the Contracting Officer will be notified.

3.8 PROCEDURES UPON DISCOVERY OR LOST, STOLEN OR UNAUTHORIZED USED OF EXPLOSIVES.

Theft or loss of explosive materials will be reported as follows:

- contact Contracting Officer;
- notify the Bureau of Alcohol, Tobacco, and Firearms (ATF) at 888-ATF-2662 immediately;
- notify the local law enforcement agency;
- complete ATF Form 5400.5, Report of Theft or Loss - Explosive Materials and mail to nearest ATF office. Instructions for completion of the form are on the reverse side.

3.9 PROCEDURES FOR RETURN TO STORAGE OF ANY DAILY ISSUED EXPLOSIVES NOT EXPENDED.

Only those donor materials required for a specific destruction will be transported to the project site, thus there will not be any unexpended donor materials to be returned to storage.

CHAPTER 4
EXPLOSIVES SITING PLAN
DID 0E-005-04, 000303

It is SCI's policy to provide the maximum possible protection to personnel and property, both inside and outside of the project site, from the damaging effects of potential accidents involving ammunition and explosives, and to limit the exposure of a minimum number of persons, for a minimum time, to the minimum amount of ammunition and explosives.

4.1 ORDNANCE AND EXPLOSIVES AREAS (See site map in Appendix B).

- When OE operations are being conducted, only personnel essential for the operation will be allowed in the exclusion zone. The exclusion zone, for unintentional detonation, for this project shall be 1701 feet, or for ease of communications, a 17 grid distance outside of the grid being cleared. Also see paragraph 4.3.3.
- Access to the exclusion zone will be controlled during all UXO operations. UXO operations will cease prior to non-essential personnel entering the exclusion zone.
- When a non-essential person requests entrance to the exclusion zone, that individual must receive a safety briefing, by the UXO Safety Officer, before entry is allowed. The UXO Safety Officer will have the visitor sign the Visitor Log
- Essential personnel are considered:
  - SCI personnel, and subcontractor, involved in the clearance effort, and
  - ~~CESPL~~ USACE UXO qualified Safety Specialists
- Exposed Site (ES): A location exposed to the potential hazardous effects (blast, fragments, debris, and heat flux) from an explosion at a potential explosion site (PES). The distance to a PES and the level of protection required for an ES determine the quantity of ammunition or explosives permitted in a PES.
- Potential Explosion Site (PES): The location of a quantity of explosives that will create a blast, fragment, thermal, or debris hazard in the event of an accidental explosion of its contents Quantity limits for ammunition and explosives at a PES are determined by the distance to an ES.
- Exclusion Zone: A safety zone established around an OE work area. Only necessary project personnel and authorized escort visitors are allowed within the exclusion

4.1.1 MINIMUM SEPARATION DISTANCES FOR NONESSENTIAL PERSONNEL.

- Fragments. An important consideration in the analysis of the hazard associated with an accidental explosion is the effect of the fragments generated by the explosion. These fragments are known as primary or secondary fragments depending on their origin.
  - Primary fragments are formed as a result of the shattering of the explosive container. The container is the casing of conventional munitions. These fragments usually are small in size and travel initially at velocities of the order of thousands of feet per second.

- Secondary fragments are formed as the result of high blast pressures on structural components and items in close proximity to the explosion. These fragments are somewhat larger in size than primary fragments and travel initially at velocities in the order of hundreds of feet per second.
- A hazardous fragment is one having an impact energy of 58 ft-lb. or greater.
- Primary fragment distance is to protect personnel in the open.

Table 4.1

DEFAULT CASE MAXIMUM FRAGMENT RANGES FOR INTENTIONAL DETONATIONS Table C5.T1, DoD 6055.9-STD (Extract)			
DIAMETER (inches)	MAX. FRAG RANGE (Feet)	DIAMETER (inches)	MAX. FRAG RANGE (Feet)
<1.5	1250	3.5	2326
1.5	1266	4.0	2493
2.0	1626	4.5	2641
2.5	1905	5.0	2772
3.0	2133	5.5	2892

Note: These calculated fragment throw ranges are for individual items and do not apply to stacks. They also do not address "rogue" fragments produced by sections of nose plugs, base plates, and/or lugs. Those non-case fragments can travel to significantly greater distances than those shown in this table can.

4.1.1.1 KNOWN OE / MOST PROBABLE MUNITION

Previously Encountered (and Similar)OE Items
Projectile, 37mm, AP-T, M74
Projectile, 37mm, HE, M63 (1.46")
Projectile, 37mm, APC, M51
Projectile, 37mm, TP, M51A1
Projectile, 37mm, HE, M54 (1.46")
Projectile, 37mm, APC, M59
Projectile, 37mm, AP, M80
Projectile, 37mm, Practice, Mk II (1.46")
Projectile, 75mm, HE, M48 (2.96")
Projectile, 75mm, HE, M41 (3" M42)
Projectile, 75mm (3"), APC, M62
Projectile, 75mm, AP-T, Mk29 (3" M79)

Operations will be conducted based upon the Most Probable Munition as a 75mm high explosive projectile. The safe separation distance to be observed will be 1701 feet as per CEHNC-ED-CS-S. Also see paragraph 4.3.3.

In the event a larger munition is located, the hazardous fragment distance will be requested from CEHNC-ED-CS-S. Pending receipt of these distances, Table 4.1 above and Table C5.T2, DoD 6055.9-STD will be consulted.

4.1.1.2 ESTIMATED NUMBER OF OE-RELATED ITEMS TO BE ENCOUNTERED: Based upon the results of the Engineering Evaluation – Cost Analysis conducted by Montgomery Watson, it is estimated that approximately 50 items will be encountered that require explosive demilitarization or disposal.

4.1.2 PLANNED OR ESTABLISHED DEMOLITION AREAS.

There will not be an established demolition area on this project site All items requiring disposal will be destroyed in place.

4.2 FOOT PRINT AREAS

4.2.1 BLOW-IN-PLACE MINIMUM SEPARATION DISTANCE. The minimum safe separation distance will be 1701 feet.

4.2.2 COLLECTION POINTS MINIMUM SEPARATION DISTANCE. Collection points will not be utilized on this project.

4.2.3 IN-GRID CONSOLIDATED SHOTS MINIMUM SEPARATION DISTANCE. Items will not be consolidated within grids on this project

4.3 EXPLOSIVES STORAGE MAGAZINES

4.3.1 TYPE (S)

Two Type II magazines will be rented from Southwestern Drilling Company and maintained at their licensed facility. No storage magazines will be located on the project site.

4.3.2 NET EXPLOSIVE WEIGHT (NEW) AND HAZARD DIVISION.

One Type II magazine (100 pounds NEW) will contain the following:

- 60 each Orange Cap Booster, 1 pound, Class 1.1D, UN0043
- 50 each Charge, shaped, 22 gram, 1.4S, UN0441
- 500 feet Cord, Detonating, 80 grain, Class 1.1D, UN0065

One Type II magazine (10 pounds NEW) will contain the following:

- 24 each Detonating, Elec., Class 1.1B, UN0030
- 30 each Detonating, NonElec
- 2500 each Shock tube lead-in-line

4.3.3 ENGINEERING CONTROLS TO BE USED TO MITIGATE EXPOSURES TO PUBLIC WHEN REQUIRED QD CANNOT BE MET.

4.3.3.1 INVESTIGATION OF ANOMALIES

This project requires the trails that start adjacent to California State Highway (CSH) 52 to be cleared. A portion of this clearance action is also adjacent to the landfill road. See attached map.

If an anomaly is encountered within 1701 feet of either CSH 52 or the landfill road, the Government-furnished Miniature Open Front Barricade (MOFB) will be utilized. The MOFB is designed to defeat primary fragments to the rear and sides of the MOFB in the case of an accidental/unintentional detonation during intrusive activities. The MOFB will be placed over the anomaly to be excavated with the front facing away from CSH 52 or the landfill road. The MOFB is not designed to reduce the effects of blast overpressure. The minimum separation distance to the sides and rear of the MOFB is 200 feet. The minimum separation distance to the front of the MOFB will remain at 1701 feet.

The MOFB consists of ¼ inch aluminum plates welded together to form a basic barricade with aluminum channels to hold additional plates in place on the sides and roof. The MOFB is 3 feet wide by 3 feet tall in the front, sloping to a height of 2 feet in the rear. For the MPM on this project site, the required thickness of aluminum to prevent perforation is 1.45 inches.

If an anomaly is encountered within 200 feet of CSH 52 or the landfill road, the MOFB will be utilized and the traffic will be stopped until investigation of the anomaly is complete.

4.3.3.2 INTENTIONAL DETONATIONS

The MOFB is not designed for use as an engineering control for an intentional detonation.

When disposing of an UXO in place, the maximum fragment range for the MPM is calculated to be 1701 feet. If the UXO is within 1701 feet of either CSH 52 or the landfill road, a sandbag barricade will be utilized. The sandbag barricade will be 24-inches thick, 360° around the UXO, with a 6-inch standoff between the munition and the sandbags. This sandbag barricade provides a minimum separation distance of 200 feet.

If the UXO is within 200 feet of CSH 52 or the landfill road, the same sandbag barricade will be constructed, but traffic will also be stopped until the disposal operation is concluded.

Dependent upon the terrain and vegetation, another engineering control that may be utilized is the water mitigation (kiddie pool) procedure. This also provides a minimum separation distance of 200 feet.

CHAPTER 5
GEOPHYSICAL INVESTIGATION PLAN
DID OE-005-05, 000303

5.1 SITE DESCRIPTION

5.1.1 OBJECTIVES

The objective of the project is to find all UXO/OE items down to depth (i.e., removal to detectable depth) ~~a depth of 2.5 feet.~~

5.1.2 SPECIFIC AREAS TO BE INVESTIGATED

The approximately 110 acres includes roads and trails and a designated area of approximately 107 acres. The 107-acre area is bounded by Little Sycamore canyon to the east, Miramar to the north, the power line access road to the south, a trail that runs north/south and bisects sector 2 to the west. The following roads and trails, approximately 3 acres total, are included in this tasking: the road that enters sector 3 from Mission Trails, under state highway 52, up to the point where it intersects the second power line access road, power line access road from Spring Canyon to the bottom of Little Sycamore Canyon and all other roads/trails that are utilized by personnel for hiking and trail bikes throughout Sector 2 and the eastern portion of sector 3, between the creek bed in Little Sycamore Canyon. See map in Appendix B.

As per the scope of work, paragraph 4.5.1.1., contained in Appendix A, the roads shall be cleared to the width of the road plus 5 feet on each side of the roadway, The area to be cleared for trails will be 5 feet each side from the centerline of the trail.

5.1.3 PAST, CURRENT, AND FUTURE USE

5.1.3.1 PAST USE

The area encompassing Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following four general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, post-World War II (1945 to 1960); and
- Camp Elliott closure (1960 to August 1999).

A more detailed history of Camp Elliott is presented in the Archives Search Report (Montgomery Watson, 1995) and the Engineering Evaluation/Cost Analysis (Montgomery Watson, 1999)

5.1.3.2 CURRENT USE (Reference EE/CA, East Elliott, San Diego, CA by Montgomery Watson dated August 1999)

East Elliott consists of 165 individual parcels, including more than 85 private property owners; the cities of San Diego and Santee, California; several land development firms; two school districts; and a public utility company. Fire breaks and jeep trails across the area do not coincide with parcel boundaries. The pattern of present-day ownership is directly related to the U.S. Government's efforts to dispose of East Elliott as excess land during the 1960s. All but two small parcels (comprising a narrow, 5-acre strip adjacent to the MCAS Miramar) have been transferred to private (approximately 2,260 acres) or municipal (approximately 940 acres) ownership within East Elliott.

Current land use at East Elliott consists of undeveloped open space and the Sycamore Landfill, an operational Class III sanitary landfill.

A small electrical substation is located along the eastern boundary of East Elliott. Two parallel sets of high power transmission lines traverse the site. Maintenance roads are present along the alignment of the transmission lines to provide access to the towers. Both the substation and the transmission lines are operated and maintained by San Diego Gas & Electric.

A 76-acre parcel of land south of Mast Boulevard that is part of East Elliott has been developed by the Grossmont Union High School District as the site of the West Hills High School. A neighborhood park, West Hills, Park, has been constructed in the eastern portion of this parcel.

The majority of East Elliott is undeveloped land, and unrestricted access along its southern boundary makes it attractive for a variety of recreational uses by hikers, motorcyclists, mountain bicyclists, horse riders, etc. Several clusters of large boulders near the southeast corner of the site are used by rock climbers. The mostly weekend recreational activities are most common in the southern and eastern areas of the site.

5.1.3.3 FUTURE USE (Reference EE/CA, East Elliott, San Diego CA by Montgomery Watson dated August 1999)

Based on the research for the Archive Search Report, there appear to be three probable future land use scenarios for East Elliott: 1) dedicated open space (i.e., undeveloped with habitat preserves and recreational use; 2) landfill construction; and 3) residential construction, consisting of a mix of single-family residential, institutional, and open space land uses. Of these three land use scenarios, the combined landfill and open space scenario is judged to be the most probable, due to pressing concerns about landfill capacity for the City of San Diego, the City's evaluation of Oak and Spring Canyon areas as a new landfill site, the presence of the existing Sycamore Landfill, and concerns about habitat preservation. However, the continued population growth and development of the San Diego area may result in increased pressure to develop privately owned parcels.

Open Space

The City of San Diego Planning Department has evaluated the biological resources of East Elliott in the context of its draft regional plans for open space and habitat protection. Of particular concern is the Multiple Species Conservation Program (MSCP), which seeks to preserve endangered habitat such as the coastal sage habitat, home to the California gnatcatcher. One of the land use options for East Elliott includes dedicated open space for the program.

The MSCP is a comprehensive habitat conservation planning program for southwestern San Diego County developed cooperatively by participating jurisdictions and special districts in partnership with the wildlife agencies, property owners, and representatives of the development industry and environmental groups. The purpose of the MSCP is to preserve a network of habitat and open space to protect biodiversity and to identify priority areas for conservation and other areas for future development. The MSCP Plan will serve as: 1) a multiple species Habitat Conservation Plan pursuant to Section 10(a) of the federal Endangered Species Act and, 2) a Natural Community Conservation Program (NCCP) pursuant to the California NCCP Act of 1991 and the state Endangered Species Act.

The City of San Diego MSCP Subarea Plan includes areas of East Elliott north of Mast Boulevard, excluding the Sycamore Landfill and an area of developed land in the southwest portion of the site adjacent to the City of Santee. As part of the MSCP, the eastern portion of San Diego, including East Elliott, as surveyed for the presence of endangered, threatened, or other sensitive species and habitat areas. East Elliott is included within a core resource area, which is defined as an area with a high concentration of sensitive biological resources which, if lost, could not be replaced or mitigated elsewhere. Over 65 percent of the habitat within East Elliott is considered to be of very high value. Important habitats at the site include coastal sage (60 percent) and riparian scrub (2 percent). Sensitive species identified in the vicinity of East Elliott include willowy monardella, San Diego ambrosia, least Bell's vireo, and California gnatcatcher.

According to the MSCP Subarea Plan, the City of San Diego proposes to preserve approximately 80 percent of the area encompassing East Elliott and Mission Trails Regional Park. The existing Sycamore Landfill would be maintained with eventual restoration as a passive preserve. If a City landfill were constructed within the Oak and Spring canyons area, the development footprint would not exceed 25 percent of the preserve at any one time. Major issues identified for consideration for preserve management in the East Elliott area include erosion, off-road vehicle use, incursion of exotic (non-native) species, and encroachment of existing development. Private land within East Elliott is currently considered potentially preserved. East Elliott has been identified as a Multi-Habitat Planning Area, which may eventually include acquisition of up to 11,000 acres of private land from willing sellers at a fair market value. The estimated value of land in the San Diego area is up to $10,000 per acre. Of particular interest is the acquisition of canyon properties and other open space to provide habitat within an urbanized area. Some lands within the areas of habitat identified in the MSCP will be allowed to be developed as provided in the individual subarea plans. Overall management policies presented in the Elliott Community

Plan, including the proposed system of open space, are incorporated by reference in the MSCP Subarea Plan.

Landfill Construction

The City of San Diego, Refuse Disposal Division is considering the area of East Elliott between Oak and Spring Canyons as a site for a new municipal landfill. The City of San Diego regards this area as the single best location for a new landfill and funds have been set aside to acquire private lands for this purpose. The new landfill would eventually occupy approximately 700 acres. However, as required by the MSCP Plan, the development footprint would not exceed 25 percent or approximately 175 acres of the total area at any one time. In addition, landfill support facilities could be constructed south of the proposed landfill site. Design and construction operations are expected to begin between the years 2005 and 2010, with disposal beginning between 2012 and 2015, after the closure of the current city landfill in Miramar. Operations would continue for approximately 120 years. Development of the new city and county landfills would likely have a dampening effect on residential development elsewhere in East Elliott. The site would eventually be restored and converted back to open space after landfill activities were complete

Residential Construction

East Elliott is currently zoned R-1-40, a residential zoning class that permits single-family residential development with minimum lot sizes and improvement height limitations. Since 1984, various property owners and land development firms have expressed an interest in developing their properties as a planned residential development. These property owners have periodically voiced their concerns over potential ordnance contamination in East Elliott and have formally requested that the U S. Government clear ordnance from the area so that their properties would be suitable for development. Because of these concerns, the City of San Diego has been reluctant to issue building permits in the East Elliott area.

Residential development within East Elliott, if it occurs, would be guided by the Elliott Community Plan. The Elliott Community Plan, adopted in 1962 and revised in 1971, provides a basis for application of existing or new controls primarily in the field of zoning and subdivision and aids in coordinating private development with the necessary public facilities and services in such a manner as to insure the full realization of desired community growth. The major goals of the plan include the following: 1) provide a variety of housing for all income levels, 2) promote good design and quality in physical improvements, 3) emphasize conservation of the natural environment, and 4) coordinate private and public efforts for development to achieve the greatest benefit to the community.

According to the Plan, East Elliott is located in Area I. The proposal for this area is to have a very low residential density, which includes developed area of 1,380 acres with 2,760 residential units. The estimated population of East Elliott after development is 8,560. The relatively low

density proposed for East Elliott is primarily due to the limited access and steep slopes at the site. The Plan states that land with slopes greater than 35 percent should not be developed.

New construction scenarios developed since the Elliott Community Plan will most likely result in a lower residential density than anticipated. In addition, the area available for development is expected to be less than predicted due to the presence of geological hazards such as debris flows, landslides, and expansive soils that significantly impact building plans. Because the landfill in Little Sycamore Canyon will be expanded to maximum capacity, the area available for residential development within East Elliott will be reduced to 950 acres. The estimated number of residential units would therefore be reduced to 1,865 and the estimated population of East Elliott reduced to 5,790. If the proposed City landfill in the northwest portion of East Elliott is constructed as currently proposed; the area available for residential development would be reduced to 670 acres. The estimated number of residential units would therefore be reduced to 1,325 with an estimated population of East Elliott of 4,100.

The Elliott Community Plan also proposes construction to two elementary schools, one high school, two neighborhood parks, major streets at Spring Canyon Road and Mast Boulevard, and a county landfill site. No commercial centers are proposed. Of these proposed developments, only Mast Boulevard and the West Hills High School in the southeast corner of East Elliott and Sycamore Landfill have been constructed The two proposed elementary schools include use of approximately 15 acres of land (10 acres of developed land) with a maximum enrollment of 800 students per school. A neighborhood park with at least 5 acres of usable land would be constructed adjacent to each elementary school. No action has been taken to implement these aspects of the Elliott Community Plan

Although some lands within East Elliott may be developed under the MSCP Plan, it is unlikely that the density of construction will be greater than proposed in the Elliott Community Plan due to the presence of valued biological resources at the site. The Elliott Community Plan includes provisions for an extensive open space system to preserve scenic canyons and to link elements of the community. The open space system will include green belts with bike, equestrian, and pedestrian trails in alignment with the objectives of the MSCP Plan The open space within East Elliott would include approximately 1,820 acres.

5.1.4 ANTICIPATED UXO TYPE, COMPOSITION AND QUANTITY

Based on the EECA, the following suppositions are outlined:

- the MPM for this site is the 75mm projectile – also expected is 37mm projectile
- an estimated 31 UXO/OE items will be encountered on the site
- average depth will be 4.6 inches

5.1.5 TOPOGRAPHY AND VEGETATION

The site is mostly undeveloped Narrow ridges and canyons trend north to south

through the site. Intermittent streams flow southward toward the San Diego River, which is approximately 0.4 miles south of East Elliott. Topography is typified by moderate to steep slopes that are predominantly vegetated with native grassland, coastal sage or black sage habitat, or chaparral. Deciduous trees and other riparian vegetation are locally abundant in the two largest canyons in East Elliott, Oak Canyon and Spring Canyon. Several dirt roads and trails are located within East Elliott, particularly along ridges and within canyons. Many of these roads are accessible only by 4-wheel-drive vehicles. Most access to the site is provided by roads and trails that enter East Elliott from the south and east.

5.1.6 GEOLOGY AND SOILS (EE/CA, Montgomery Watson August 1999)

The geology of the San Diego area that encompasses East Elliott is grouped into two major units: 1) Jurassic-Cretaceous metamorphic and granitic rocks, and 2) the overlying sedimentary rock series. Weathered outcrops of ~~Cretaceous quartz dioriate~~ diorite and/or gabbro are just inside the southwest and southeast boundaries of the site.

Sedimentary rocks unconformably overlie the basement complex within East Elliott. The sedimentary rocks are generally flat lying with dips of less than 6 degrees. As a consequence, topography in the area consists of dissected terraces. Descriptions of the sedimentary units (from oldest to youngest) found within East Elliott have been compiled from a variety of resources and are presented below:

Eocene La Jolla Group

Friars Formation: Nonmarine and lagoonal sandstone and with local interbeds of claystone and conglomerate. Erosion has stripped away younger deposits from outcrops within Sycamore Canyon, Quail Canyon, and Little Sycamore Spring Canyon.

Eocene Poway Group

Stadium Conglomerate: Alluvial cobble conglomerate with local beds and lenses of sandstone. This formation covers the bulk of East Elliott. Found above the canyons on slopes and terraces.

Mission Valley Formation: Marine and nonmarine sandstone with beds and lenses of conglomerates. Exposed in a narrow band between outcrops of Stadium Conglomerate and Pomerado Conglomerate in ridges between Spring and Oak Canyons. Not present east of Spring Canyon.

Pomerado Conglomerate: Nonmarine cobble conglomerate with local beds and lenses of sandstone. Lithologically identical to Stadium Conglomerate; indistinguishable from Standium Conglomerate where the two formations are not separated by the Mission Valley Formation.

Pleistocene Stream Terrace Deposits: poorly consolidated glomeratic sand. Found along the length of the eastern boundary of East Elliott (Sycamore Canyon).

Landslides: a few small rotational landslides have been identified within the study site in Friars Formation sediments. The areal extent of these slides is very small.

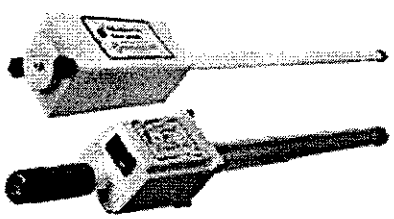
Alluvium and Slope Wash: Poorly consolidated silt, sand, and cobbles derived from nearby canyons. Found at the southern boundary of the site at the mouths of Spring and Little Sycamore canyons.

Several soil types have been identified within the East Elliott study area based on parent rock type and slope angle. The soils are generally referred to as various types of "sandy loam" (mixtures of sand, silt, and clay) with rocks. Soils are generally thickest in the canyon areas because of accumulation of unconsolidated materials in these areas. These soils also have higher moisture content and support more abundant vegetation. Elsewhere in East Elliott, soils are generally thin (i.e., less than 3 feet thick) and rocky.

5.2 INVESTIGATION METHODS

5.2.1 EQUIPMENT

The Schonstedt GA-52Cx Magnetic Locator detects the magnetic field of a ferromagnetic object. It responds to the difference in the magnetic field between the two sensors (fluxgate magnetometers) spaced about 20 inches apart. ~~The response is~~ The measure of the difference is a change in the frequency of the signal emitted by the piezoelectric speaker. (Top instrument in picture.)



The Schonstedt GA-72Cd Magnetic Locator detects the magnetic field of a ferromagnetic object. It measures the difference in the magnetic fields ~~responds to the difference in the magnetic field~~ between the two sensors, which are spaced about 14 inches apart. The GA-72Cd is unique because it provides an audio signal, and visual indications of both signal strength and polarity (Bottom instrument in picture.)

5.2.2 PROCEDURES

The project site will be mapped and surveyed into 100' x 100' grids. Three-foot search lanes will be utilized and personnel will operate the metal detectors within the lanes. UXO personnel and local hire non-UXO personnel will be used for this purpose. Local hires will receive training in the operation of the metal detector.

Anomalies will be marked with pin-flags for later excavation by UXO personnel.

5.2.2.1 SAFETY ADVISORY 02-1, GEOPHYSICAL INSTRUMENT (Reference USAESCH Memo, Safety Group for OE Team dated February 19, 2002.

The electronic components of a magnetometer, conductivity meter, and ground penetrating radars (GPR) generate magnetic and/or electrical fields. An USAESCH report indicates that magnetic and/or electrical fields generated by these instruments could function electrically initiated fuzes. The following precautions and safety recommendations are applicable on all USAESCH OE projects:

- Never place an operating geophysical instrument, its electronics, data processor, or battery pack on the ground in an area suspected of containing UXO with electrical fuzing.
- Do not use conductivity meters around trash piles or trenches that may contain UXO with electrical fuzes.
- Ground Penetrating Radar (GPR) units shall not be used on site suspected of containing UXO with electrical fuzing.

The EE/CA and previous OE actions on this site have not revealed any UXO with electrical fuzing. To be on the safe side, the Schonstedts used on this site shall be turned off before being placed on the ground, if the operator is required to lay the instrument on the ground.

5.2.3 PRODUCTION RATE

It is estimated that an average of 22 anomalies will be encountered in each grid. Estimated production rate is five grids per team per day.

5.3 LOCATION SURVEYING AND MAPPING

5.3.1 SYSTEM DESCRIPTION. See Chapter 7 for the Location Surveying and Mapping System.

The Team Leader will annotate the location of UXO/OE items on the grid worksheet. This will be accomplished by measuring the distance from the southwest grid corner and one other grid corner. This information will be provided to Global Mapping Systems (GMS) who will maintain the site map.

5.4 TEST LANE. A test lane will be employed with at least one 75mm at 2.5 feet and a 37mm at 12 inches. Additional ferrous materials will be employed at various depths. All instrument operators will be required to successfully navigate the test lane and find 100% of employed anomalies.

SSHP APPROVAL

Project: UXO Clearance of Former Camp Elliott

Site: East Elliott

Contract Number: DACA09-01-D-0005

Site Location: San Diego, CA

We have reviewed the attached SSHP for the referenced site. We recognize that when this form is completed, the attached SSHP is approved for field activities on the referenced site. Changes to this SSHP will be documented in writing.

Prepared by:
Cheryl M. Riordan,
Corporate Safety and Health Manager

February 8, 2002
Date

Reviewed by:
James G. Ferris
Project Manager

February 11, 2002
Date

Reviewed By:
Gerald L. Delaney, CIH

February 13, 2002
Date

Accepted By:

Date

CHAPTER 6

SITE SPECIFIC SAFETY AND HEALTH PLAN
SURFACE CLEARANCE OF FORMER CAMP ELLIOTT
EAST ELLIOTT SITE
SAN DIEGO, CA

6.1.0 INTRODUCTION

SCI UXO/OE Services strongly believes that our people are our most important and valuable asset It is the actions of our personnel, working together as a team, which ultimately determines the success of our endeavors as a company. Accidental injuries and illnesses can cause needless pain and suffering of employees and their families, as well as increasing costs and decreasing productivity and morale among employees. SCI UXO/OE Services is committed to providing a safe and healthful work environment for all of our employees in all locations SCI UXO/OE Services has never experienced a lost time accident The company's goal is an accident-free work environment. The management of SCI UXO/OE Services is committed to doing all in our power to make this a reality **Think Prevention!**

6.1.1 Safety and Health Expectations and Compliance.

All managers and supervisors are responsible for implementing the provisions of this SSHP and for answering team member questions about accident prevention. Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all team members. Managers and supervisors are expected to enforce the rules fairly and uniformly. This will be accomplished by:

- Informing team members of the provisions of the Safety and Health Program;
- Evaluating the safety performance of all team members;
- Recognizing team members who perform safe and healthful work practices;
- Providing training to team members whose safety performance is deficient; and
- Disciplining team members for failure to comply with safe and healthful work practices

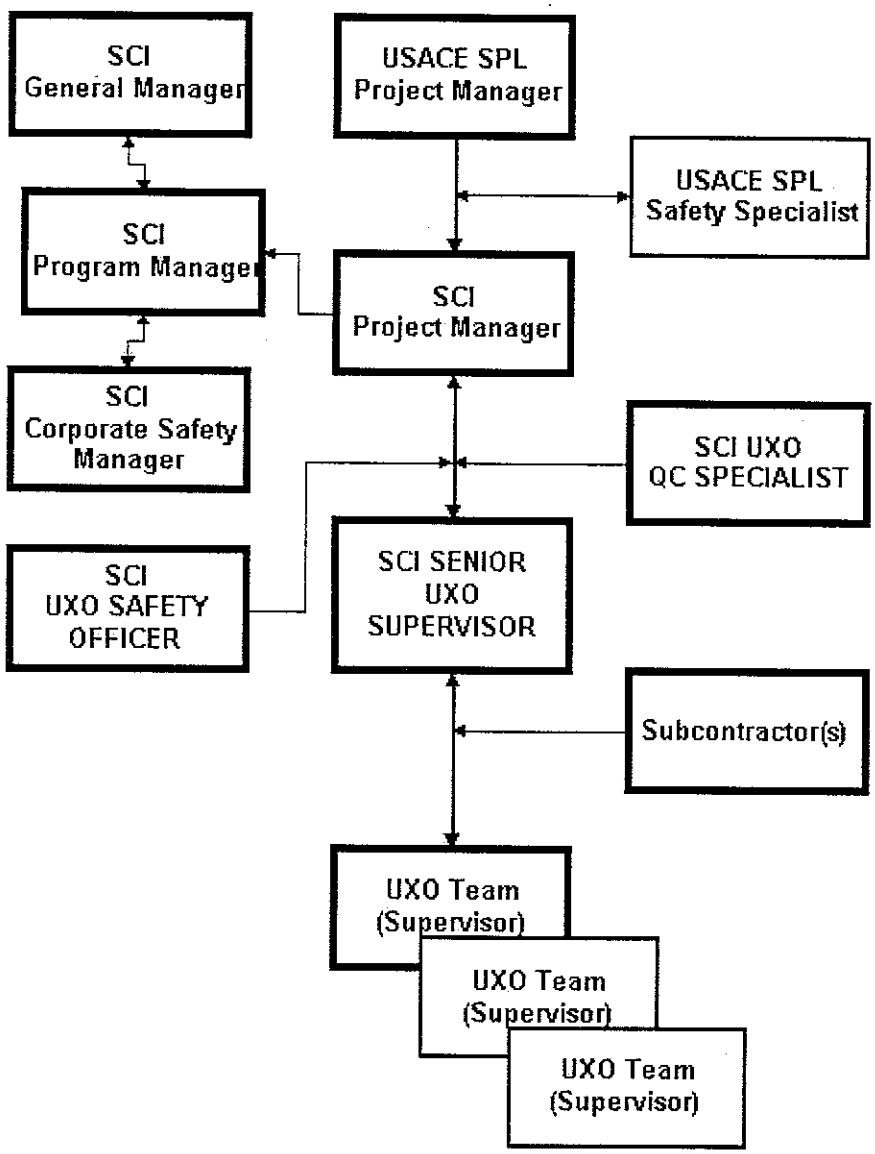
All team members are responsible for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe work environment. SCI UXO/OE Services recognizes that open, two-way communication between management and all team members on health and safety issues are essential to an injury-free, productive workplace. To facilitate a continuous flow of safety and health information between all team members that is readily understandable, the following will be accomplished:

- Training all new team members, during the site-specific training, on the site safety and health polices and procedures, which will include this chapter;
- Training all new team members on the hazards associated with the job site;
- Conducting daily tailgate safety meeting for all team members;
- Conducting weekly supervisor safety meeting;
- Conducting quarterly refresher type training;

- Posting and, if applicable, distributing safety information; and
- Encouraging open communications;

Disregard for safety and health requirements will not be tolerated. If the UXO Safety Officer (UXOSO) and Project Manager determine that a team member is not sufficiently committed to conforming to established safety standards, the team member's employment agreement will be terminated.

6.2.0 STAFF ORGANIZATION



6.2.1 Executive Vice President/General Manager is responsible for enforcement of the Corporate Safety and Health Program at all worksites within his area of responsibility. He must

assure that personnel receive the required training, medical surveillance, and personal protective equipment necessary in order to perform their jobs in a safe and effective manner. The enforcement of the Corporate Safety and Health Program on the worksites will be a critical rating element for site personnel.

6.2.2 Corporate Safety and Health Manager is responsible for creating, updating, and managing the Corporate Safety and Health Program, as well as Site Specific Safety and Health Plans for individual worksites. She reports directly to the Executive Vice President/General Manager of SCI UXO/OE Services on all safety and health issues. She coordinates directly with the Project Manager, the Senior UXO Supervisor, and the UXO Safety Officer routinely to answer technical questions and to provide assistance to the worksites. She also provides safety training, as needed, and performs safety and health program inspections to assure compliance with SCI UXO/OE Services safety and health policy

6.2.3 Project Manager (PM) is responsible for all day-to-day operations on the project site. He plans operating crews and schedules, and must assure all personnel are properly trained to perform their assigned tasks. The PM directly impacts the safety of the site by setting the tone for the job and encouraging safe performance among all team members. Any areas of concern or questions regarding safety and health issues are coordinated with the UXOSO In instances of noncompliance with safety requirements, the PM issues warnings and/or provides disciplinary action up to and including removal of the employee from site operations, should this action be warranted. The PM assures that every accident on the work site is investigated in order to determine the root cause(s), the accident report is filled out, and takes steps necessary to prevent recurrences.

6.2.4 Senior UXO Supervisor (SUXOS) is responsible for the successful accomplishment of the work on the project site. He directly supervises all site work and personnel and assures they are operating in a safe manner. He coordinates with the UXOSO to assure the safety program requirements are being met on site. He coordinates with the Corporate Safety Manager in regard to technical questions, for assistance in ordering safety equipment, medical surveillance program issues, etc.

6.2.5 UXO Safety Officer (UXOSO) is granted the authority to administer the safety and health program on the worksite. He must assure that all personnel, to include visitors, are properly trained, qualified, equipped, and protected from the hazards associated with the worksite and site operations. The UXOSO reports directly to the Project Manager on all project safety and health issues. He coordinates with the Senior UXO Supervisor on site implementation of the Corporate Safety and Health Program. He coordinates with the Corporate Safety and Health Manager for technical assistance on safety and health issues at the worksite. The UXOSO has stop work authority whenever an imminent danger situation is observed. The UXOSO has numerous onsite responsibilities including, but not limited to:

- Coordinating with all applicable emergency response agencies to assure appropriate response should an emergency develop on site;
- Establish medical evacuation routes and emergency telephone number listing;

- Inventory first aid equipment, PPE, fire extinguishers and purchase replacements, as required, with concurrence from the PM;
- Survey the site for hazards;
- Provide daily safety briefings;
- Provide required safety training;
- Designate site control zones;
- Provide visitor briefing and training;
- Perform onsite monitoring, if required;
- Perform daily safety inspections of site activities to verify compliance with all safety and health requirements in this project SSHP as well as the Corporate Safety and Health Program and recording any deficiencies in the Safety Log; and
- Coordination of corrective actions for any noted deficiencies during safety inspections.

6.2.6 UXO Quality Control Specialist is responsible for assuring that all documented plans and procedures are being followed on the site. Reports directly to the Project Manager on any discrepancies and coordinates with the Senior UXO Supervisor and the UXO Safety Officer in the correction of noted discrepancies. Uses the SSHP and the Corporate Safety and Health Program as the basis for the audits of the safety program at the site. Any safety discrepancies are documented and correction is coordinated with the UXO Safety Officer. Any technical questions regarding safety and health will be referred to the Corporate Safety and Health Manager.

6.2.7 Team Members – are responsible for performing their assigned tasks in a safe and effective manner. Questions must be immediately brought to the attention of their supervisor. Team members must not attempt to perform an assigned task for which they have not been properly trained. All personnel must attend required safety training and be aware of the operations going on around them at the work site. Any situations or conditions, which may affect the safety and health of any team member, must be immediately reported to their supervisor. Before, during, and after use, personnel must inspect each piece of personal protective equipment, as well as other tools and equipment, to assure it is in a safe operating condition. Any equipment, which is deemed unsafe for use, must be immediately turned in for repair or replacement. Personnel must know how to properly use all equipment assigned to them and must use required personal protective equipment at all times.

6.2.8 Subcontractors – are responsible for performing their assigned tasks in a safe and effective manner. Subcontractor personnel who will be entering the project site will be expected to understand and comply with the requirements of this SSHP. Any questions regarding this SSHP will be directed to the SUXOS or the UXOSO. The UXOSO will work closely with the subcontractor representative to assure all personnel on the site are familiar with the safety and health requirements. If the SUXOS and/or the UXOSO observe a subcontractor performing operations in an unsafe manner, they have authority to stop the operation until the deficiency is corrected.

6.3.0 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

The former Camp Elliott, East Elliott site lies within the City of San Diego and is bordered by the following features: Oak Canyon to the west; Marine Corps Air Station (MCAS) Miramar to the north and west; Sycamore Canyon to the east; the City of Santee to the east and south; and State Highway 52 and Mission Trails Regional Park to the southwest.

The approximate 110 acres includes roads and trails, in sectors 2 and 3, and a designated area of approximately 107 acres. The 107-acre area is bounded by Little Sycamore Canyon to the East, Miramar to the north, the power line access road to the south, a trail that runs north/south and bisects sector 2 to the west. The following roads and trails (approximately 3 acres total) are included in this tasking; the road that enters sector 3 from Mission Trails, under highway 52, up to the point where it intersects the second power line access road; power line access road from Spring Canyon to the bottom of Little Sycamore Canyon; and all other roads/trails that are utilized by personnel for hiking and trail bikes throughout sector 2 and the eastern portion of sector 3, between the creek bed in Spring Canyon to the creek bed in Little Sycamore Canyon.

The site is mostly undeveloped. Narrow ridges and canyons trend north to south through the site. Intermittent streams flow southward toward the San Diego River, which is approximately 0.4 miles south of East Elliott. Topography is typified by moderate to steep slopes that are predominantly vegetated with native grassland, coastal sage or black sage habitat, or chaparral. Deciduous trees and other species native to riparian habitat are locally abundant in the southern end of both Spring and Little Sycamore Canyons, in narrow corridors along each creek bed. A woodland dominated by two species of live oak characterizes most of Oak Canyon. Several dirt roads and trails are located within East Elliott, particularly along ridges and within canyons. Many of these roads are accessible only by 4-wheel-drive vehicles. Most access to the site is provided by roads and trails that enter East Elliott from the south and east. Work will be performed in Sectors 2 and 3

Overhead view of East Elliott Project Site

Sector 2, North Central section of the project: This section is bordered on the west by sector 1, the east by sector 4 and the south by sector 3. This sector surrounds the Sycamore Landfill and is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous clearances and evaluations encountered 37 mm and 75mm projectiles and other related scrap in this 650-acre area.

Sector 3, Southwest section of the project. This section is bordered by Oak Canyon and MCAS Miramar for the west, sectors 1 and 2 to the north, sector 4 and the Sycamore Landfill Road to the east, and Highway 52 and the Mission Trails Regional Park to the south. It is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous evaluations of these 750 acres found no evidence of live OE, two 37-mm APT

projectiles were found. Portions of this sector may be absorbed into the Mission Trails Regional Park.

Historical data provides no evidence of CWM being used on East Elliott, so that is not expected to be a problem. This site was active as a training facility from 1917 to 1960. During the 1940's and 1950's, live-fire training involving tanks and artillery were conducted. OE is located sporadically throughout the site, with heaviest concentrations located on the western side of Little Sycamore Canyon in the central portion of East Elliott, and the eastern border of East Elliott. The mesas and ridges were used for tank training maneuvers. The location and orientation of ordnance discovered during a 1996 site investigation further suggests that the tanks were fired toward the northwest and west from the southeast corner of East Elliott and the eastern perimeter road.

In 1998 and 1999, UXO teams performed surface and subsurface removals over a 53-acre area adjacent to the Sycamore Landfill to support expansion of the landfill perimeter. Surface removal was also performed over a 900-acre area in the southeast portion of East Elliott. Forty-eight UXO and over 1,300 pounds of OE scrap metal were removed from these areas

6.4.0 HAZARD ANALYSIS AND RISK ASSESSMENT

6.4.1 Activity Hazard Analysis (AHA)

An AHA has been conducted and documented as outlined below for each activity warranted by the hazards associated with the activity. For the East Elliott site, the following activity hazard analyses (AHA) have been prepared for all anticipated field operations:

- Vegetation Thinning and Pruning
- UXO Identification and Recovery
- Explosives Transportation Operations
- Disposal Operations
- Vehicle and Equipment Fueling Operations

Should conditions, equipment, or types of operations change during the course of the project work, the Corporate Safety and Health Manager will update an existing AHA for continuing work, or prepare a new one for new types of operations.

6.4.2 Principles

Risk management is and will continue to be integrated into the planning, preparation, and execution of work at the East Elliott site. Risk management is a dynamic process, and is continuously improved upon, as personnel become more familiar with the site operations, equipment, environment, etc. Personnel are urged to continuously identify hazards and assess accident risks. Once identified, these hazards will be brought to the attention of the supervisor and/or the UXOSO. Control measures will be developed and coordinated. All personnel are responsible to continuously assess variable hazards and implement risk controls.

Constraints – risk management does not convey authority to violate the law or deliberately disobey local, state, or national laws. Neither does it justify bypassing risk controls required by the law, such as life safety and fire protection codes, physical security, transport and disposal of hazardous material and waste.

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Vegetation Thinning and Pruning	**ANALYZED BY/DATE: C. Riordan 11/01/01**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Determine areas where vegetation prevents access for clearance. • Check with Ecologist on types of vegetation that can be removed. • Using geophysical equipment, determine if UXO are in area. • Using chain saws, weed wackers, etc. perform vegetation clearance. • Areas requiring major cutting operations will be mapped and avoided. • At end or operations, fill in holes, grade and reseed.	1 UXO/OE hazards 2. EMR for Electric Fuzes 3. Uneven working surfaces – slip, trip, fall hazards. 4. Muscle strain carrying instruments 5 Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, rodents, and snakes. 7. Cuts and abrasions from use of equipment and flying debris 8 Eye injuries from flying debris. 9 Noise	1 Training on UXO/OE on site 2. Controlled use of radios and cell phones. 3. Be observant while walking. 4. Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5 Heat stress monitoring, drinking water, work-rest schedule, and acclimatization 6. Training in biological hazards avoidance; PPE. (CSHP Chp 21) 7. Training in procedures for safe use of equipment and PPE. 8 PPE 9 Noise monitoring and PPE
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2 Appropriate geophysical equipment 3. Footwear with ankle support and non-slip soles. 4 Back braces (optional) 5 Communications to determine WBGT Index, drinking water 6-9. Appropriate clothing and PPE to include headgear, face shields, protective eyewear, noise protection, leather gloves and leg chaps. 10 Chain saws, weed wackers	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training 1 Equipment inspected daily prior to use 2 PPE inspected daily prior to use	1,2. UXO personnel will be EODS graduates. 1,2. Site specific UXO training will be presented to all site personnel 3 Site specific training 4. Site specific training/lifting techniques. 5. Heat/Cold Stress symptoms 6 Site specific flora/fauna to include first aid. 7,8 Safe operation of equipment 9. Noise protection training. 10. All site personnel will have current HAZWOPER training.

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: UXO Identification and Recovery	**ANALYZED BY/DATE: C. Riordan 11/01/01**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Locate anomalies using geophysical equipment. • Mark anomaly locations with pin flags • Carefully dig around the item, so that it can be identified and examined for condition. • If within 1701 feet of CSH52 or landfill road use MOFB. • If within 200 feet of CSH 52 or landfill road, stop traffic. • Examine item and plan for appropriate disposal	1. UXO/OE hazards 2. EMR for Electric Fuzes 3 Uneven working surfaces – slip, trip, fall hazards. 4. Muscle strain carrying instruments 5 Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, rodents, and snakes	1 Training on UXO/OE on site. 2. Controlled use of radios and cell phones. 3. Be observant while walking. 4 Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5. Heat stress monitoring, drinking water, work-rest schedule, and acclimatization. 6. Training in biological hazards avoidance; PPE. (CSHP Chp 21)
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2. Appropriate geophysical equipment. 1 MOFB 3. Footwear with ankle support and non-slip soles 4 Back braces (optional) 5 Communications to determine WBGT Index,drinkingwater 6. Appropriate clothing and PPE to include headgear, leather gloves and leg chaps (as required)	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training. 1. Equipment inspected daily prior to use. 2. PPE inspected daily prior to use	1,2. UXO personnel will be EODS graduates. 1,2 Site specific UXO training will be presented to all site personnel. 1,2 All UXO personnel will receive refresher training in excavating of anomalies. 3. Site specific training. 4 Site specific training/lifting techniques. 5. Heat/Cold Stress symptoms 6 Site specific flora/fauna to include first aid. 7. All site personnel will have current HAZWOPER training.

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Explosive Transportation Operations	**ANALYZED BY/DATE: C. Riordan 01/16/01**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
♦ Assure vehicle is parked and wheels chocked. ♦ Assure vehicle engine is not running. ♦ Place container with explosive material in vehicle ♦ Assure container is properly blocked and braced ♦ Assure vehicle placards are in place on all four sides of vehicle ♦ Determine safest route of travel. ♦ Transport load. ♦ At destination, assure vehicle engine is off, and vehicle is in park with wheels chocked. ♦ Unload explosive contents.	1. Traffic Accident 2. Explosive Accident 3. Surface UXO along route. 4 Fire	1 Education per CSHP Chap 34, Explosive Storage and Transport 2. Education, following approved procedures for packaging/transport per CSHP Chap 34; proper blocking and bracing of explosive container; non-sparking bed liner in vehicle 3 Stay on roads. 4 Two fire extinguishers (one in cab and other mounted on driver's door or in bed of vehicle). 5. No cigarettes, matches, lighters, or other flame producing devices will be permitted in the vehicle.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1. Authorized vehicle, which meets DOT requirements. 1. Required equipment on board the vehicle. 2. Explosive placards 4 Fire extinguishers	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training. **Vehicle Operator** will perform before, during, and after operations maintenance checks.	1. Licensed operator 1. Commercial Driver's License with HAZMAT endorsement. 1. Actions to be taken in the event of an accident 1 Safe Driving Procedures training 2 Training in safe handling and transport of explosive material 2 Actions to be taken in the event of an accident. 3. Training in avoidance procedures 4. Training is use of fire extinguishers.

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Disposal Operations	**ANALYZED BY/DATE: C. Riordan 01/16/01**	
PRINCIPAL STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Set up charge. • Clear area of persons within frag range (1701 feet) • If within 1701 feet of CSH 52 or landfill road, set up sand barricade for disposal. • If within 200 feet of CSH 52 or landfill road, stop traffic on CSH 52 or landfill road until operation completed. • Make communication with authorities. • Conduct disposal by detonation.	1 Unstable Unexploded Ordnance 2 Static Electricity 3 Aircraft overflights 4. Unauthorized personnel in area 5 Malfunction of donor materials 6. Terrain – slips/trips/falls 7. Biological hazards – poisonous plants, bees, wasps, ticks, snakes, and rodents. 8. Heat Stress 9. Noise	1. Follow approved procedures 2. Follow approved procedures 2. Cotton clothing 2. No disposal when electrical storm within 5 miles 3. Coordination with FAA, Physical monitoring 4 Physical monitoring, barricading, signage 5 Follow approved procedures 6 Be observant while walking, proper footwear 7 Training in biological hazards avoidance, PPE 8. Heat stress monitoring, drinking water, work-rest schedule; acclimation. 9. Hearing protection
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1. Sandbags and blasting equipment 2. Non-static producing clothing 3. Communications to verify no-fly zone. 4. Signs denoting blasting area; bullhorn for verbal warning. 5. Use serviceable equipment 6 Footwear with ankle support 6 Footwear with non-slip soles. 7 Snake chaps, if needed. 7 & 8 Appropriate clothing 8. Communicatons to determine WBGT Index, drinking water. 9. Hearing protection	**Supervisors/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training 1 Equipment inspected daily prior to use. 2 PPE inspected daily prior to use	1. Personnel performing disposal operations will be UXO-qualified and graduates of the EODS. 2 & 5 Personnel involved in disposal operations will receive on-site refresher training in disposal operations. 3. Site Specific training 4. Site Specific training 6. Terrain specific 7. Site specific flora/fauna training to include first aid 8. Heat Stress training. 9. Hearing Conservation Program

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Vehicle and Equipment Fueling Operations	**ANALYZED BY/DATE: C Riordan 01/16/01**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Assure equipment/vehicle is in "off" position. • Assure there is no UXO/OE in vehicle while fueling. • Assure vehicle/equipment is away from ignition sources • Assure correct fuel is used. • Bond container to vehicle. • Fuel vehicle/equipment.	1. Ignition of fuel vapors. 2. Spill of hazardous material. 3. Inhalation of vapors. 4. Splash of material on skin or eyes	1 Assure potential ignition sources are greater than 50 feet away 1 Store in approved containers. 1. Education in static electricity. 1 NEVER fuel equipment in bed of a pick-up truck with a bed liner. 2. Assure fuels are properly handled/stored. 2. Education in spill containment/ clean-up procedure 3. Perform fueling in open, well-ventilated area 4. Wear eye protection and gloves 4 Train employees in first aid procedures.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1. Authorized vehicle, which meets DOT requirements 1. Fire extinguishers in vicinity. 1 Flammable liquid storage containers 2 Chemical resistant gloves and eye protection.	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training 1. Equipment inspected daily prior to use. 2. PPE inspected daily prior to use.	1 HAZCOM Training. 1. Site Specific Training per SSHP. 1 Fire prevention/protection training 2 Emergency procedures training

6.5.0 TRAINING

Prior to commencement of site activities, the Corporate Safety and Health Manager and the UXOSO will ensure that all SCI UXO/OE Services employees engaged in hazardous waste operations are informed of the nature and degree of exposure to chemical and physical hazards which are likely to result from participation in site operations SCI UXO/OE Services will accomplish this by ensuring that all personnel entering the site have received the appropriate OSHA and site specific training, prior to participation in site activities.

6.5.1 OSHA Training for General Site Workers

All SCI UXO/OE Services employees who are involved in hazardous waste site activities receive 40 hours of OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training. If it has been more than a year since any worker has received the 40 Hour OSHA HAZWOPER training, he or she must also have a current HAZWOPER 8-Hour Refresher Training prior to working on the site. All workers will also receive three (3) days (24 hours) of

site specific on-the-job training (OJT) under the direct supervision of a trained/ experienced supervisor when they mobilize at the site. Any visitor entering the Exclusion Zone will also be required to have current HAZWOPER training.

The UXOSO and Senior UXO Supervisor will conduct the three-day OJT. This training will include classroom type instruction covering the topics specified for site specific training, and on site participation in the following:

- Details of the Site Specific Safety and Health Plan;
- Employee rights and responsibilities;
- Safe work practices;
- Nature and extent of anticipated chemical and physical hazards;
- Measures and procedures for controlling site hazards;
- Emergency Response and Contingency Plan;
- Rules and regulations for vehicle use;
- Safe use of field equipment;
- Handling, storage, and transportation of hazardous materials;
- Use, care, and limitations of PPE;
- Hazard communication per OSHA 29 CFR 1910.1200

6.5.2 OSHA HAZWOPER Manager and Supervisor Training

On-site managers and supervisors, who are responsible for directing others, will receive the same training as the general site workers for whom they are responsible. They will also receive an additional 8 hours of OSHA required supervisory training to enhance their ability to provide guidance and make informed decisions This additional training includes the following:

- Review of the SCI UXO/OE Services Corporate Safety and Health Program;
- Regulatory requirements;
- Management of hazardous waste site cleanup operations;
- Management of site work zones;
- How to communicate with the media and the public;
- PPE selection and limitations;
- Spill containment; and
- Monitoring site hazards

The UXOSO, with specific responsibilities for safety and health guidance on site, will receive the training provided to general site workers and their supervisors. He also will receive advanced training in safety and health issues, policies and techniques.

6.5.3 UXO/OE Training

All SCI UXO/OE Services employees performing work involving the handling and destruction of UXO/OE must be graduates of the Naval Explosive Ordnance Disposal School or equivalent

recognized training. A copy of their certificate of graduation will be kept on file at corporate headquarters. UXO qualified personnel shall be graduates of the US Naval School for Explosive Ordnance Disposal (at a minimum Phase I, chemical; and Phase II, surface). UXO qualified personnel shall have knowledge and experience in military ordnance, ordnance components, and explosives location, identification, render safe, recovery/removal, transportation, and disposal safety precautions. UXO personnel shall have the knowledge and experience to effect safe handling and transportation of found ordnance items.

6.5.4 Hazard Communication

All SCI UXO/OE Services employees who will be performing work involving the handling of hazardous materials will receive Hazard Communication training detailing the hazards of the product, appropriate protective measures to prevent exposure to the product, as well as safe procedures for storage and handling of the product, and response to emergencies. Personnel may request an MSDS for any hazardous material on the site at any time. The location of the MSDSs for this site will be in an MSDS binder in the office trailer, and all SCI UXO/OE Services personnel will be made aware of that fact. This training will occur as part of the initial mobilization training at the site.

6.5.5 Tailgate Safety Briefing

Tailgate Safety Briefings consist of providing short training sessions in various subjects that give the site worker knowledge and confidence in performing duties in a potentially hazardous environment. The SCI UXO/OE Services Documentation of Training Form doubles as the Tailgate Safety Brief Log/Form. The Tailgate Safety Briefing will be given prior to commencing work each day and will include such items as:

- Expected weather conditions;
- General site hazards;
- Biological hazards on site, included "Africanized" bees nesting in hills and bushes;
- UXO hazards;
- PPE required at each site;
- Emergency evacuation procedures;
- Cold/heat stress precautions;
- Buddy system procedures;
- A review of any safety violations from the previous day; and
- Any other significant events involving safety.

Additional briefings will be provided as needed concerning the use of safety equipment, emergency medical procedures, emergency assistance notification procedures, accident prevention, the work plan, and site orientation to ensure that accomplishment of the project can be carried out in a safe and effective manner

6.5.6 Daily Debriefing

At the conclusion of each workday, a debrief for all employees will be held if appropriate, and the day's work will be discussed to determine if changes are warranted before commencing the next day's activities.

6.5.7 Periodic Site Training

On the first work day of each work week/period, or more frequently if needed, a pertinent topic will be selected and elaborated upon by the UXOSO during the Tailgate Safety Briefing. These safety meetings will help ensure the safety and health of site personnel in the performance of regular work activities and in emergency situations. Safety meetings will be documented in the appropriate log and the SCI UXO/OE Services Documentation of Training Form will be completed

6.5.8 Visitors

All visitors to the site, even if escorted, must receive as a minimum, a briefing on site conditions, hazards and emergency response procedures. The UXOSO will generally be the one providing the visitor briefing. All visitors to the exclusion zone will be escorted at all times. When visitors who are not UXO qualified enter the exclusion zone, all UXO operations will cease, and will resume again after the visitor has left the area. Visitors will not be permitted in the restricted work areas unless they have the appropriate level of OSHA training and are medically approved. Visitors not complying with the above requirements will not enter the restricted work areas; however, they may observe site conditions from a safe distance. All visitors will make appropriate entries in the Visitor's Log.

6.5.9 Training Documentation

A training record will be kept in each employee's individual file to confirm that adequate training for assigned tasks is provided and that training is current. In addition Documentation of Training Forms will be completed and kept on file at the work site for the duration of site activities.

6.5.10 First Responders

Personnel assigned as first responders will have current training in First Aid and CPR. First Responders will also receive Bloodborne Pathogen Program training.

6.6.0 PERSONAL PROTECTIVE EQUIPMENT

Whenever feasible, engineering controls and work practices, or a combination thereof, shall be utilized to protect site workers from safety and health hazards and to maintain personal exposures to hazardous substances below established exposure limits. The exposure limits used by SCI UXO/OE Services will be the lower of the OSHA Permissible Exposure Limits (PEL) found in 29 CFR 1910 Subpart G and 29 CFR 1910.1000, or the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV). Other recognized published exposure levels, such as those found on MSDSs, will be used if the substance is not listed by OSHA or the ACGIH. SCI UXO/OE Services will not utilize a system of employee rotation as a means of complying with the PPE, PEL, TLV or other published limits.

6.6.1. General Requirements

All personal protective equipment shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary. PPE is required due to hazards of processes or environment, chemical hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact. All PPE will be used in the manner for which it was designed. The assignment of PPE will be based upon hazard analysis, and the equipment will be selected based on its protection factor against site hazards. The level of PPE required at this site may be raised by the Corporate Safety and Health Manager, in the event that additional hazards are encountered at the site. PPE requirements may be lowered by the Corporate Safety and Health Manager, but only with documentation that the actual hazard is less than originally expected. Such documentation will be in the form of site monitoring data.

6.6.2 Inspection

Each piece of PPE will be inspected daily prior to use. Defective or damaged personal protective equipment shall not be used. It shall be removed from service and turned in for repair, or removed from the site for disposal and replaced with new PPE.

6.6.3 Training

SCI UXO/OE Services shall provide training to each employee who is required by this section to use PPE. Each affected employee shall demonstrate an understanding of the training, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE. Each such employee shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, doff, adjust, and wear PPE;
- The limitations of the PPE; and,
- The proper care, maintenance, useful life and disposal of the PPE

When the UXOSO has reason to believe that any affected employee who has already been trained does not have the understanding and skill required he should retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

6.6.4 Level D PPE

Due to the expected hazards at this site during most operations, level D PPE will be the requirement. Level D PPE is a work uniform affording minimal protection, used for nuisance contamination only. The following Level D equipment will be required on this site:

- Leather gloves.
- Face shields, during use of chain saws, weed wackers and vegetation removal equipment.
- Safety glasses with side shields.
- Hearing protection, where required by high noise levels.
- Leather work boots.
- Cotton work clothes.
- Back supports (optional).
- Leg chaps (optional).

6.6.7 Eye and Face Protection

All personnel shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, liquid chemicals, or other eye hazards.

- All personnel shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable. Due to the location and likelihood for glare, tinted safety glasses are recommended.
- All personnel who wear prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.
- Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.
- Protective eye and face devices purchased after July 5, 1994 shall comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection," which is incorporated by reference as specified in Sec. 1910.6

6.6.8 Head Protection

While there is not expected to be a danger of impact to the head due to falling or flying objects, it is recommended that personnel wear caps or some type of head covering for protection from the sun.

6.6.9 Foot Protection

Due to the uneven working surfaces and potential for tripping hazards common to a range site, all SCI UXO/OE Services personnel shall wear sturdy leather work boots with ankle support. Personnel using magnetometers for the detection of buried UXO will not wear steel-toe safety shoes, as they will affect the readings of the equipment.

6.6.10 Hand Protection

SCI UXO/OE Services selects and requires employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; thermal burns; and harmful temperature extremes. For most operations on this site, leather gloves will provide adequate protection against minor cuts, which are a hazard in most site operations.

6.6.11 Noise Exposure

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown below when measured on the A scale of a standard sound level meter at slow response When employees are subjected to sound exceeding those listed in the following table, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table. If the variations in noise level involve maximal intervals of 1 second or less, it is to be considered continuous.

PERMISSIBLE NOISE EXPOSURES (1)	
Duration per Day, (Hours)	**Sound level dBA (Slow Response)**
8.00	90
6.00	92
4.00	95
3.00	97
2.00	100
1.50	102
1.00	105
0.50	110
0.25	115
Footnote (1) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: C1 /T1 + C2 /T2 C(n)/T(n) exceeds unity, then, the mixed exposure should be considered to exceed the limit value. C(n) indicates the total time of exposure at a specified noise level, and T(n) indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level	

SCI UXO/OE Services shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary. Hearing protection with a NRR of 29 dB will be required for all personnel in the vicinity of demolition operations. Hearing protection will also be required for all personnel working in and around any other operations likely to produce high noise levels, such as during the use of chain saws and weed wackers during thinning and pruning operations.

6.6.12 Emergency Equipment

Emergency equipment will be maintained on site for the duration of site operations An approved emergency first aid kit, bloodborne pathogen kit, and spill control kit will be kept in the site office trailer and in each site vehicle Portable eyewashes will be located in the office trailer and in the work area. A 5-lb ABC fire extinguisher will be kept in the site office as well as in each site vehicle for emergency use on site. The vehicle used for transporting explosives will have two extinguishers.

6.7.0 MEDICAL SURVEILLANCE

Medical surveillance of SCI UXO/OE Services employees will be conducted IAW the requirements of OSHA 29 CFR 1910.120(f), 29 CFR 1910.134(b)(10) and other established guidelines. Personnel to be included in the Medical Surveillance Program will be those who perform hazardous waste operations which may potentially expose the worker to hazardous

substances or other significant safety and health threats. All SCI UXO/OE Services personnel on the East Elliott project site will be part of the SCI UXO/OE Services Medical Surveillance Program. Any subcontractor personnel working on this site will be required to be under their own employer's Medical Surveillance Program. Visitors desiring entry into the exclusion zone must be on their employer's Medical Surveillance Program and must have a current physician statement prior to entry.

A baseline health assessment physical or annual physical will be conducted prior to participating in site operations, to determine the worker's ability to perform hazardous waste operations in a safe and healthful manner. The Project Manager, in conjunction with the UXOSO, will ensure that all health assessments address the site specific health hazards to which workers may be exposed.

Physicals will be scheduled through the Corporate Safety and Health Manager, who will contract the services of a board certified occupational medicine physician in the vicinity of the employee's home or job site. The designated physician will perform the medical assessments and review medical examination results to determine each worker's ability to perform his assigned hazardous waste duties. The physician will also be responsible for determining if supplemental or follow-up examinations are required and for maintaining medical and exposure records IAW OSHA 29 CFR 1910.120(d)

The purposes of the Medical Surveillance Program are to:

- Assess the individual's health status prior to participation in hazardous waste operations; determine the individual's ability to perform work assignments requiring the use of personal protective equipment (PPE) and clothing;
- Establish baseline data for comparison to future medical data in order to provide a means of monitoring a worker's health status;
- Establish facilities and procedures for emergency and non-emergency medical treatment;
- Establish procedures for maintenance and storage of medical and exposure records

6.7.1 Physician's Statement

The results of this examination will be made available to the employee and written physician's statement will be sent to SCI UXO/OE Services. A copy of the physician's statement will be kept in each employee's file at the project site for the duration of site operations. The physician's statement will include the following:

- The physician's opinion regarding any conditions which would place the employee at an increased risk from working in hazardous waste operations;
- The physician's recommended limitations upon the employee's assigned work, if any; and
- A statement that the employee has been informed by the physician of the results of the examination and any conditions which may require further examination or treatment

6.7.2 Supplemental Examination

Any site worker who has: been injured; received health impairment; developed signs or symptoms from possible over-exposure; or received a documentable over-exposure without the

use of respiratory protection, will undergo a supplemental examination. The contents of this examination will be based upon the type of injury, illness, signs or symptoms of exposure involved and will be determined by the physician. Prior to reassignment to site activities, the physician will certify that the employee is fit to return to work. If necessary, the physician will specify in writing any activity restrictions or additional tests, which may be required.

6.7.3 Follow-up Health Assessments

If, during any pre-assignment, annual or supplemental examination, a condition is detected which requires follow-up tests, the physician will notify SCI UXO/OE Services and the employee as to the nature of the follow-up health assessment. The physician will determine the schedule and content of the follow-up health assessment. A statement outlining the employee's fitness for work will be provided to SCI UXO/OE Services and the employee upon conclusion of the follow-up health assessment.

6.7.4 Emergency and Non-emergency Medical Treatment

The medical treatment facility for use at this project site will be:

Grossmont Hospital
5555 Grossmont Center Drive
La Mesa, CA 91994
(619) 465-0711 (For emergency assistance dial 911)

6.7.5 Record Keeping

SCI UXO/OE Services will retain and maintain all physician statements, exposure records, and associated information for SCI UXO/OE Services employees involved in hazardous waste operations. These records will be kept at the project site for the duration of site operations When the site work is complete, the records will be retained by SCI UXO/OE Services. Examining physicians will be responsible for maintaining records related to laboratory and other tests for each SCI UXO/OE Services employee examined. All records, whether maintained by SCI UXO/OE Services or by the examining physician, will be kept on file for a period of thirty (30) years beyond an employee's termination IAW OSHA 29 CFR 1910.20(d).

6.8.0 ENVIRONMENTAL AND PERSONAL MONITORING

Due to the fact that there is not expected to be any significant exposure to hazardous chemicals at this site, chemical monitoring will not be required. As a result of the time of year this job is taking place, there may at times be a need for heat monitoring to prevent heat stress injuries from occurring. As the workers on this site will normally be in Level D PPE, heat stress monitoring will be required if the temperature goes above 75°F. Should it be required, site monitoring data will be recorded using the Site Monitoring Log and will be maintained as part of the project record.

6.8.1 Heat Stress Monitoring – Heat stress monitoring will be conducted using WBGT readings, in order to assure adequate work/rest cycles are implemented at the site. Pulse monitoring may also be used in addition to the WBGT readings, particularly during acclimatization, to assure workers are adapting to the conditions safely. Monitoring will be performed by the UXOSO and results will be documented. Heat stress monitoring will be used to determine work-rest cycles to be implemented on site.

6.8.2 Meteorological Monitoring – Rain can constitute a safety hazard to field operations at this site. The UXOSO will monitor the weather closely. If the area becomes so wet, muddy, or slippery that an unacceptable level of risk exists for personnel who are working in proximity to UXO items, then UXO operations will cease until the UXOSO determines it to be safe to continue.

No UXO operations will take place if an electrical storm is within five miles of the site. An electrical storm monitor will be used to determine if an electrical storm is approaching. UXO operations will cease when an electrical storm is within five miles of the site, and will not resume again until the UXOSO determines that the electrical storm is at least five miles past the site

6.9.0 SITE CONTROL

6.9.1 Site Map

A site map will be utilized by the UXOSO during the Tailgate safety briefing to inform the workers of the location of hazardous areas on the site, the assembly areas to be used in the event of site evacuation, and any other information relevant to the day's activities. The site map will include:

- Site topography
- Site work zones
- Location of unusual/hazardous areas
- Prevailing winds
- Ingress and egress corridors
- Evacuation routes and assembly points
- Location of emergency supplies

6.9.2 Work Zone Delineation and Access Points

Site work zones will be established by the UXOSO prior to initiating operations to control site access. Establishment of site work zones is based upon site conditions, activities and exposure potentials. The site will be worked in grids (200' x 200'). Two teams will be working in different grids simultaneously, with at least a 1701 foot distance between for protection of the site workers from operations going on in other grids. Site work zones will be marked using barricades and signage in both Spanish and English closing roads and trails into the area. As this area is commonly used by the public for biking, hiking, horseback riding, etc, the site teams will

be required to be especially vigilant to assure protection of the public. Barricades and signs will remain in place for the duration of site work rather than changing them as work is completed within the site.

The UXOSO will control access to each work zone and will ensure that all site workers and visitors have received the proper training and medical surveillance required to enter a specific zone. Access will be denied to any potential entrant not meeting these requirements. The following work zones will be established at this site:

- *Exclusion Zone (EZ)* – Area where significant hazard does or could occur and includes all areas where PPE is required to control worker exposure to chemical or physical hazards. All personnel entering the EZ will be logged in/out by the UXOSO. All visitors to the EZ must be escorted by a UXO qualified SCI UXO/OE Services employee (normally this would be the UXOSO). The EZ of this site will be designated as the areas where the actual surface clearances are taking place and the required fragmentation distance of 1701 feet surrounding the area.

  - *Protection of Public Traffic Routes During Anomaly Investigation*– If an anomaly is located within 1701 feet of either California State Highway (CSH) 52 or the landfill road, the government-furnished Miniature Open Front Barricade (MOFB) will be utilized. In the event of an accidental/unintentional detonation during intrusive activities, fragments will be defeated to the rear and sides of the MOFB. The MOFB will be placed over the anomaly to be excavated with the front facing away from CSH 52 or the landfill road. The MOFB is not designed to reduce the effects of blast overpressure. The minimum separation distance to the sides and rear of the MOFB is 200 feet. If an anomaly is encountered within 200 feet of CSH 52 or the landfill road, traffic will be stopped until investigation of the anomaly is complete.
  - *Protection of Public Traffic Routes During Disposal Operations* – When disposing of an UXO in place, the maximum fragment range for the MPM is calculated to be 1701 feet. If the UXO s within 1701 feet of either CSH 52 or the landfill road, a sandbag barricade will be utilized. The sandbag barricade will be 24-inches thick, 360° around the UXO, with a 6-inch standoff between the munition and the sandbags. This sandbag barricade provides a minimum separation distance of 200 feet. If the UXO is within 200 feet of CSH 52 or the landfill road, the same sandbag barricade will be constructed, but traffic will also be stopped until the disposal operation is concluded. Dependent upon the terrain and vegetation, another engineering control that may be utilized is the water mitigation procedure. This also provides a minimum separation distance of 200 feet.

- *Support Zone (SZ)* – Area outside the EZ where site support activities are conducted. This zone includes break areas and sanitation facilities. Visitors desiring entry into the EZ must first meet with the UXOSO and receive the appropriate safety and emergency procedures briefing in the SZ before gaining admittance to the EZ, and they will be escorted at all times while in the EZ. The office trailer will be located in the landfill office compound.

6.9.3 On and Off-Site Communication System

If on or off site telephone communication is required, it will be established through the use of cellular telephones, and all personnel will have emergency phone numbers and understand how and under what conditions they are to be used. Cell phones will not be used around UXO where EMR may present a hazard, but will remain in the site vehicles with the emergency telephone number list for access during operating hours. Megaphones will be used for warnings of site evacuation.

6.9.4 Site Access Controls

Site access control will be implemented by the UXOSO and will be accomplished through a program that limits movement and activities of people and equipment at the project site. This control will be based on site-specific characteristics to include:

- Potential chemical, biological, physical or explosive hazards
- Terrain
- Expected weather conditions
- Planned site activities
- Site proximity to populated areas

The degree of site access control will include the following:

- Controlled site ingress/egress points – Work area will be clearly visible to anyone approaching the site and vice versa. All roads and trails leading into the area will be closed and barricaded. Signs will be posted in both English and Spanish to warn personnel against entry into the area. Guards will also be walking around the site perimeter prior to any blow in place operations to assure there are no visitors in the area. There is also an extensive notification list, which will be called prior to any blow in place operations. Anyone entering the work area must clear access through SCI UXO/OE Services. Only UXO qualified personnel will be permitted within the EZ during UXO operations. All others will remain in the SZ.
- Worker/visitor registration – All personnel working on the site sign in daily at the time of their daily safety briefing in the morning. All visitors to the site must sign the visitor log when they report to the site for their visitor briefing.
- Escort of visitors – All visitors to the site will be escorted by an UXO-qualified SCI UXO/OE Services employee. Visitors will be briefed on site hazards, PPE requirements, and emergency procedures. Visitors who are not UXO-qualified will not be permitted within the EZ during UXO operations. If visitors need to access the EZ, all UXO operations will cease while they are in the area, and the visitors will be escorted at all times.
- PPE requirements – PPE requirements have been established based on the site hazards. Personnel working in areas requiring PPE will wear required PPE for the duration of the operation. Visitors to the area will be required to have the required PPE for the area they will be visiting.

6.10.0 PERSONNEL AND EQUIPMENT DECONTAMINATION

Sanitation facilities will be provided so that employees can wash prior to eating, drinking, smoking, or engaging in any other hand-to-face activities. Chemical toilets and washing facilities will be available in each work area and at the office trailer. As chemical contamination is not expected to be an issue at this site, basic washing of equipment and standard hygiene practices are all that will be required.

6.11.0 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES (ERCP)

The ERCP address the emergencies, which could occur during site operations, and outlines the appropriate response actions.

6.11.1 Pre-Emergency Planning and Incident Reporting

The UXOSO will perform the following pre-emergency tasks before starting field activities and during the mobilization and site specific training phase of the project, and will coordinate emergency response with EMT/police/fire personnel or other emergency response personnel when appropriate:

- Locate telephone stations;
- Post emergency telephone numbers at accessible telephone locations;
- Inspect all emergency equipment and supplies to ensure they are in proper working order;
- Provide a site map marked with planned evacuation routes, assembly points, and emergency equipment and supplies;
- Provide a map with the route to the hospital marked and highlighted, with copies of this map posted in the office/break trailer, in the emergency evacuation vehicle and all other site vehicles;
- Conduct an emergency response drill to test the effectiveness of the ERCP; and
- Review and revise the ERCP in the event of a failure of the plan in an actual or staged emergency, or when changes in site conditions or scope of work affect the ERCP.

6.11.2 Follow-Up and Documentation

Before normal activities are resumed, onsite personnel must be prepared and equipped to handle another emergency. These follow-up activities should be completed:

- The Safety Manager will notify appropriate government agencies as required (Reminder: OSHA must be notified if there have been any fatalities or three or more hospitalizations)
- All equipment and supplies restocked, serviced and inspected; and
- Review and revise all aspects of the Site Specific Safety and Health Plan as necessary to address and prevent future emergencies of this type.

Investigation and documentation of any emergency response shall be initiated by the UXOSO. This is important in all cases, but especially so when the incident has resulted in personal injury, property damage, or environmental impact. The documentation will be a written report and will be inclusive of the following:

- Accurate, concise and objectively recorded information;
- Authentic Information: Each person making an entry must sign and date that entry. Nothing is to be removed or erased. If details are changed or revised, the person making the change should strike out the old material with a single line and initial and date the change;
- Titles and names of personnel involved;
- Actions taken, decisions made, orders given, to whom, by whom, when, what, where, and how, as appropriate;
- Summary of data available (air monitoring, chemical concentrations, etc.);
- Possible exposure of personnel; and
- Copies of all the Exposure/Injury/Illness Accident Report and the Employer's Report of Occupational Injury or Illness (OSHA 300), as appropriate will be completed and forwarded to the Safety Manager

6.11.3 Accident Reporting

Reportable injury and occupational illnesses fall into one of the following categories:

- Fatality, including missing and presumed dead
- Permanent total disability
- Lost workday case involving days away from work
- Recordable case without lost workdays
- Recordable first-aid case
- Non-recordable injury/illness

The following unplanned events will also be investigated and reported:

- Damage to military property, to include Government-Furnished-Property
- Damage to contractor or subcontractor property
- Unplanned functioning of UXO.

[29 CFR 1904.8] Within 8 hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of work-related incident, the employer shall orally report the fatality/multiple hospitalization by telephone or in person to the nearest Area Office of OSHA.

Following the guidance contained in USACE Supplement 1 to AR 385-40, an ENG Form 3394 will be completed on each reportable accident.

Accidents/incidents which result in a fatality, injury of employees, lost workdays, and/or property damage assessed at a cost of $10,000 or more shall be reported telephonically to the Contracting Officer and USACE On-Site Representative as soon as possible after learning of the incident. Should the Contracting Officer require it, the District Safety Office will also be

contacted. The report shall contain as much information as is known concerning the incident. An ENG Form 3394 will be completed in accordance with the instructions attached to the form and provided to the Contracting Officer within 24 hours. This form will be forwarded through the On-Site Representative to the District Safety Office. The ENG Form 3394 shall be legible and signed by the SUXOS and the Project Manager.

All other accidents/incidents/mishaps will be reported using ENG Form 3394 to the On-Site Representative within 10 days of the mishap.

All recordable and reportable accidents will be recorded on the OSHA Form 300, Log of Federal Occupational Injuries and Illnesses, which will be maintained at the SCI UXO/OE Services Safety Office. [29 CFR 1904.2]

All accidents will be investigated and an ENG Form 3394 will be filled out for all accidents, to include near-miss incidents.

6.11.4 Lines of Authority

In the event of an emergency, the UXOSO will be designated as the On-Scene Incident Commander and will have the overall responsibility for implementation of the ERCP and coordination with responding off site emergency services.

Once an emergency has occurred, the UXOSO will report the incident to the client Safety and Health Representative, the Project Manager and the Safety Manager as soon as the situation is under control.

If the emergency involves employee injury, the UXOSO and the Supervisor will complete the SCI UXO/OE Services Accident Report. The Safety Manager will be responsible for notifying applicable Federal, state and local authorities/agencies. Once the emergency has been resolved, the UXOSO, SUXOS, Project Manager and Safety Manager will conduct a follow-up investigation and critique. Actions will be taken to prevent recurrence.

6.11.5 Emergency Contacts

Emergency resources are as follows:

- Ambulance: 911
- Fire: 911
- Police: 911
- Hospital (619) 465-0711 (For emergency assistance dial 911)
- Poison Control Hotline: 1-800-876-4766
- EPA National Response Center: 1-800-424-8802
- CHEMTREC: 1-800-424-9300
- Federal OSHA Emergency Hotline: 1-800-321-OSHA (6742)

- Local EOD –
  Marine Corps Air Station Miramar
  CWO4 Kalabenef (619) 917-4838
- TEU (duty hours) (410) 671-3601
- TEU (after duty hours) (410) 671-2773
- Contracting Officer – Thad Fukushige (626) 401-4048
- Alternate Contact Point (USACE) –
- Tom Kirkpatrick (ACO) (909) 653-0061
- Corps of Engineers Safety Specialists –
- B.J. Allen & David Holladay (858) 674-6766

6.11.6 Standard Procedure for Reporting Emergencies

In the event of an emergency requiring off site assistance, the UXOSO or other designated site personnel will provide the following information:

- Name of person making call;
- Telephone number at location of person making call;
- Nature of emergency;
- Name of person(s) exposed or injured; and
- Actions already taken.

6.11.7 Emergency Prevention, Recognition and Notification

Prevention of emergencies will be aided by the effective implementation of this Site Specific Safety and Health Plan, personnel awareness, contingency planning, and onsite safety meetings. Anticipated emergencies may include physical injury, fire, explosion, chemical spill or release, inclement weather and natural disasters. The UXOSO will use the site-specific briefing and/or the Tailgate Safety Briefings to inform site workers of the recognition, prevention, and response procedures for each anticipated emergency

In the event of an emergency, site personnel will be notified by either visual/verbal communication. Personnel will be notified to:

- Stop work activities;
- Evacuate to the designated assembly point;
- Begin emergency procedures; and
- Notify off site emergency response organizations.

6.11.8 Fires

The decision on whether or not to try to extinguish a fire using available site personnel and equipment will be made by the UXOSO and based on whether the fire is small, large or involves explosives.

6.11.8.1 Fire Protection

Portable fire extinguishers are rated and classified with NUMERAL and LETTER designations, based on fire tests conducted by the Underwriters Laboratories, Inc. (UL) or other nationally recognized testing laboratories. The numeral rating indicates the relative extinguishing effectiveness of extinguishers classified for Class A and B fires only. The Letter classified coincides with the Class of Fire. Extinguishers found to be effective on more than one Class of fire have multiple Letter classifications. Example: B:C

The rating of hand-portable fire extinguishers is based on the following:

- Class A fire extinguisher is used for ordinary combustible materials
- Class B fire extinguisher is for flammable liquids.
- Class C fire extinguisher is for electrical fires.
- Class D fire extinguisher is for combustible metal fires.

Many fires are small at origin and may be extinguished by the use of proper hand-portable fire extinguishers. It is strongly recommended that the fire department be notified as soon as fire is discovered. This alarm should not be delayed awaiting result of application of portable fire extinguishers.

Fire extinguishers can represent an important segment of any overall fire protection program. However, their successful functioning depends upon the following conditions having been met:

- The extinguisher is properly located and in working order.
- The extinguisher is of proper type for a fire, which may occur.
- The fire is discovered while still small enough for the extinguisher to be effective.
- The fire is discovered by a person ready, willing, and able to use the extinguisher
- Class A fires can be readily extinguished by quenching-cooling with water or a water-mixture agent. Class B fires are more effectively extinguished by an agent that blankets-smothers the fire through exclusion of oxygen surrounding the fire area. Those extinguishers containing bromochlorodifluoromethane, monobromotrifluoromethane, carbon dioxide, or dry chemical are generally best suited for extinguishing Class B fires. For Class C fires, the primary consideration in extinguishing this type of fire is the selection of nonconductive extinguishing agent to prevent dangerous electrical shock and possible death to user
- Water or water-mixture type extinguishing agent must not be used under any circumstances on energized electrical equipment (Class C) fires. Whenever possible, electrical equipment and circuits should be de-energized before attacking a Class C fire.
- Due to its corrosive nature, dry chemical is not recommended for use on computerized, electronic or other equipment with extensive circuitry

6.11.8.2 Small Fires

A small fire is defined as a fire that can most likely be extinguished by site personnel using one or two 5 lb. portable extinguishers. A small fire must also be free and clear of explosive materials, especially UXO. If a small fire occurs, the UXOSO will direct site personnel to perform the following, if safe to do so:

- Evacuate unnecessary personnel to an upwind position;
- Attempt to extinguish the fire using portable fire extinguishers or by smothering;
- Remove any essential or flammable items from the path of the fire; and
- Notify emergency response services (fire, police, ambulance, hospital, etc.) as needed.

If a fire extinguisher is used, this must be immediately reported to the UXOSO. The fire extinguisher must be immediately removed from service until it can be recharged. Another fire extinguisher must be made available to the operating area. The area around where the fire occurred must be watched for a minimum of 30 minutes after the fire has been extinguished to assure reignition does not occur. If personnel are not working in the area, the UXOSO should check the area of the fire periodically to assure reignition does not occur.

6.11.8.3 Large Fires

A large fire is defined as a fire, which cannot be extinguished, or one which, due to its size, cannot be extinguished using one or two 10-20 lb. fire extinguishers. In the event that a large fire occurs and the fire does not involve explosive materials, the UXOSO will direct personnel to conduct the following, if safe to do so:

- Evacuate all non-essential personnel from the site to an upwind location;
- Notify the Fire Department and other emergency response services (police, ambulance, hospital, etc.) as needed;
- Order the appropriate level of protective equipment to be worn by personnel responding to the fire;
- Attempt to control the fire to the extent possible; and
- Remove any essential or flammable items from the path of the fire.

The Fire Department will be notified of all controlled burn activities associated with this project and will have a truck on stand-by.

6.11.8.4 Fires Involving Explosive Materials

If a fire occurs which involves explosive materials such as chemicals, fuels or UXO, the UXOSO will order the immediate evacuation of all site personnel to an upwind assembly point at least fragmentation distance from the fire site. The UXOSO will then notify the Fire Department and any other emergency services (police, ambulance, hospital, etc.) as needed. At no time will SCI UXO/OE Services personnel fight a fire involving explosive materials, nor will they allow outside emergency personnel to do so. The Fire Department personnel may not enter any closer than fragmentation distance from the fire and they may spray water to surrounding buildings, structures, etc. in order to prevent the spread of fire.

After the fire has burned itself out, the site must be barricaded and entry prohibited until adequate cooling time has passed (at least 24 hours for a large fire). Explosive materials that may not have discharged during the fire may still be liable to function in the presence of extreme heat. After the site has cooled down, the SUXOS and UXOSO will inspect the site and condition of any UXO involved in the fire and make a determination as to whether or not the site is safe for others to enter.

If UXO is still intact, the SUXOS will determine whether or not it is safe to move to an approved disposal site. If it is considered unsafe to move, it will be destroyed in place. All UXO must be either removed or destroyed in place before non-UXO qualified personnel are permitted to enter the area.

If non-UXO qualified personnel must enter the site for purposes of fire investigation, etc. they must receive a briefing on the potential hazards of UXO on the site. They must be accompanied at all times by a UXO qualified SCI UXO/OE Services employee. NO OUTSIDE PERSONNEL WILL BE PERMITTED ONTO THE SITE WHILE THERE IS A KNOWN UXO HAZARD PRESENT. If during the course of the investigation UXO is observed, the site will be evacuated of all non-UXO qualified personnel until the site can be rendered safe for re-entry

6.11.9 Explosions

In the event of an explosion, the UXOSO will order the evacuation of all site personnel to a safe, upwind assembly point at least fragmentation distance away. The UXOSO will then notify all necessary emergency response services. After an explosion has occurred the site will remain barricaded a minimum of 30 minutes before entry is permitted. The SUXOS and the UXOSO will enter the site and inspect for presence and condition of UXO. If UXO is safe to move to an approved disposal site, it will be removed. If not, it will be destroyed in place. Non-UXO qualified personnel may not enter the area until all known UXO has been removed or destroyed. If non-UXO qualified personnel need to enter the site, they must first be briefed on the potential hazards of the site. They must be accompanied at all times by an UXO-qualified employee. If UXO is discovered during the course of their visit, they must immediately leave the site until it can be rendered safe for re-entry.

6.11.10 Spill or Leak of Hazardous Materials

In the event of a spill or leak of any potentially harmful material (regardless of quantity) on site personnel will:

- Notify the UXOSO and SUXOS immediately;
- The SUXOS shall notify the Project Manager of the spill/leak with relative information (location, time, chemical identity, quantity, hazards listed on the MSDS), and any corrective actions/measures taken;
- Locate the source and stop the leak/spill if it can be done safely (as dictated by the UXOSO);
- Begin containment and recovery of spilled material (as directed by the UXOSO), using appropriate PPE and spill clean-up equipment and materials; and
- Once notified, the SCI UXO/OE Services Project Manager will in turn notify the Client Project Manager and the Contracting Officer. The Client Project Manager will advise SCI UXO/OE Services if any additional actions are necessary, or provide emergency response team notification, if required.

6.11.11 Site Topography, Layout, and Prevailing Weather Conditions

A site map will be prepared by the UXOSO prior to start of site operations, which shows topography, site layout, and prevailing weather conditions The location of first aid supplies and

equipment will also be noted on the map, as will the route to the nearest hospital. The site map will be used to provide training to site staff, and a copy of it will be kept in each site vehicle for emergency use.

6.11.11.1 Inclement Weather Plan

Per paragraph 6.8.2, rain, high winds, or other inclement weather can constitute a safety hazard to field operations at the site. The UXO Safety Officer will monitor the weather closely. If the area becomes so wet, muddy or slippery that an unacceptable level of risk exists for personnel who are working in proximity to UXO items, then UXO operations will cease until the UXO Safety Officer determines it to be safe to continue. The UXO Safety Officer has the authority to halt operations for any inclement weather conditions, which could negatively impact on the safety of field personnel.

No UXO operations will take place if an electrical storm is within five miles of the site. An electrical storm monitor will be used to determine if an electrical storm in approaching. UXO operations will cease when an electrical storm is within five miles of the site, and will not resume again until the UXOSO determines that the electrical storm is at least five miles past the site.

6.11.12 Site Evacuation Procedures

In the event of an emergency that requires evacuation of the site, verbal instruction will be given by the UXOSO to evacuate the area. Personnel will exit the area to the pre-designated assembly point, which will be the office trailer, located at the Landfill Office Compound.

After evacuation, the UXOSO will account for all personnel, ascertain information about the emergency and advise responding onsite personnel. The UXOSO will contact, advise and coordinate with responding off-site emergency personnel if deemed necessary by the situation or the client Safety and Health Representative.

In all situations that require evacuation, personnel shall not re-enter the work area until:

- The conditions causing the emergency have been corrected;
- The hazard has been reassessed;
- The Site Specific Safety and Health Plan has been revised and reviewed with onsite personnel, if needed; and
- Instructions have been given for authorized re-entry by the UXOSO.

6.11.13 Emergency Medical Treatment and First Aid

In the event of an emergency involving personal injury or illness, SCI UXO/OE Services will have two site personnel qualified in CPR/First Aid who will be the first responders to a site emergency until professional medical assistance arrives on the scene. Emergency medical services will be summoned, if deemed necessary by the UXOSO. A first aid kit will be placed in

each site vehicle. A bloodborne pathogen kit will also be kept with each first aid kit. The UXOSO will have final authority on the decision to require additional professional medical services (i.e., paramedics, hospital visit, etc.) for any illness or injury.

6.11.14 Route Maps to Nearest Medical Facility

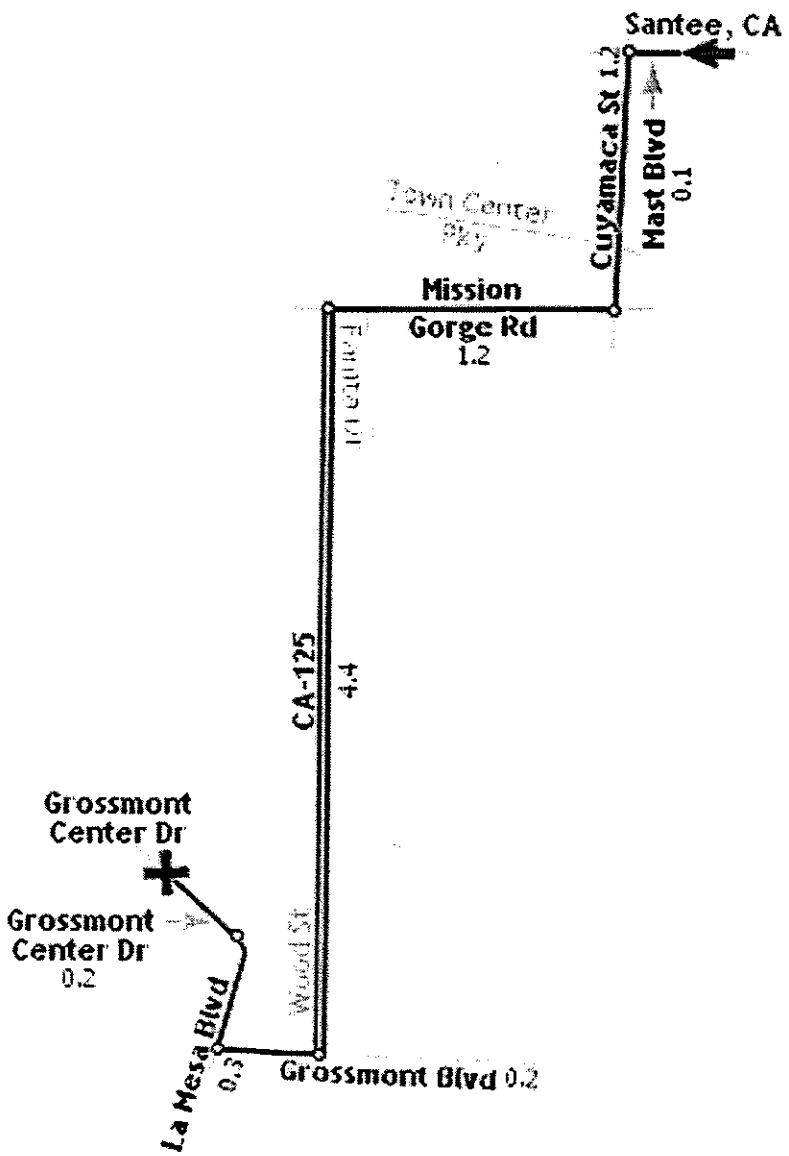
The nearest medical facility is: Grossmont Hospital

All Supervisory personnel shall maintain a phone listing of the nearest available medical assistance in the event of an accident. This telephone listing will be kept beside each telephone. The UXOSO will ensure that the Emergency Medical Assistance list is updated and provided to all supervisors. A map to the nearest medical facility will be kept in each vehicle.

The hospital address is: Grossmont Hospital
5555 Grossmont Center Drive
La Mesa, CA 91994
(619) 465-0711 (For emergency assistance dial 911)

The Route to the Hospital is: **Follow** route 52 East to Route 125 South. Follow Route 125 South to Navaho. Go East on Navaho until you reach Fletcher Parkway. Take Fletcher Parkway south to Grossmont Center Drive. Make a left on Grossmont Center Drive and Hospital will be at 5555 Grossmont Center Drive

Distance to hospital: 5.7 miles


Santee, CA
Cuyamaca St 1.2
Mast Blvd
0.1
Mission
Gorge Rd
1.2
CA-125
4.4
Grossmont
Center Dr
Grossmont
Center Dr
0.2
La Mesa Blvd
0.3
Grossmont Blvd 0.2

6.11.15 Criteria for Initiating Community Alert Program

In the event an incident on the site has the potential to impact the general community or bring adverse attention or publicity to the U.S. Army Corps of Engineers, the Administrative Contracting Officer will be notified. He will notify the Contracting Officer, who will in turn provide any statements to the public or the media at his discretion.

6.11.16 MSDS

As part of the SCI UXO/OE Services Hazard Communication Program, an MSDS binder will be maintained onsite, which includes copies of MSDSs for all hazardous materials on the site. It will be kept in the Project Manager's site vehicle during operations. This MSDS binder will be available on request to all site personnel during all working hours of the site. If site workers have further questions about any of the hazardous materials which they come into contact with, the SCI UXO/OE Services Site Manager or the Safety Manager will locate the required information and pass it on to the employee.

6.12.0 CONFINED SPACE ENTRY

According to OSHA 29 CFR 1910.146, a confined space is defined as having all of the following criteria:

- It is large enough and so configured that an employee can bodily enter and perform assigned work.
- Is not designed for continuous human occupancy
- Has limited or restricted means for entry or exit.

If an excavation meets all three of the criteria listed above, it must be defined, as a confined space, and the provisions and safety precautions of the SCI UXO/OE Services Confined Space Entry Program will apply.

As work on this site involves UXO clearance to depths of less than 4 feet, no confined space entry work is expected for this site. This section is not expected to apply. Should confined space work be required, SCI UXO/OE Services has an existing Confined Space Program as part of its Corporate Health and Safety Program, which would be followed.

6.13.0 SPILL CONTAINMENT

Major spills are not expected on this site. Hazardous materials are being brought to the site in small quantity containers. This will minimize the amount of material involved, should a spill occur, as well as reducing the amount of hazardous material on hand to the minimum amount consistent with efficient operations. If a small amount of liquid hazardous material is spilled, it will be cleaned up with absorbent material by site personnel, wearing appropriate chemical resistant gloves. It will then be containerized, labeled, and sent for disposal at an approved facility.

6.14.0 HEAT AND COLD STRESS

Heat stress is one of the most common (and potentially serious) illnesses that affect hazardous waste site workers. When site personnel are engaged in operations involving hot environments and/or the use of semi- or impermeable clothing, a number of physiological responses can occur which may seriously affect the health and safety of the workers. These affects can be eliminated or controlled through the use of a comprehensive heat stress prevention and monitoring program.

Level D PPE is being used at this site, so this program will be implemented if the ambient temperature exceeds 75°F.

6.14.1 Causes of Heat Stress

The most common cause of heat stress during site activities is the affect that PPE has on the body's natural cooling mechanism. Impermeable PPE interferes with the evaporation of perspiration and causes the body to retain metabolic and environmentally induced heat. Individuals will vary in their susceptibility and degree of response to the stress induced by increased body heat. Heat stress can result in health effects ranging from transient heat fatigue to serious illness or death. Heat stress is caused by a number of interacting factors including environmental condition, clothing, workload, and the individual characteristics of the worker. Because heat stress is probably one of the most common (and potentially serious) illnesses at hazardous waste sites, regular monitoring and other preventive precautions are vital.

Factors, which may predispose a worker to heat stress, include:

- Lack of physical fitness.
- Lack of acclimatization to hot environments
- Degree of hydration.
- Level of obesity.
- Current health status (i.e., having an infection, chronic disease, diarrhea, etc.).
- Alcohol or drug use.
- The worker's age and sex.
- Sunburn

Prior to initiating site activities each day, and periodically throughout the day, the UXOSO will inspect the site personnel for evidence of the previously mentioned factors to determine those personnel who are at increased risk for heat stress related disorders. Evidence of extreme dehydration, illness or drug or alcohol use may require the UXOSO to restrict the worker's activities until such time as the worker is fit for duty. Personnel identified as being at high risk for heat stress who are allowed to participate in site operations will be monitored frequently by the UXOSO throughout the day.

6.14.2 Heat Stress Disorders

This Section outlines the major heat related illnesses that may result from exposure to high heat environments and/or the use of semi- or impermeable clothing. For the purpose of this Program,

reference to "liquids" will indicate the use of water or an electrolyte replacement solution, and not tea or coffee (unless it is decaffeinated) or carbonated soft drinks.

6.14.2.1 Heat Rash

Heat rash is caused by continuous exposure to heat and humid air and is aggravated by wet chafing clothes This condition can decrease a worker's ability to tolerate hot environments.

Symptoms: Mild red rash, especially in areas of the body, which sweat heavily.

Treatment: Decrease the amount of time in protective gear and provide powder such as corn starch or baby powder to help absorb moisture and decrease chafing. Maintain good personal hygiene standards and change into dry clothes if needed.

6.14.2.2 Heat Cramps

Heat cramps are caused by a profuse rate of perspiration that is not balanced by adequate fluid and electrolyte intake. The occurrence of heat related cramps are often an indication that excessive water and electrolyte loss has occurred, which can further develop into heat exhaustion or heat stroke

Symptoms: Acute, painful spasms of voluntary muscles such as the back, abdomen and extremities.

Treatment: Remove victim to a cool area and loosen restrictive clothing. Stretch and massage affected muscles to increase blood flow to the area. Have patient drink one to two cups of liquids immediately, and every twenty minutes thereafter. Consult with physician if condition does not improve. If available, an electrolyte replacement solution should be taken along with liquids. For maximum benefit, this should be taken in at least a 2:1 ratio with at least two glasses of water to one glass of electrolyte replacement liquid

6.14.2.3 Heat Exhaustion

Heat exhaustion is a state of very definite weakness or exhaustion caused by increased stress on various organs to meet increased demands to cool the body due to excessive loss of fluids from the body. This condition leads to inadequate blood supply and cardiac insufficiency. Heat exhaustion is less dangerous than heat stroke, but nonetheless must be treated. If allowed to go untreated, heat exhaustion can quickly develop into heat stroke.

Symptoms: Pale or flushed, clammy, moist skin, profuse perspiration, and extreme weakness. Body temperature is basically normal or slightly elevated, the pulse is weak and rapid, and breathing is shallow The individual may have a headache, be dizzy or nauseated.

Treatment: Remove the individual to a cool, air-conditioned place, loosen clothing, elevate feet and allow individual to rest. Consult physician, especially in severe cases. Have patient drink one to two cups of liquids immediately, and every twenty minutes thereafter. Total liquid

consumption should be about one to two gallons per day. If the signs and symptoms of heat exhaustion do not subside, or become more severe, immediate medical attention will be required

6.14.2.4 Heat Stroke

Heat stroke is an acute and dangerous reaction to heat stress caused by a failure of the heat regulating mechanisms of the body. The failure of the individual's temperature control system causes the perspiration system to stop working correctly. When this occurs, the body core temperature rises very rapidly to a point (105+°F) where brain damage and death will result if the person is not cooled quickly.

Symptoms: The victim's skin is hot, and may or may not be red and dry, (due to the fact that the individual may still be wet from having sweat while wearing protective clothing earlier), nausea, dizziness, confusion, extremely high body temperatures, rapid respiratory and pulse rate, delirium, convulsions, unconsciousness or coma.

Treatment: Cool the victim immediately. If the body temperature is not brought down quickly, permanent brain damage or death may result. The victim should be moved to a shady area; lie down and keep the head elevated. Gradually cool the victim by either sponging or immersing the victim in cool water to reduce the core temperature to a safe level (<102°F) If conscious, give the victim cool liquids to drink. Observe the victim and obtain immediate medical help Do not give the victim caffeinated or alcoholic beverages Heat stroke is considered a medical emergency. Medical emergency assistance must be summoned.

6.14.3 Preventive Measures

Proper training and preventive measures will help avert serious illness and loss of work productivity. Preventing heat stress is particularly important because once someone suffers from heat exhaustion, that person may become predisposed to additional heat injuries. In order to avoid heat related illnesses, proper preventive measures will be implemented whenever environmental conditions dictate the need. These preventive measures represent the minimal steps to be taken and will include the following procedures:

- The UXOSO will examine each site worker prior to start of daily operations to determine the individuals susceptible to heat induced stress. Workers exhibiting factors, which make them susceptible to heat stress, will be closely monitored by the UXOSO.
- Site workers will be trained to recognize and treat heat-related illnesses. This training will include the signs, symptoms and treatment of heat stress disorders as outlined in this Program.
- In order to maintain workers' body fluids at normal levels, workers will be encouraged to drink, as a minimum, approximately sixteen ounces of liquids prior to start of work in the morning, after lunch and prior to leaving the site at the conclusion of the day's activities. Disposable four (4) to twelve (12) ounce cups and liquids will be provided on site. Acceptable liquids will include water and an electrolyte replacement solution, with the recommended intake being two cups of water to each cup of electrolyte replacement solution. Liquids containing caffeine are to be avoided.

- When ambient conditions and site workload requirements dictate, as determined by the UXOSO, workers will be required to drink a minimum of sixteen (16) to thirty-two (32) ounces of liquids during each rest cycle. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, workers should be encouraged to drink even though they may not be thirsty. The following strategies may useful in encouraging fluid intake:
- Maintain water temperature at 50°F to 60°F (10°C to 15.6°C).
- Provide small disposable cups that hold about 4 ounces (0.1 liter).
- Have workers drink 16 ounces (0.5) liters) of fluids (preferably water or dilute drinks) before beginning work.
- Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
- A shelter or shaded area will be provided where workers may be protected from direct sunlight during rest periods.
- Monitoring of ambient or physiological heat stress indices will be conducted to allow prevention and/or early detection of heat induced stress. Monitoring will be conducted in accordance with applicable paragraphs of this Program.
- Site workers will be given time to acclimatize to site work conditions, temperature, and workload. Acclimatization usually takes about a week of continued work in hot environments, and allows the worker's body to become adjusted to this level and type of work. This process involves a gradual increase in the workload over the required period, the length of which depends upon the nature of the work performed, the ambient temperatures and the individual's susceptibility to heat stress
- Work schedules will be adjusted as follows:
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed
- Rotate personnel: alternate job functions to minimize overstress or overexertion at one task.
- Add additional personnel to work teams.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided

6.14.3.1 Supplemental Preventive Measures

Workers will be encouraged to achieve and maintain an optimum level of physical fitness. Increased physical fitness will allow workers to better tolerate and respond to hot environments and heavy workloads. In comparison to an unfit person, a fit person will have: less physiological strain; a lower heart rate and body temperature; and a more efficient sweating mechanism.

6.14.4 Administrative Controls and Work Practices

Training is the key to good work practices. Unless all employees understand the reasons for new or changing old, work practices, the chances of such a program succeeding are greatly reduced. The following will be discussed during the site-specific training and repeatedly, as determined by the UXOSO:

- Knowledge of the hazards of heat stress;
- Recognition of predisposing factors, danger signs, and symptoms;
- Awareness of first-aid procedures for, and the potential health effects of, heat stroke;
- Employee responsibilities in avoiding heat stress;
- Dangers of using drugs, including therapeutic ones, and alcohol in hot work environments;
- Use of protective clothing and equipment;
- Purpose and coverage of environmental and medical surveillance programs and the advantages of worker participation in such programs; and
- Dietary effects on heat stress.

6.14.5 Heat Stress Monitoring

Because the incidence of heat stress depends on a variety of factors, all workers, even those not wearing protective equipment, should be monitored. Initially, the frequency of physiological monitoring depends on the air temperature adjusted for solar radiation and the level of physical work (see Table 1). The length of the work cycle will be governed by the frequency of the required physiological monitoring.

For workers wearing permeable clothing (e.g., standard cotton or synthetic work clothes), follow recommendations for monitoring requirements and suggested work/rest schedules in the current American Conference of Governmental Industrial Hygienists' (ACGIH) Threshold Limit Values for Heat Stress. If the actual clothing worn differs from the ACGIH standard ensemble in insulation value and/or wind and vapor permeability, change the monitoring requirements and work/rest schedules accordingly.

The goal of all heat stress monitoring is to ensure that the worker's body temperature does not exceed 100.4°F. The physiological monitoring methods listed below are to be implemented based upon the severity of the heat and workload. As a minimum, the UXOSO will perform WBGT monitoring. He may also choose to monitor the worker's heart rate as an indication of potential heat stress. The frequency of physiological monitoring will be determined using the information presented in Table 1.

6.14.5.1 Heart Rate Monitoring

The worker's baseline heart rate should be recorded prior to initiation of site activities by measuring the radial pulse rate for thirty seconds. After each work cycle, the heart rate should be measured by taking the pulse rate (PR) for 30 seconds as early as possible into the resting period. Taking the radial (wrist) pulse rate is the preferred method, however the carotid (neck) pulse rate may be taken if a worker has difficulty finding the radial pulse. The PR at the beginning of the rest period should not exceed one hundred and ten (110) beats per minute (bpm). If the PR is higher than 110 bpm, the next work period should be shortened by thirty-three percent, while the length of the rest period stays the same. If the PR exceeds 110 bpm at the beginning of the next rest period, the work cycle should be further shortened by thirty-three percent. This procedure will be continued until the worker's PR at the beginning of the rest cycle is maintained below 110 bpm.

6.14.5.2 Wet Bulb, Dry Globe Temperature (WBGT) Monitoring

For site conditions where personnel are working in Level D PPE, and the ambient temperature is greater than 75°F, the UXOSO will conduct WBGT monitoring to assist in controlling the potential for site workers experiencing heat related adverse health affects. The UXOSO will use WBGT monitor readings available on post, and after estimating the workload, use the values expressed in Table 2, to determine the work/rest schedule to be implemented. The values outlined in this table are designed such that nearly all acclimatized, fully clothed workers with adequate salt and water intake will be able to function without the body temperature exceeding 100.4°F.

Acclimatization is the adaptive process that results in a decrease of the physiological response produced by the application of a constant environmental stress. On initial exposure to a hot environment, there is an impaired ability to work and evidence of physiological strain. If the exposure is repeated on several successive days, there is a gradual return of the ability to work and a decrease in physiological strain. Within 4 to 7 days following initiation of the acclimatization process, a dramatic improvement in the ability to perform work is noticed: subjective discomfort practically disappears; body temperature and heart rate are lower; there is a more stable blood pressure; and the sweat is more profuse and dilute.

Alcohol should not be consumed in a hot environment because the loss of body fluids increases the risk of heat stress.

6.14.6 Heat Stress Documentation

Should it be required due to site conditions, the UXOSO will be responsible for recording all heat stress related information. This will include training sessions and monitoring data. Training sessions will be documented using the Documentation of Training Form. Pulse rate monitoring data will be recorded on the Heat Stress Monitoring Log, with the WBGT being recorded in the Site Safety Log, and/or Site Monitoring Log

TABLE 1
SUGGESTED FREQUENCY OF PHYSIOLOGICAL MONITORING FOR FIT AND ACCLIMATIZED WORKERS[a]

ADJUSTED TEMPERATURE[b]	NORMAL WORK ENSEMBLE[c]	IMPERMEABLE ENSEMBLE
90°F (32.2°C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5°-90°F (30.8°-32.2°C)	After each 60 minutes of work	After each 30 minutes of work
82.5°-87.5°F (28.1°-28.1°C)	After each 90 minutes of work	After each 60 minutes of work
77.5°-82.5°F (25.3°-28.1°C)	After each 120 minutes of work	After each 90 minutes of work
72.5°-77.5°F (22.5°-25.3°C)	After each 150 minutes of work	After each 120 minutes of work

a For work levels of 250 kilocalories/hour.

b Calculate the adjusted air temperature (at adj) by using this equation: at adj °F = ta °F + (13 x % sunshine). Measure air temperature (at) with a standard mercury-in-glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to produce a shadow (100 percent sunshine = no cloud cover and a sharp, distinct shadow; 0 percent sunshine = no shadows.)

c A normal work ensemble consists of cotton coveralls or other cotton clothing with long sleeves and pants.

TABLE 2
PERMISSIBLE WBGT HEAT EXPOSURE THRESHOLD LIMIT VALUES

Work - Rest Regimen	WORK LOAD Light*	Moderate	Heavy
Continuous work	86 (30.0)	80 (26.7)	77 (25.0)
75% Work - 25% Rest, each hour	87 (30.6)	82 (28.0)	78 (25.9)
50% Work - 50% Rest, each hour	89 (31.4)	85 (29.4)	82 (27.9)
25% Work - 75% Rest, each hour	90 (32.2)	88 (31.1)	86 (30.0)

Consult the ACGIH TLV booklet for definitions of Light, Moderate and Heavy workloads. Values are given in ^{0}F and (^{0}C) WBGT, and are intended for workers wearing single layer summer type clothing. Use of semi or totally impermeable clothing requires monitoring IAW the SCI Heat Stress Prevention Program. As workload increases, the heat stress impact on a nonacclimated worker is exacerbated. For unacclimatized workers performing a moderate level of work, the permissible heat exposure TLV should be reduced by approximately 2.5^{0}C

6.15.0 STANDARD OPERATING PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES

Using common sense and following safe practices can reduce hazards due to normal site activities. Personnel must keep the prudent guidelines listed below in mind when conducting field activities.

- Hazard assessment is a continuous process. Personnel must be aware of their surroundings and constantly be aware of the UXO, chemical and physical hazards that are or may be present.
- The number of personnel in the exclusion zone will be the minimum number necessary to perform work tasks in a safe and efficient manner
- Team members will be familiar with the physical characteristics of each site including wind direction, site access, and the location of communication devices and safety/emergency equipment.
- The location of overhead power lines and underground utilities must be established.
- Contact with potentially contaminated surfaces, walking through puddles or pools of liquid, kneeling on the ground, or leaning, sitting, or placing equipment on the contaminated soil should be avoided.

- Detection or appearance of unusual liquids, odors or discolored soil could indicate the presence of contaminants and should be reported to the UXOSO immediately.
- Site personnel are to report any other unusual or potentially hazardous condition to the UXOSO for investigation and/or corrective action.

All personnel on site will be required to follow the safe work practices contained in this Program, as they relate to the hazards encountered during site activities. All site personnel will be required to read, understand and comply with the provisions of this SSHP. If new tasks or hazards are identified during site operations, which pose additional hazards, the SSHP will be amended by the Safety Manager to include additional safe work practices and other control methods as needed.

6.15.1 Use of Tools and Equipment

6.15.1.1. Power Tool Operation

By their very nature, power tools have the capability of inflicting serious injury upon site personnel if they are not used and maintained properly. To control the hazards associated with power tool operation, the requirements outlined in USACE EM 385-1-1, Section 13 and the safe work practices listed below shall be observed when using power tools:

- Operation will be conducted by authorized personnel familiar with the tool, its operation, and safety precautions.
- Power tools will be inspected prior to use, and defective equipment will be removed from service until repaired or replaced.
- Power tools designed to accommodate guards will have such guards properly in place prior to use.
- Loose fitting clothing or unrestrained long hair will not be permitted around moving parts of power tools.
- Hands, feet, etc. will be kept away from all moving parts.
- Maintenance and/or adjustments to equipment will not be conducted while it is in operation; the power will be disconnected prior to maintenance activities. All maintenance activities will be performed by personnel experienced and authorized to make the repairs, or it will be sent to the manufacturer for repair.
- An adequate operating area will be provided, allowing sufficient clearance and access for operation.
- Good housekeeping practices will be followed at all times.
- Safety glasses with side shields, goggles, or face shields shall be worn at all times while operating power tools or when working in the vicinity of operating power tools.

6.15.1.2 Hand Tool Operation

Use of improper or defective tools can contribute significantly to the occurrence of accidents on site. Therefore, the requirements outlined in USACE EM 385-1-1, Section 13 and the safe work practices listed below shall be observed when using hand tools:

- Hand tools will be inspected for defects prior to each use.

- Defective hand tools will be removed from service and repaired or discarded.
- Tools will be selected and used in the manner for which they were designed
- Be sure of footing and grip before using any tool.
- Do not use tools that have split handles, mushroom heads, worn jaws, or other defects.
- Gloves will be worn whenever they increase gripping ability or if cut, laceration or puncture hazards may exist during the use of hand tools.
- Safety glasses with side shields, goggles, or a face shield will be used if tool use presents an eye/face hazard.
- Do not use makeshift tools or other improper tools.
- Use non-sparking tools where there are explosive vapors, gases, or residue

6.15.2 Material Lifting

Many types of objects are handled in normal day to day operations. Care shall be taken in lifting and handling heavy or bulky items because they are the cause of many joint and back injuries. The following fundamentals address the proper lifting of materials to avoid joint and back injuries:

- The size, shape and weight of the object to be lifted must be considered. Site personnel will not lift more than they can handle comfortably.
- A firm grip on the object is essential; therefore the hands and object shall be free of oil, grease and water, which might prevent a firm grip.
- The hands and especially the fingers shall be kept away from any points that cause them to be pinched or crushed, especially when setting the object down.
- The item shall be inspected for metal slivers, jagged edges, burrs, rough or slippery surfaces and pinch points, and gloves shall be used, if necessary, to protect the hands.
- The feet shall be placed far enough apart for good balance and stability
- Personnel will ensure that solid footing is available prior to lifting the object
- When lifting, get as close to the load as possible, bend the legs at the knees, making sure that the back is kept as straight as possible.
- To lift the object, the legs are straightened from their bending position.
- Never carry a load that cannot be seen over or around
- When placing an object down, the stance and position are identical to that for lifting, with the back kept straight, the legs bent at the knees and the object lowered.
- If the item to be lifted is too large, bulky, or heavy for one person to safely lift, ask a co-worker for assistance. If a piece of material handling equipment is available that can do the job, use the equipment instead of trying to lift it yourself.
- When two or more people are required to handle an object, coordination is essential to ensure that the load is lifted uniformly and that the weight is equally divided between the individuals carrying the load When carrying the object, each person, if possible, shall face the direction in which the object is being carried.

6.15.3 Sanitation Practices

Adequate sanitation facilities will be provided at each work site to ensure proper personal hygiene. Site sanitation will be established and maintained in accordance with OSHA 29 CFR 1910.120(n) and USACE EM 385-1-1, Section 2.

6.15.3.1 Potable Water Supply

An adequate supply of potable (drinkable) water shall be provided on site at all times, and will be supplied in accordance with the following provisions:

- Containers used for potable water shall be capable of being tightly closed, equipped with a tap and maintained in a clean and sanitary condition.
- A container used for distribution of drinking water shall be clearly labeled as to its contents and not used for any other purpose.
- Water shall not be dipped from the container and use of a common cup will not be allowed
- Where single service cups are provided, separate sanitary containers will be provided for the storage of the unused cups and for the disposal of the used cups.

6.15.3.2 Nonpotable Water

Outlets and storage containers for nonpotable water, such as water for fire fighting or decontamination will be clearly labeled to indicate that the water is not suitable for drinking, washing or cooking. There shall at no time be a cross connection or open potential between a system furnishing potable water and a system furnishing nonpotable water.

6.15.3.3 Toilet Facilities

Under field conditions where a site is not provided with a sanitary sewer system, temporary toilet facilities will be located at the site. Chemical toilets will be used to fulfill this requirement and will be serviced every week. Chemical toilets will be available in each work area and one will also be located at the office trailer. Each temporary toilet will be naturally lighted, have ventilation, be lockable from the inside, and will be serviced weekly. Where toilets may be occupied by no more than one person at a time, can be locked from the inside, and contain a toilet seat, separate toilets for each sex are not required.

6.15.3.4 Washing Facilities

Hand and face washing facilities will be set up in each work area as well as the office trailer. These will be utilized by all personnel exiting the exclusion zone prior to eating, drinking, tobacco use or other hand to face activities. Washing facilities will consist of potable running water, soap and drying towels. Eye wash facilities will be available at all work sites where operations in any of the work zones involve handling substances, which could be hazardous to the eyes.

6.15.4 Site Housekeeping

All work areas will be maintained in a clean/neat fashion, free of loose debris and scrap. Any materials/equipment not being used will be removed and stored or disposed of accordingly. All

work areas will be supplied with a trash receptacle with lid, the contents of which will be emptied daily.

6.15.5 Site Illumination

Conducting UXO/OE operations in poorly illuminated conditions is inherently dangerous. As a general rule, personnel will only work during the hours of daylight, and no field activities will be scheduled during the period of thirty minutes before dusk to thirty minutes after dawn. There will be no UXO/OE operations conducted during the hours of darkness unless specifically requested by the client and with sufficient lighting to attain a candlepower rating of 5-foot candles in the work zone. Work on this site is not expected to be conducted during hours of darkness.

6.15.6 Biological Hazards

Biological hazards, which are usually found on site, include insects, such as ticks, spiders, poisonous snakes and hazardous plants. Employee awareness and the safe work practices outlined in the following paragraphs should reduce the risk associated with these hazards.

6.15.6.1 Hazardous Plants

During the conduct of site activities the number and variety of plants that may be encountered is large and extensive. However the plants which present the greatest degree of risk to site personnel (i.e., potential for contact vs. affect produced) are those, which produce skin reactions and skin and tissue injury.

6.15.6.1.1 Plants Causing Skin and Tissue Injury

Contact with splinters, thorns and sharp leaf edges is of special concern to site personnel, as is the contact with the pointed surfaces found on branches, limbs and small trunks. This concern stems from the fact that punctures, cuts and even minor scrapes caused by accidental contact may result in non-infectious skin lesions, and the introduction of fungi or bacteria through the skin or eye. Personnel receiving any of the injuries listed above, even minor scrapes, shall report immediately to the UXOSO for initial and continued observation and care of the injury

6.15.6.1.2 Plants Causing Skin Reactions

The poisonous plant of greatest concern is poison oak. Poison oak thrives in all types of light and usually grows in the form of a trailing vine; however, it can also grow as a bush and can attain heights of 10 feet or more. Poison oak can have shiny or dull, pointed leaves that grow in clusters of three. Poison oak leaves are more rounded rather than jagged , and the underside of poison oak leaves are covered with hair.

The skin reaction associated with contacting these plants is caused by the body's allergic reaction to toxins contained in oils produced by the plant. Becoming contaminated with the oils does not require contact with just the leaves. Contamination can be achieved through contact with other parts of the plant such as the branches, stems or berries, or contact with contaminated items such

as tools and clothing. The allergic reaction associated with exposure to these plants will generally cause the following signs and symptoms:

- Blistering at the site of contact, usually occurring within 12 to 48 hours after contact.
- Reddening, swelling, itching and burning at the site of contact.
- Pain, if the reaction is severe.
- Conjunctivitis, asthma, and other allergic reactions if the person is extremely sensitive to the poisonous plant toxin.

If the rash is scratched, secondary infections can occur. The rash usually disappears in 1 to 2 weeks in cases of mild exposure and up to 3 weeks when exposure is severe. Preventive measures, which can prove effective for most site personnel, are:

- Avoid contact with any poisonous plants on site, and keep a steady watch to identify, report and mark poisonous plants found on site.
- Wash hands, face or other exposed areas at the beginning of each break period and at the end of each workday.
- Avoid contact with, and wash on a daily basis, contaminated tools, equipment and clothing.
- Barrier creams, detoxification/wash solutions and orally administered desensitization may prove effective and should be tried to find the best preventive solution.
- Keeping the skin covered as much as possible (i.e., long pants and long sleeved shirts) in areas where these plants are known to exist will limit much of the potential exposure.
- If burning of these plants occurs, make sure personnel are located upwind of the smoke, as inhalation of the smoke or contact with airborne particles from these plants can still cause a reaction to occur.

6.15.6.2 Snakes

When site activities are conducted in warm weather on sites that are located in wooded, grassy or rocky environments, the potential for contact with poisonous snakes becomes a very real danger. Normally, if a person is approaching a snake, the noise created by the person is usually sufficient to frighten the snake off. However, during the warm months, extreme caution must be exercised when conducting site operations around areas where snakes might be found (i.e. rocks, bushes, logs, or in holes, crevices, and abandoned pipes). If poisonous snakes are identified on site, SCI UXO/OE Services will issue protective clothing, such as snake leggings, to site personnel. The rules to follow if a snake bites someone are:

- **DO NOT** cut "Xs" over the bite area, as this will intensify the effect of the venom
- **DO NOT** apply suction to the wound since this has a minimal effective in removing venom.
- **DO NOT** apply a tourniquet since this will concentrate the venom and increase the amount of tissue damage in the immediate area.
- If possible, try to get a good look at the snake so it can be identified for proper selection of anti-venom.
- **DO NOT** allow the victim to run for help since running increases the heart rate and will increase the spread of the venom throughout the body.
- Keep the victim calm and immobile
- Have the victim hold the affected extremity lower than the heart while waiting for medical assistance. Do not delay evacuation.

- Transport the victim to medical attention immediately.

6.15.6.3 Tick Bites

The Centers for Disease Control (CDC) has noted the increase of Lyme Disease and Rocky Mountain Spotted Fever (RMSF) which are caused by bites from infected ticks that live in and near wooded areas, tall grass, and brush. Ticks are small, ranging from the size of a comma up to about one quarter inch. They are sometimes difficult to see. The tick season extends from spring through summer. When embedded in the skin, they may look like a freckle.
Lyme disease has occurred in 43 states, with the heaviest concentrations in the Northeast (Connecticut, Massachusetts, New Jersey, New York, Pennsylvania), the upper Midwest (Minnesota and Wisconsin), and along the northern California coast. It is caused by deer ticks and the lone star ticks which have become infected with spirochetes. Female deer ticks are about one quarter inch in size, and are black and brick red in color. Male deer ticks are smaller, and completely black. Lone star ticks are larger and chestnut brown in color.

RMSF has occurred in 36 states, with the heaviest concentrations in Oklahoma, North Carolina, South Carolina, and Virginia. It is caused by Rocky Mountain wood ticks, and dog ticks which have become infected with rickettsia. Both are black in color.

The first symptoms of either disease are flu like chills, fever, headache, dizziness, fatigue, stiff neck, and bone pain. If immediately treated by a physician, most individuals recover fully in a short period of time. If not treated, more serious symptoms can occur.

If you believe a tick has bitten you, or if any of the signs and symptoms noted above appear, contact the UXOSO, who will authorize you to visit a physician for an examination and possible treatment.

6.15.6.3.1 Protective Measures

Standard field gear (work boots, socks and light-colored coveralls) provide good protection against tick bites, particularly if the joints are taped. However, even when wearing field gear, the following precautions shall be taken when working in areas that might be infested with ticks:

- When in the field, check yourself often for ticks, particularly on your lower legs and areas covered with hair.
- Spray outer clothing, particularly your pant legs and socks, **BUT NOT YOUR SKIN**, with an insect repellent that contains permethrin or permanone. Apply deet (vapor-active repellent) to any exposed skin surface (except eyes and lips), and apply permethrin repellent spray to field clothing. Allow the pertmethrin to dry before using treated clothing. The repellent system, deet and permethrin, offer maximum protection.
- When walking in wooded areas, wear a hard hat, and avoid contact with bushes, tall grass, or brush as much as possible.
- If you find a tick, remove it by pulling on it gently with tweezers.
- If the tick resists, cover the tick with salad oil for about 15 minutes to asphyxiate it, then remove it with tweezers.
- **DO NOT** use matches, a lit cigarette, nail polish or any other type of chemical to "coax" the tick out.

- Be sure to remove all parts of the tick's body, and disinfect the area with alcohol or a similar antiseptic after removal.
- For several days to several weeks after removal of the tick, look for the signs of the onset of Lyme disease, such as a rash that looks like a bulls-eye or an expanding red circle surrounding a light area, frequently seen with a small welt in the center.
- Also look for the signs of the onset of RMSF, such as an inflammation which is visible in the form of a rash comprising many red spots under the skin, which appears 3 to 10 days after the tick bite.

6.15.6.4 Bees, Hornets and Wasps

Contact with stinging insects like bees, hornets and wasps may result in site personnel experiencing adverse health affects that range from being mildly uncomfortable to being life threatening. Therefore, stinging insects present a serious hazard to site personnel, and extreme caution must be exercised whenever site and weather conditions increase the risk of encountering stinging insects. Some of the factors related to stinging insects that increase the degree of risk associated with accidental contact are as follows:

- The nests for these insects are frequently found in remote wooded or grassy areas.
- The nests can be situated in trees, rocks, and bushes or in the ground, and are usually difficult to see.
- Accidental contact with these insects is highly probable, especially during warm weather conditions when the insects are most active.
- If a site worker accidentally disturbs a nest, the worker may be inflicted with multiple stings, causing extreme pain and swelling which can leave the worker incapacitated and in need of medical attention.
- Some people are hypersensitive to the toxins injected by a sting, and when stung, experience a violent and immediate allergic reaction resulting in a life-threatening condition known as anaphylactic shock.
- Anaphylactic shock manifests itself very rapidly and is characterized by extreme swelling of the body, eyes, face, mouth and respiratory passages.
- The hypersensitivity needed to cause anaphylactic shock, can in some people, accumulate over time and exposure, therefore even if someone has been stung previously, and not experienced an allergic reaction, there is no guarantee that they will not have an allergic reaction if they are stung again.

With these things in mind, and with the high probability of contact with stinging insects, all site personnel will comply with the following safe work practices:

- If a worker knows that he is hypersensitive to bee, wasp or hornet stings, he must inform the UXOSO of this condition prior to participation in site activities.
- All site personnel will be watchful for the presence of stinging insects and their nests, and will advise the UXOSO if a stinging insect nest is located or suspected in the area.
- Any nests located on site will be flagged off and site personnel will be notified of its presence.

- If stung, site personnel will immediately report to the UXOSO to obtain first aid treatment and to allow the UXOSO to observe them for signs of allergic reaction. If a breathing emergency (anaphylactic shock) occurs as a result of the sting, immediately call 911.
- Site personnel with a known hypersensitivity to stinging insects will keep required emergency medication on or near their person at all times, and will let the UXOSO and co-workers know where it is kept.

6.15.6.5 Spiders

A large variety of spiders may be encountered during site activities. While most spider bites merely cause localized pain, swelling, reddening and in some cases, tissue damage, there are a few spiders which, due to the severity of the physiological affects caused by their venom, are dangerous. These species include the black widow and the brown or violin spiders.
The black widow is a coal-black bulbous spider about ¾-inch in length, with a bright red hourglass on the under side of the abdomen. The black widow is usually found in dark moist locations, especially under rocks, rotting logs and may even be found in outdoor toilets where they inhabit the underside of the seat. Victims of a black widow bite may exhibit the following signs or symptoms:

- Sensation of pinprick or minor burning at the time of the bite
- Appearance of small punctures (but sometimes none are visible).
- After 15 to 60 minutes, intense pain is felt at the site of the bite which spreads quickly, and is followed by profuse sweating, rigid abdominal muscles, muscle spasms, breathing difficulty, slurred speech, poor coordination, dilated pupils and generalized swelling of face and extremities.

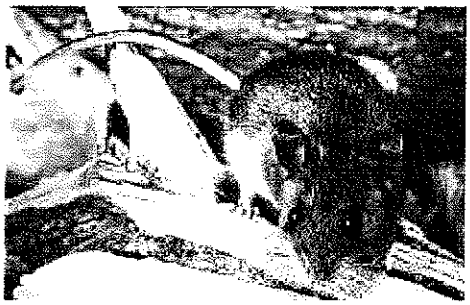
The brown or violin spider is brownish to tan in color, rather flat, about 5/8-inch long with a dark brown "violin" shape on the top. Of the brown spider, there are three varieties found in the United States, which present a problem to site personnel. These are the brown recluse, the desert violin and the Arizona violin. These spiders may be found in a variety of locations including trees, rocks or in dark locations. Victims of a brown or violin spider bite may exhibit the following signs or symptoms:

- Blistering at the site of the bite, followed by a local burning at the site 30 to 60 minutes after the bite.
- Formation of a large, red, swollen, postulating lesion with a bull's-eye appearance.
- Systemic affects may include a generalized rash, joint pain, chills, fever, nausea and vomiting.
- Pain may become severe after 8 hours, with the onset of tissue necrosis.

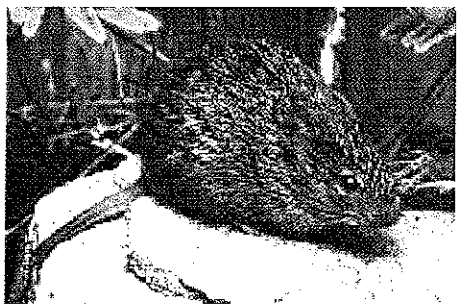
There is no effective first aid treatment for either of these bites. Except for very young, very old or weak victims, these spider bites are not considered to be life threatening; however, medical treatment must be sought to reduce the extent of damage caused by the injected toxins.
If either of these spiders are suspected or known to be on site, the UXOSO will brief site personnel as to the identification and avoidance of the spiders. As with stinging insects, site personnel shall report to the UXOSO if they locate either of these spiders on site or notice any type of bite while involved in site activities.

6.15.6.6 Hantavirus Pulmonary Syndrome (HPS)

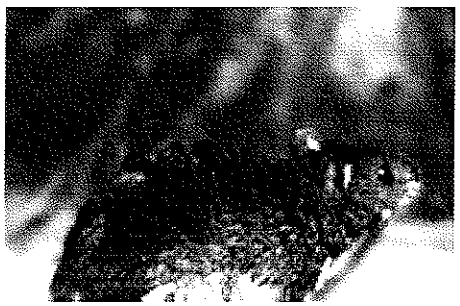
6.15.6.6.1 Basic Transmission Cycle – some rodents are infected with a type of Hantavirus that causes HPS In the United States, deer mice (plus cotton rats and rice rats in the southeastern states and the white-footed mouse in the Northeast) are the rodents carrying hantaviruses that cause hantavirus pulmonary syndrome. Common house mice do not carry Hantavirus.


deer mouse

The deer mouse has big eyes and big ears. Its head and body are normally about 2-3 inches long and the tail adds another 2-3 inches in length. It may be in a variety of colors, from gray to reddish brown, depending on its age. The underbelly is always white and the tail has sharply defined white sides. The deer mouse is found almost everywhere in North America. Usually, the deer mouse likes woodlands, but also turns up in desert areas.


cotton rat

The cotton rat is found in the southeastern United States (and way down into Central and South America) and has a bigger body than the deer mouse – head and body about 5-7 inches, and another 3-4 inches for the tail. The hair is longer and coarser, of a grayish brown color, even grayish black. The cotton rat prefers overgrown areas with shrubs and tall grasses.



rice rat

The rice rat is slightly smaller than the cotton rat, having a head and body 5-6 inches long, plus a very long, 4-7 inch tail. Rice rats sport short, soft, grayish brown fur on top, and gray or tawny underbellies. Their feet are whitish. As you might expect from the name, this rat likes marshy areas and is semiaquatic. It is found in the Southeastern United States and into Central America

white-footed mouse

The white-footed mouse is hard to distinguish from the deer mouse. The head and body together are about four inches long. You should note that its tail is normally shorter than its body (about 2-4 inches long). Topside, its fur ranges from pale brown to reddish brown, while its underside and feet are white. The white-footed mouse is found through southern New England, the Mid-Atlantic and Southern states, the Midwest and into the western states and Mexico. It prefers wooded and brushy areas, although sometimes it will live in more open ground.

These rodents shed the virus in their urine, droppings and saliva. The virus is mainly transmitted to people when they breathe in air contaminated with the virus. This happens when fresh rodent urine, droppings or nesting materials are stirred up. When tiny droplets containing the virus get into the air, this process is known as aerosolization.
There are several other ways rodents may spread Hantavirus to people:

- If a rodent with the virus bites them, the virus may be spread this way – but this is very rare.
- Researchers believe that you may be able to get the virus if you touched something that had been contaminated with rodent urine, droppings, or saliva, and then touched your nose or mouth.
- Researchers also suspect that if virus-infected rodent urine, droppings or saliva contaminates food that you eat, you could also become sick.

6.15.6.6.2 Symptoms of HPS

Early symptoms include fatigue, fever, and muscle aches, especially the large muscle groups – thighs, hips, back, sometimes shoulders. These symptoms are universal. There may also be headaches, dizziness, chills and/or abdominal problems, such as nausea, vomiting, diarrhea and abdominal pain. About half of all HPS patients experience these symptoms.

How long could it be between the time you get the virus, and the time you start showing these symptoms? Because there have been so few cases of HPS, it is not quite clear what this "incubation time" is. However, it appears right now that it may be between one to five weeks after you are exposed to potentially infected rodents and the rodent's droppings before you will show any symptoms.

Late symptoms – 4-10 days later – symptoms include coughing and shortness of breath, with the sensation of, as one survivor put it, a "tight band around my chest and a pillow over my face" as lungs fill with fluid.

MINIMIZE RISK - do not disturb rodents, burrows, or dens.

6.15.6.6.3 Preventive Measures

If there are signs of a rodent nest or rodent droppings, make it known to the UXOSO. To clean and disinfect the area, spray a disinfectant on the area and leave a waiting time of 20 minutes Then clean it up using rubber or plastic gloves, coveralls, rubber boots or disposable shoe covers, protective goggles, and a half-face mask air-purifying respirator with a high-efficiency particulate air (HEPA) filter. Bag the cleaning materials and dispose of it. Then, re-clean the area with disinfectant.

6.15.7 UXO/OE

UXO/OE may be present and located during site activities. UXO qualified personnel will follow the requirements of the SCI UXO/OE Services Safety Program, and the Basic Safety Concepts and Considerations for Ordnance and Explosives Operations, which outline the safety and health precautions to be taken if UXO/OE are encountered and/or destroyed. All non-UXO qualified personnel will follow the safe work practices listed below:

- Non-UXO qualified personnel will receive site specific UXO recognition training prior to participation in site activities.
- No soil penetrating activities will be allowed without the area first being cleared by UXO qualified personnel.
- Non-UXO qualified personnel will be escorted on site by UXO qualified personnel, until such time as the area is cleared.
- Once an area has been cleared and flagged, non-UXO qualified personnel may perform duties in the area unescorted, but shall not leave the cleared area unescorted.
- Non-UXO qualified personnel will not touch or disturb any object which could potentially be UXO/OE related, and will immediately notify the nearest UXO qualified person of the presence of the object.

- In order to protect the public travelling on CSH 52 or the landfill road, the MOFB will be used for anomaly investigation within the 1701 foot fragmentation distance, which will direct fragments away from the road thereby reducing the separation distance to 200 feet. When investigating anomalies less than 200 feet from CSH 52 or the landfill road, the road will be closed until the investigation is complete.
- In order to protect the public travelling on CSH 52 or the land fill road, during disposal operations that occur within 1701 feet of the roads, a sandbag barricade will be used. The sandbag barricade will be 24-inches thick, 360° around the UXO, with a 6-inch standoff between the munition and the sandbags. This sandbag barricade will reduce the required separation distance to 200 feet. If the disposal operation takes place within 200 feet of CSH 52 or the landfill road, the sandbag barricade will be used, but the traffic will also be stopped until the disposal operation is concluded.
- A water mitigation procedure for disposal operations may be used in areas of the site, depending upon terrain and vegetation. This will also reduce the separation requirement to 200 feet.

6.16.0 LOGS, REPORTS AND RECORD KEEPING

6.16.1 Training Logs

Each person on the site will have an individual file folder, which contains a copy of the following:

- 40 hr HAZWOPER Certificate.
- Current 8 hr HAZWOPER Annual Refresher Certificate.
- 8 hr HAZWOPER Supervisor Certificate, if applicable.
- Any other applicable training certificates.

Personnel folders will be maintained by the Senior UXO Supervisor on-site. Training certifications will also be submitted as an appendix to the SSHP for site personnel per ER-385-1-92).

Training/Tailgate Safety Record will be completed for all on-site training. The UXOSO will maintain the file, which will be made available for the client as requested. This form may be completed in ink, but it is preferred that it be completed with a computer in Word.

6.16.2 Daily Safety Inspection Logs

The UXOSO will perform daily inspections on a scheduled and non-scheduled basis, of all site operations. The UXOSO will conduct non-scheduled safety and health inspections as deemed appropriate based upon the ongoing site activities. Scheduled safety and health inspections will be conducted as outlined below. All inspections will be documented. When discrepancies are observed, follow-up will be documented in the UXOSO log until the corrective actions required have been completed

AREA	REFERENCE	FREQUENCY
Sanitation	EM 385-1-1, Section 2	Daily
Medical and First Aid	EM 385-1-1, Section 3	Daily
Temporary Facilities	EM 385-1-1, Section 4	Weekly
Personal Protective and Safety Equipment	EM 385-1-1, Section 5	Daily
Hazardous Substances, Agents, and Environments	EM 385-1-1, Section 6	Weekly
Lighting	EM 385-1-1, Section 7	Monthly
Accident Prevention Signs, Tags, Labels, and Signals and Piping System Identification	EM 385-1-1, Section 8	Monthly
Fire Prevention and Protection	EM 385-1-1, Section 9	Weekly
Hand and Power Tools	EM 385-1-1, Section 13	Daily, if applicable
Material Handling, Storage and Disposal	EM 385-1-1, Section 14	Weekly
Machinery and Mechanized Equipment	EM 385-1-1, Section 16	Daily, if applicable
Motor Vehicles and Aircraft	EM 385-1-1, Section 18	Daily
Safe Access and Fall Protection	EM 385-1-1, Section 21	Weekly, if applicable
HTRW	EM 385-1-1, Section 28	Daily, if applicable
UXO Disposal Operations	WP/SSHP	Daily, if applicable
Transportation of UXO/Donor Materials	WP/SSHP	Daily, if applicable
Storage of UXO/Donor Materials	WP/SSHP	Daily, if applicable

6.16.3 Visitor Log

The Visitor's Log will be maintained by the UXOSO in the office area. The log will document the visitor's name, company name, date, time, and reason for visit. There will also be documentation that the visitor was given a visitor safety briefing prior to being permitted to enter the EZ of the site.

6.16.4 Medical Surveillance Records and Certifications

A copy of the Physician Statement from a licensed physician who is certified in Occupational Medicine by the American Board of Preventive Medicine, regarding the current annual HAZWOPER physical examination will be maintained in the personnel folder with the other HAZWOPER certificates.

6.16.5 Site Monitoring Results

All site-monitoring results will be documented. This will be kept in a file at the project site for reference, and will become a part of the permanent site record at the conclusion of site activities. At this site, heat exposure monitoring is the only monitoring anticipated to occur, and that is dependent upon the site temperature.

6.16.6 Accident Reporting Records

Should an accident occur on the site, all reports and records will be documented. Copies will be maintained on site for the duration of site activities. A permanent copy will be maintained in the Huntsville SCI UXO/OE Services Office

6.17.0 RADIOLOGICAL AND CHEMICAL WARFARE MATERIAL (CWM)

This section is not required as radiological and chemical warfare material is not expected to be encountered on this site. Should CWM be located, the area will be evacuated and secured. The TEU would be contacted to respond to the situation. Should radiological material be located, the area will be secured and the Corps of Engineers Project Manager would be contacted for further instructions.

CHAPTER 7
LOCATION SURVEYS AND MAPPING PLAN

7.1 General. This plan outlines the accuracy requirements, specifications and methodology to be used to:

- Establish boundaries of, and grids within Sectors 1,2 and 3;
- Record the individual location of recovered UXO within each grid; and
- Produce project maps and digital data in support of the East Elliott UXO Removal Project, San Diego, CA

Real Time Kinematic (RTK) and Differential Global Positioning System (DGPS) equipment and technologies will be used to establish project boundaries and grid corner locations for this project.

7.2 UXO Safety. Project boundary and grid corner establishment will be performed by qualified UXO Technician IIs, or non-UXO qualified RTK/DGPS operators accompanied by a UXO Technician II. The UXO Technician will perform a visual survey for surface ordnance prior to collecting DGPS data. Prior to driving stakes/hubs, a magnetometer will be used to ensure the selected point is free of subsurface anomalies. If an anomaly is detected at the planned intrusive site, an adjacent anomaly-free site will be selected.

7.3 Control Points. Plastic or wooden hubs will be used for all basic control points. Placement and use of concrete monuments will not be required for this project. RTK GPS will be used to set control points and map project boundaries. A tabulated list of all control points will be provided showing the adjusted coordinates established and/or used for this survey in the Final Report.

DGPS operators will utilize control points as reference points to ensure accuracy and repeatability of the DGPS. Prior to daily use of the DGPS, it will be checked at an established reference point to ensure readings are consistent with previous data Daily checks will be recorded in a daily DGPS log.

7.4 Grid Corners. Corners of each grid will be located by establishing the appropriate state plane grid system to an accuracy level of +/- 50cm and will be both tabulated and shown on maps of the site. Corners of the designated grids will be marked with highly visible stakes annotated with numbers referenced to the grid scheme. A tabulated list of all grid corners will be provided in the Final Report

7.5 Item Locations Within a Grid. Individual locations of recovered UXO will be measured with a tape ~~or the "x" & and "y" distance estimated~~ to obtain a horizontal accuracy of plus or minus one foot from the established grid corners. The southwest and southeast corners will always be used for measurements. If subsurface UXO are encountered, their depth below ground surface will also be measured and annotated. The location of ordnance scrap, ordnance fragments, shrapnel, small arms ammunition and metallic debris will be recorded on a "per-grid" basis and not located by coordinates. The use of Total Station, GPS or other precision survey

methods to locate individual UXO, UXO scrap, or geophysical anomalies within a grid is not required for this project. Recovered UXO will be mapped and ordnance scrap/small arms information tabulated and included in the Final Report.

7.6 Accuracy. Horizontal control of "Class I, Third Order" or better will be established for definition of the project boundaries. Horizontal control will be based on survey feet and referenced to the North American Datum of 1983 (NAD83) and the State Plane Coordinate Grid System. Vertical control is not required for this project. Horizontal control of grid corners will be to an accuracy level of +/- 50cm, due to the use of DGPS and occasional shift to avoid subsurface anomalies.

7.7 Description Cards. A "Report of Establishment of Survey Mark" (Description Card) on each control point established and/or used for surveying. The Description Cards will be 5 by 8 inches, describing one monument per card or an 8 ½ by 11-inch sheet of bond paper used for describing two monuments. In addition to the name or ID number of the control points, the cards will show the adjusted coordinates, a written description for locating the control points, and a sketch showing how to locate the control points. Installation of concrete monuments will not be required for this project; existing monuments will be described and referenced on the survey drawing.

7.8 Mapping. All final mapping will be created by Computer Aided Design and Drafting (CADD) and provided to the Government in MicroStation 95 two-dimensional digital design files on PC CD-ROM. Map characteristics will be in accordance Tri-Service Spatial Data Standards (TSSDS) and compiled in the design files. Site maps plotted from these design files will be drawn at a scale no smaller than 1 inch = 400 feet (1:2400), referenced to the North American Datum of 1983 (NAD83) and provided on reproducible standard metric A-1 size drawings. The location, identification, and coordinates of all the control points, and boundary corners will be plotted on the reproducible maps. Each control point will be identified on the map by its name or number and the final adjusted to the closest 0.01 ft.

Each sheet will include a standard border, revision block, title block, complete index sheet layout, bar scale, grid north, a true north, and magnetic north arrow with the differences between them shown in minutes and sections. Grid lines or tick marks in feet and at systematic intervals will be shown with their grid values on the edges of the map. A legend showing the standard National Geodetic Standard (NGS) symbols used for the mapping, a map index showing the site in relationship to all other sites within the boundary lines of the project area will be included on each sheet.

Drawing and plot data will be provided as coincident files in State Grid Plane Coordinates in MicroStation 95 CADD to run on typical properly configured Windows 95 and NT 4.0 PCs. The individual CADD files will be referenced to a master file that allows simultaneous viewing of all historical layers and figures.

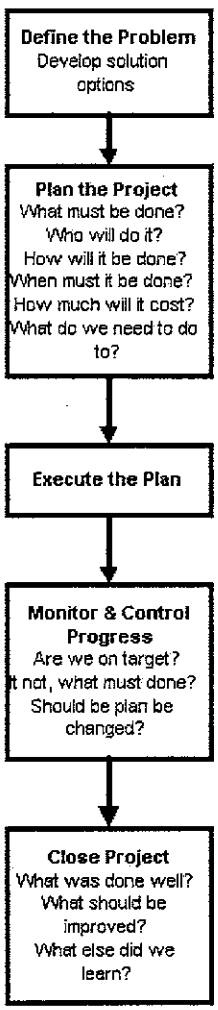
CHAPTER 8
WORK, DATA, AND COST MANAGEMENT PLAN
DID OE-005-08, 000303

8.1 METHOD OF MANAGING AND ACCOMPLISHING WORK

In accordance with the California Labor Code (510-511), SCI will propose an alternative workweek schedule of four 10-hour days as opposed to five 8-hour days. Upon mobilization, the SCI team members will be provided a secret ballot and given the opportunity to adopt the alternative work schedule, which requires a two-thirds vote. If approved, the workweek will be Monday through Thursday, 10 hours a day. If not approved, the workweek will be Monday through Friday, 8 hours a day.

8.1.1 PROJECT MANAGEMENT APPROACH

"A project is a problem scheduled for solution."
J.M. Juran



8.2 PROJECT SCHEDULE – See Appendix G

The schedule is based on each team clearing an average of 1 grid per day equating to approximately 115 calendar days and approximately 60 workdays.

The daily production (cleared grids) will be annotated on the Daily Activities Report and calculated to maintain an up-to-date percent completed.

8.2.1 WORK HOURS (California Labor Code Section 5511)

Rather than work 5 days of 8 hours each, SCI will propose to the site team a regularly scheduled alternative workweek that authorizes work by the affected personnel for no longer than 10 hours per day within a 40-workweek without the payment to the affected personnel of an overtime rate of compensation. This will result in a work schedule of 4 days of 10 hours each.

This proposal shall be deemed adopted only if it receives approval in a secret ballot election by at least two-thirds of affected personnel.

8.3 COST CONTROL AND TRACKING METHODOLOGY

Cost accounting systems fulfill two (2) major purposes by their day-to-day operations: (1) they *allocate* costs for planning and control, and (2) they *apply* costs to units. There are two (2) general types of cost accounting systems, the *job order cost accounting system* (JOCAS) and the *process cost accounting system (PCAS)*. SCI'S Deltek® System 1 computer accounting system is inherently designed to perform both functional types of accounting in an integrated and seamless manner. The combination of automation and integration of SCI's accounting system allows for a one-time data entry process thereby providing efficient and cost effective cost accounting management.

For this type of contract, SCI administers and monitors program costs on a job order cost basis since this type of accounting is most appropriate where strong requirements exist for the timely monitoring of incurred costs. SCI's JOCAS fully supports the basic requirements of being able to accumulate direct incurred costs at the lowest programmatic reporting activity level specified in the contract coupled with the ability to allocate indirect costs to these levels. The cost accumulation process under SCI's JOCAS provides for the monitoring and accumulation of direct and indirect costs from the service organization and the conversion of these costs into final cost objectives.

At a minimum, SCI's JOCAS will accurately accumulate the direct costs of regular and overtime labor, materials and equipment, and other direct costs. On a monthly or sub-period basis, the system will allocate and apply indirect cost burdens such as labor fringe and tax burden, overhead, material and equipment handling, and general and administrative expenses.

Additionally, SCI's JOCAS has the capability to accumulate allocated indirect cost burdens utilizing various scenarios (i.e. actual, provisional, and target) simultaneously at all reporting

levels while monitoring the variances between each. Actual indirect costs and rates are posted on a monthly, year-to- date basis against target costs and rates for budgetary purposes, and provisional rates for billing purposes.

The significant benefits that SCI's computerized job cost accounting system will provide are:

- Every work element will bear its proper share of costs.
- Valuable and timely information is provided to management to aid decisions for planning and control.
- An accurate basis for future pricing decisions is established.

8.3.1 INVOICING

An invoice shall be submitted to the Government on a bi-weekly interval. The invoice will identify the number of grids accepted by the Government as of the date of the invoice

8.4 RECURRING DELIVERABLES

8.4.1 Daily Activities Report (DAR). SCI will utilize the DAR to account for all site activities. See Appendix D. The form has been modified to include requirements in DID SPL-OE-001, Daily QC and Safety Inspection Report. The completed DAR shall be delivered not later than 10:00 a.m., local time, the next working day. Distribution as follows:

- CESPL on-site Safety Specialist, either by hand, if he is onsite, or via email
- SCI Project Manager

8.4.2 Monthly Status Report (DID OT-080, 990205)

A Monthly Status Report, which consists of the OE Monthly Progress Summary and the Exposure Data Report, will be submitted to the Contracting Officer not later than the 10th of each month. The report will contain the content and follow the format as outlined in DID OT-080

8.5 Signature Authority

SIGNATURE AUTHORITY AND REVIEW					
SIGNATURES				QC	
Document	**Individual**	**Supervisor**	**Approval**	**QC Spec.**	**Gen. Mgr.**
Time Sheet	✖	SUXOS	PM		✖
Expense Report	✖	SUXOS Initials	PM		✖
Advanced Per Diem & Lodging	✖	SUXOS Initials	PM		✖
Petty Cash		SUXOS maintains and signs	PM	✖	✖
Purchase Orders	SUXOS	PM	Program Mgr.		
DAR			SUXOS		
Monthly Status Report			PM		

8.5.1 Time Sheets: The SUXOS signs all time sheets as the Supervisor except his own. The PM will sign as the supervisor of the SUXOS. The time sheets are due at SCI-Huntsville NLT noon (CST) of the Monday following the time sheet's work week, even if the Monday is a holiday. The time sheets may be either emailed or faxed to SCI-Huntsville. The signed, original time sheets will be sent to SCI-Huntsville with the next 2-day FEDEX. A copy of the signed time sheet will be provided to the individual and a copy will be placed in the individual's on-site file.

8.5.2 Expense Reports: The SUXOS will initial all expense reports, except his own, adjacent to the approved by block. All expense reports will be approved by the PM. This bi-weekly report is due at SCI-Huntsville with supporting receipts, NLT noon (CST) of the Monday following the report's 2-week period. The expense reports may be emailed or faxed to SCI-Huntsville, but receipts must be faxed for supporting documentation. The signed, original expense report, with supporting documentation, will be sent to SCI-Huntsville with the next 2-day FEDEX. A copy of the expense report will be provided to the individual and a copy will be placed in individual's on-site file. A copy of the expense report will be included with the individual's check.

8.5.3 Advanced Per Diem and Lodging Requests: The SUXOS will initial all requests adjacent to the approving authority line. The PM will approve all requests. This bi-weekly form is due at SCI-Huntsville NLT COB Thursday to assure that sufficient time is allowed to get checks back to the job site NLT the following Thursday. A copy of the Request will be provided to the individual and a copy will be placed in the SCI's individual on-site file. SCI-Huntsville will FEDEX the checks out on Tuesday to assure arrival NLT Thursday. A copy of the request will accompany the check.

8.5.4 Petty Cash: The Petty Cash form and account will be maintained and signed by the SUXOS. It will be tallied and submitted bi-weekly, with appropriate receipts, to arrive at SCI-Huntsville NLT COB Monday of the week following the tallied period.

8.5.5 Purchase Orders: If the need arises for a purchase order to be originated on-site, the SUXOS will initiate the form and email it to the SCI-Huntsville office with supporting justification. The PM will review and sign the form or approve if less than $2,500.00. The Program Manager is the approving authority for Purchase Orders if over $2,500.00.

8.6 PAYMENT OF PERSONNEL (California Labor Code)

Team members on this project will not be hired for a definite period.

Section 201 – "If an employer discharges an employee, the wages earned and unpaid at the time of discharge are due and payable immediately. "

Section 208 – "Every employee who is discharged shall be paid at the place of discharge and every employee who quits shall be paid at the office or agency of the employer in the county where the employee has been performing labor "

Section 202 - "If an employee not having a written contract for a definite period quits his or her employment, his or her wages shall become due and payable not later than 72 hours thereafter, unless the employee has given 72 hours previous notice of his or her intention to quit, in which case the employee is entitled to his or her wages at the time of quitting. Notwithstanding any other provision of law, an employee who quits without providing a 72-hour notice shall be entitled to payment by mail if he or she so requests and designates a mailing address. The date of the mailing shall constitute the date of payment for purposes of the requirement to provide payment within 72 hours of the notice of quitting."

Section 207 – "Every employee shall keep posted conspicuously at the place of work, if practicable, or otherwise where it can be seen as employees come or go to their places of work, or at the office or nearest agency for payment kept by the employee, a notice specifying the regular pay days and the time and place of payment."

CHAPTER 9
EQUIPMENT MANAGEMENT PLAN
DID OE-005-09, 003030

9.1 DESCRIPTION OF EQUIPMENT

9.1.1 FIELD EQUIPMENT

9.1.1.1 TYPES AND NUMBERS

- Vehicles
  - Two each Truck, F350, 4WD, 4 Door (Team Truck)
  - One each Truck, Ranger, 4WD (Demo & UXO Safety Officer Truck)
  - Two each SUV, 4WD (SUXOS and QC Specialist)
- Geophysical Equipment
  - 17 each Schonstedt, GA-52Cx/72cd Magnetic Locators (4 spare) (GFP)
- Soil Sampling Equipment – see below
- Explosives and Disposal Equipment and Supplies (See Chapter 3 for Explosives)
  - Demolition Kit
- Radios
  - Baystation with 6 handheld radios (GFP)
- Weedeater with PPE (GFP)

(not inclusive)

ITEM	SOURCE*	LOCATION
Mask, Dust	LS 1A51137	1 Box in Each Team Truck
Kevlar Sleeves	LS 1A14152	1 Pair in Each Team Truck
Snake Chaps	FC 23077	6 pair in Each Team Truck
Gloves, Firefighting	FC 91058	6 pair in Each Team Truck
Kit, Eye Care	LS 1A41057	2 in Each Team Truck
BioSafety Kit	LS 1A48309	1 in Each Team Truck
BioSafety Refill Kit	LS 1A48310	Site Supply Room
Microshield	LS 1A18241	1 in Each Team Truck
First Aid Kit	LS 1A55427	1 in Each Team Truck and 1 in Admin Area
First Aid Kit	LS 1A55519	1 in Each Vehicle
Burn Kit	LS 1A75441	1 in Each Team Truck
Fire Extinguisher	LS 1A5467	2 in each Vehicle
Sign, DANGER EXPLOSIVES	LS 1A41878	2 in Each Team Vehicle
Tape, DANGER	LS 1A7521	2 rolls in each Team Truck
Barricade, Folding	LS 1A4825	1 in Each Team Truck
Sign Brackets for Barricade	LS 1A48427	1 with Barricade
Marking Tape	LS 1A28801	4 rolls in each Team Truck
Vehicle Spill Kit	LS 1A31080	1 in each Team Truck
Aerial Belt	FC 27224	Site Supply Area
Rope	FC 83361	Site Supply Area
Temperature/Humidity Thermometer	LS 1A37333	1 in Each Team Truck and 1 in UXO Safety Officer Vehicle

Water Cooler, 10 gallon	LS 1A30755	1 in Each Team Truck
Water Cooler, 3 gallon	LS 1A30753	1 in All vehicles
Hi-Way Warning Triangle Kit	LS 1A26649	1 in Ranger
Placard Magnetic Sign	LS 26504	4 in Ranger
Placard Marking Kit	LS 1A29357	1 in Ranger
Demo Kit		1 in Ranger
Fire Fighting Broom	FC 85217	5 in Each Team Truck and 1 in other Vehicles
Backpack Firefighting Pump	FC 85700	3 in Each Team Truck
Pump Harness	FC 85016	3 in Each Team Truck
Firefighting Shovel	FC 85100	5 in Each Team Truck and 1 in other Vehicles
Tool Kit	LC 1A52244	1 in Admin Area
Socket Set	LC 1A52231	1 in Admin Area
Measuring Tape	LS 1A53400	1 in Each Team Truck
Measuring Tape	LS 1A36013	1 in Each Team Truck
Hammer	LS 1A36601	1 in Each Team Truck
Jumper Cables	LS 1A44346	1 in Each Vehicle
Paint Spray Can	LS 1A43240	1 in Team Vehicle
Plastic Buckets	LS 1A25994	5 in Each Team Truck
Stake Wire Flag Probe	FC 33773	1 in Each Team Truck
Stake Flag Wire Carrier	FC 33771	1 in Each Team Truck
Vinyl Flags	FC 33758	3 Bundles in Each Team Truck
Soil Sampling Jars	LS 1A16153	Site Supply Area
Soil Sampling Scoop	LS 1A35115	Site Supply Area
Soil Sampling Spatula	LS 1A77003	Site Supply Area
Soil Sampling Field Book	LS 1A32300	Site Supply Area

*LS – LabSafety; FC-Forestry Catalogue

9.1.2 OFFICE EQUIPMENT (not inclusive)

Office Trailer, 60x12
Filing Cabinet
4 Desks with Chairs
6 Metal Sheet Holders
2 Personal Computers
1 Printer
1 Facsimile Machine
7 Folding Tables with chairs
OSHA/LABOR Posters
Bulletin Board
3 Phone lines
Bottled Water Service

9.2 PREVENTIVE MAINTENANCE PROGRAM

9.2.1 PREVENTIVE MAINTENANCE (FAR 45.509). SCI and its team members will be responsible for the proper care, maintenance, and use of all project property, regardless of ownership. Preventive maintenance is maintenance performed on a regularly scheduled basis to prevent the occurrence of defects and to detect and correct minor defects before they result in serious consequences. It is the equipment operator's responsibility to perform preventive maintenance on the assigned equipment and the Team Leader's responsibility to assure this is accomplished.

- Specific procedures for checks of magnetometers and other geophysical equipment include the following before, during and after maintenance checks:

✓ Before operation checks shall include the location of an inert ferrous object having approximately the magnetic signature of a 75mm. The object shall be buried at 3 feet. The team leader will verify that all of his team's instruments passed the check.

✓ During operation, checks shall include frequent battery checks.

✓ After operation checks shall include a re-check in accordance with the before operation check above, the removal of the batteries, and cleaning of equipment.

- Specific procedures for before, during and after checks of cellular phones and radios include the following:

✓ Before operation communication checks shall be conducted to insure the equipment is operating correctly.

✓ During operation, communication checks at established intervals, shall be conducted to assure the equipment is operating properly.

✓ After operation maintenance shall include cleaning of equipment and turning off before inserting into the battery charger.

- Specific procedures for before, during and after checks of vehicles include the following:

✓ Before, During, and After operation maintenance checks will adhere to the operator's manual

9.2.2 CALIBRATION Calibration will be completed on all field equipment by using the manufacturer's calibration procedures. If equipment field checks indicate that any piece of equipment is not operating correctly and field repair cannot be made, the equipment will be tagged and removed from service. The Senior UXO Supervisor will be notified and a request for replacement equipment will be expedited. Replacement equipment will meet the same specifications for accuracy and sensitivity as the equipment removed from service.

9.2.3 RECEIVING INSPECTIONS. When Contractor Acquired Property (CAP), under a cost-plus type contract, or Government Furnished Property (GFP) is received, it will be examined to detect discrepancies incident to shipment (FAR 45.501). Receiving inspections will include a function test, if applicable.

- GFP – if overages, shortages, or damages are discovered upon receipt, a statement of condition and apparent causes will be provided to the Contracting Officer (FAR 45.502.2)
- CAP – if overages, shortages, or damages are discovered upon receipt, SCI will take all necessary actions to correct the situation from a vendor or supplier. However, if the

shipment was moved by Government bill of lading and carrier liability is indicated, the discrepancy will be reported to the Contracting Officer.

9.2.4 PROPERTY CONTROL. SCI is directly responsible and accountable for all GFP as specified in the contract. This responsibility includes the control, protection, preservation, and maintenance of all GFP, including that in the hands of subcontractors.

9.2.4.1 RECORDS.

9.2.4.1.1 GFE/CAP Database – a database will be maintained which lists the following (FAR 45.505.1):

Contract Number:							
Nomenclature	Quantity	Serial Number	Unit Price	Date Received	Location	Date of Last Inventory	Disposition

- Records of Pricing Information (FAR 45.505.2). For GFP, the Government shall determine and furnish the unit price to SCI If the price is not provided, the Contracting Officer will be contacted.
- A file will be maintained with receipts, GBL, etc., which cross-references to the information within the above database.

9.2.4.1.2 Expendable Supplies Database – an Excel database will be maintained which lists the following:

Contract Number:			
Item	P.O. #, if applicable	Task	Cost

- A copy of all supporting documentation will be maintained the in the Expendable Supplies File.

9.2.4.2 PHYSICAL INVENTORIES (FAR 45.508) SCI and its subcontractors will conduct physical inventories as specified below:

- Upon receipt of property;
- Frequency

Contract Length	Frequency
Less than 6 months	Approximately middle of contract
More than 6 months, less than 1 year	Twice during life of contract
More than 1 year	Once every 6 months

- Completion of contract.

9.2.4.2.1 Someone designated by the Project Manager will conduct inventories. This individual will be someone other than the individual responsible for maintaining the property records and not have custody of any property. The QC Specialist will not be designated to conduct inventories. The results of the inventories will indicate:

✓ a listing of all discrepancies

✓ a signed statement that the physical inventory was completed on a certain date and that the official property records were found to be in agreement except for discrepancies reported.

9.2.4.2.2 A file will be maintained with the results of the inventories

9.3 STORAGE PLAN (FAR 45.507). All property, irregardless of ownership, will be stored in a consolidated location. GFE and CAP may be commingled. The location will be secure and dry

9.4 DISPOSAL PLAN. SCI will request disposition instructions from the Contracting Officer for GFE.

CHAPTER 10
SAMPLING AND ANALYSIS PLAN
(SOIL SAMPLING PLAN)
EM 200-1-3 (OE-005-10)

10.1 REQUIREMENT:

To take soil samples pre- and post-detonations. Number and location(s) are undetermined.

10.2 SURFACE SOIL:

- Locations: The purpose of the sampling is to determine what, if any, chemical constituents are present in the ground, after a planned detonation. A non-statistical, biased-sampling strategy will be used. The locations of the samples will be determined by the location of the encountered unexploded ordnance (UXO). The samples in relation to the location of the encountered UXO will be taken as described below:

  ¬ Pre-detonation – one sample will be taken at a location adjacent to the UXO. Adjacent is defined as not closer than 2 inches nor farther away than 6 inches from the UXO.
  ¬ Post-detonation – one sample will be taken from the bottom-center of the detonation crater and on the edge of the detonation crater at the 3 o'clock and 9 o'clock positions, with North being 12 o'clock. If possible, one (1) edge soil sample location will be moved to the upper soil crust fallout area. According to USACE experience, the possibility of finding the upper crust soil is virtually impossible.

10.2.1 Procedures

- Sampling methods for surface soil.

A manual technique consisting of a scoop will be used for sampling. The following tools will be utilized:

¬ Scienceware Spatula, which is V-shaped and pointed on one end. The ground may be too hard for a standard scoop. Ref: LabSafety #1A77003.
¬ Polyethylene Scoop, 6 ounce – part of a Soil Sampling Kit. Ref: LabSafety #1A35115. If the ground surface allows, this scoop will be utilized collect the sample.

A composite sample, consisting of two (in the case of pre-detonation) or three (in the case of post-detonation) grab samples will be gathered.

The soil will be placed in an 8-ounce short wide-mouth jar. These Class 3000 jars are quality-assurance analyzed by an independent lab. The case will be marked with a lot number to make

tracing easier. The jars have a virgin Teflon-lined, closed-top cap and are precleaned to EPA Protocol A. Ref: LabSafety #1A16152.

The sample container will be completely filled to prevent volatilization. There should be no headspace left in the sample jar after filling. The sample jar will be closed as soon as possible after filling.

- Type of Ordnance: Three sets of samples will be taken for each type of ordnance, i.e., 37mm, 75mm, etc. The three samples will be sent to the laboratory. If directed by the client, additional samples will be taken if analyses indicate further sampling is required.

10.2.2 Sampling for Chemical Analysis. The following methods will be utilized:

SW-846 Method 8330 Nitroaromatics and Nitramines by High Performance Liquid Chromatography. This method is intended for the trace analysis of explosive residues.

SW-846 Method 6010 Inductively Coupled Plasma-Atomic Emission Spectrometry. This method will be utilized to determine if metals are in the soil samples. California Title 22 Metals (17) will be applied.

10.2.3 Sample containers and preservation techniques

¬ Class 3000 8-ounce wide-mouth jars
¬ Preservation Technique

Nitroaromatics & Nitramines			
Preservation – Solid←	Holding Time – Solid↑	Containers – Solid→	
Cool 4°C	14 days – 40 days	8 ounce cwm	

←High Concentration samples require cooling to only 4°C
↑14 days until extraction/analyzed ~~with~~ within 40 days of extraction
→CWM – clear wide mouth glass jars

Metals			
Preservation – Solid	Holding Time - Solid	Containers – Solid	
Cool 4°C	6 months	8 ounce cwm	

10.2.4 Decontamination Procedures

¬ Wash with detergent water to remove all particles.
¬ Rinse with water

¬ Rinse with 1:1 nitric acid (do not soak)
¬ Rinse with water
¬ Rinse with 1:1 hydrochloric acid (do not soak)
¬ Rinse with water

10.2.5 Chain of Custody/Documentation

10.2.5.1 Field Logbook – A soil sampling field logbook will be maintained. All pertinent information regarding the site and sampling procedures must be documented in indelible ink. Notations will be made in logbook fashion, noting the time and date of all entries. Information recorded in the logbook shall include, but not be limited to, the following:

¬ Name and exact location of site of sample.
¬ Date and time of arrival and departure.
¬ Name of person keeping log.
¬ Names of all persons on site involved in the sampling.
¬ ID of UXO to include HE filler.
¬ Location of sampling points – a sketch will be drawn, showing the sample location sites.
¬ Photograph information –see below.
¬ Sample identification number, volume, sampling method and containers (size/type) for each sample collected.
¬ Date and time of sample and any factors that may affect their quality.
¬ Name of collector.
¬ All sample identification numbers and a description of samples.
¬ Weather conditions on the day of sampling, and any additional pertinent field observations.
¬ Description of the number of shipping coolers packaged and the shipping method employed (note applicable tracking numbers).
¬ Name and address of receiving laboratory.

10.2.5.2 Photographs

¬ All sampling points shall be photographed.
¬ All sampling photographs shall contain an identification feature, which relates the photograph to the sample.
¬ Photographs will be taken of all sample (jar) labels.
¬ Photograph info shall be entered in the field logbook: Date, Time, photographer, and sequential number of the photograph.

10.2.5.3 Sample Labels. Sample labels are required for properly identifying samples and evidence. All samples shall be properly labeled with the label affixed to the container (Jar) prior to transportation to the laboratory. The label will contain the following:

¬ Project Code – SCI-2044
¬ Station Number – see below
¬ Sample Identification Number – see below
¬ Sampler's name – name and initials
¬ Preservative – Cool 4°C
¬ Analysis – type requested
¬ Date/Time – identify the date and time the sample was taken
¬ Type of Sample – discrete or composite

10.2.5.4 Sample Numbering System

¬ Sample number will start with SCI-2044
¬ Station Number - The grid number will be added, i.e., B5
¬ Sample ID Number – the number of the sample taken at B5.
¬ Followed by Year, Month, day, i.e, 010620
¬ Complete sample number shall read: SCI-2044-B5-1 (010620)

10.2.5.5 Sample Documentation

¬ Chain of Custody Form (SCI Form P142) (Appendix D)

10.2.5.6 Documentation Procedures

¬ Chain of Custody (COC) procedures provides documentation of the handling of each sample from the time it is collected until it is destroyed. COC procedures are implemented so that a record of sample collection, transfer of samples between personnel, sample shipping, and receipt by the laboratory that will analyze the sample is maintained. The COC serves as a legal record of possession of the sample.
¬ The COC Record is initiated with the acquisition of the sample. The COC record remains with the sample at all times and bears the name of the person assuming responsibility of the sample(s). This person is tasked with ensuring secure and appropriate handling of the jars and samples. To simplify the COC record and eliminate potential litigation problems, as few people as possible should handle the sample. A sample is considered to be under custody if one or more the following criteria are met:

* the sample is in the sampler's possession;
* the sample is in the sampler's view after being in possession;
* the sample was in the sampler's possession and then was locked up to prevent tampering;
* the sample is in a designated secure area.

¬ An adhesive COC Seal shall be placed in an area such that if a sealed container is opened, the seal will be broken. This seal assures that no sample tampering occurred between the field and the laboratory. The seal will be annotated with the date and initials of the individual that sealed the container.

¬ A COC record shall accompany all samples. When transferring possession of the samples, the individual receiving the samples shall sign, date, and note the time that the sample was received.

10.2.6 Sample Packaging and Shipping

¬ The shipping container (cooler) shall be packed with ice for shipment of the sample(s).

¬ Sample containers (jars) will be labeled.

¬ All jars/lids will be taped shut.

¬ Each sample bottle will be placed in a separate plastic bag, which is then sealed. As much air as possible is squeezed from the bag before sealing.

¬ The shipping container will be an ice chest, i.e., Rubbermaid, Coleman, etc. In preparation for shipping samples, the drain plug will be taped shut from the inside and outside, and a large plastic bag is used as a liner for the cooler. Approximately 3 inches of inert packing material, such as styrofoam beads, is placed in the bottom of the liner.

¬ The sample bottles are placed upright in the lined cooler in such a way that they do not touch and will not touch during shipment. Some type of barrier will be placed between the jars.

¬ All samples shall be shipped to the laboratory on ice.

¬ Additional inert packing material(s) will be placed in the cooler to more than halfway cover the bottles.

¬ Ice in double bags will be placed around, among, and on top of the bottles. The cooler will then be filled with inert packing material and the liner taped shut.

¬ The paperwork going to the laboratory is placed inside a plastic bag and the bag is sealed and taped to the inside of the cooler lid. A copy of the COC form shall be included in the paperwork sent to the lab. The last block of the COC form shall indicate the overnight carrier and air bill number, if applicable.

¬ Shipping containers shall be secured by using nylon strapping tape and at least two custody seals. The custody seals shall be placed on the container so that it cannot be opened without breaking the seals. One seal should be placed on the front and the other on the side.

10.3 LABORATORY

SCI will utilize the Applied Physics and Chemistry Laboratory (APCL) of Chino CA to analysis the samples. See USACE Memo following.

When SCI has samples to be analyzed, APCL will be called. This lab has numerous customers in the San Diego area and they may have a courier in the area that can transport the samples to Chino. If the lab does not have a courier in the area or expect to have one in the area within a couple of days, the samples will be expressed mailed to Chino.

CHAPTER 11
QUALITY CONTROL PLAN
DID OE-005-11, 000303
SPL-OE-001, 001221

11.1 REFERENCES.

- SCI UXO/OE Services (SCI) Quality Management Plan, March 26, 1999, Rev February 12, 2001
- Contract Scope of Work

11.2 QUALITY MANAGEMENT OBJECTIVES.

- Services will be consistent with the public good and will meet all applicable laws and regulations.
- Provide quality services, which will consistently meet or exceed the expectations of the client.

11.3 QUALITY MANAGEMENT RESPONSIBILITIES. It is SCI's responsibility to accomplish the following:

- control the quality of required services;
- tender only those services, for acceptance, that conform to contract requirements;
- ensure that vendors and/or subcontractors have an acceptable quality control system;
- maintain evidence that the services conform to the contract requirements; and
- provide and maintain a quality control inspection system that is acceptable to the client.

11.4 DEFINITIONS.

- Clearance Standard - as specified in the Statement of Work in paragraph 3 6, but repeated here as directed: Corrective Actions. If the Government, through its Quality Assurance (QA) process, encounters any UXO, OE, or hazardous OE Scrap in any grid, then that grid will not be accepted by the Government. The contractor shall perform corrective actions, as the Government deems necessary to achieve performance standard. If more than 5% of the project grids fail initial Government QA checks, the contractor will not be paid "fee" (profit) for corrective action activities on grids that subsequently fail. The terms of the basic contract pursuant to FAR 52.246-6 remain in force.
- ~~Surface Clearance: Locating and removing UXO that are visible on the surface, or partially visible. This includes items that are partially exposed, which will require only minimal hand excavation to determine identification.~~
- ~~Nonconformances:~~

~~√ a minor nonconformance is not likely to materially reduce the usability of the services. It is generally a departure from the approved procedures that have little bearing on the end product.~~

~~√ a major nonconformance is likely to result in failure of the services or to materially reduce the usability of the end product.~~

~~√ a critical nonconformance is likely to result in hazardous or unsafe conditions for individuals using or depending upon the services.~~

- Quality Conformance Inspections: Normal inspections/audits conducted by authorized SCI QC personnel during the accomplishment of the organization's mission to determine conformance to contract requirements.
- Root Cause: The basic reason for an undesirable condition or problem, which, if eliminated or corrected, would have prevented it from existing, or occurring.
- Stop-Work-Authority: The right and obligation to stop all work when serious quality or safety concerns arise.

11.5 QUALITY CONTROL PROCEDURES.

11.5.1 QUALITY CONTROL MANAGEMENT. The General Manager will provide the quality management oversight for the project. The General Manager ensures that adequate quality controls are built into the project work plan to support the project's objective(s). The General Manager maintains the overall quality management program and interacts with the project manager, QC staff, and client quality assurance personnel to correct problem situations, as necessary.

In accordance with the SCI UXO/OE Services' Quality Management Program, day-to-day field QC management is delegated to the site UXO QC Specialist who will have the contractually required minimum of years of EOD/UXO experience and will be familiar with the following:

- FAR Part 46, Quality Assurance
- FAR Clause 52.246-1, Contractor Inspection Requirements
- FAR Clause 52.246-4, Inspection of Services - Fixed-Price
- FAR Clause 52.246-5, Inspection of Services - Cost-Reimbursement
- FAR Clause 52.246-6, Inspection - Time-and-Material and Labor-Hour

In addition, the UXO QC Specialist will have completed the American Society of Quality CD-based course Quality 101.

This individual reports directly to the Project Manager, but has the authority to communicate directly with the General Manager about quality issues. He should coordinate his scheduled activities with the Project Manager, Senior UXO Supervisor and the Site Safety and Health Officer. This coordination and lateral communication is critical for the prevention of nonconformance and continual improvement. *Proactive versus Reactive!*

The QC Specialist has the authority to:

- initiate action to prevent the occurrence of nonconformances relating to the provided services;
- identify and record any problems relating to the services;
- initiate, recommend or provide solutions through the on-site management channel;
- verify the implementation of solutions; and
- control further actions of any nonconforming services, until the unsatisfactory conditions have been corrected.

During the site-specific training, personnel will be briefed by the Project Manager or the QC Specialist on the importance of Quality work and the above stated Quality responsibilities and Objectives. This briefing is aimed at ensuring that all site personnel understand SCI's dedication to Quality.

11.6 CORRECTIVE ACTION. When a condition adverse to quality is noted at the main office, project site office, or in the field, the cause of the condition will be determined and immediate corrective actions will be implemented. Quality improvement measures will also be taken to preclude repetition. Condition identification, cause, reference documents, and corrective action will be documented and reported to the project manager. All project personnel have the responsibility to promptly identify and report conditions adverse to quality.

11.7 FIELD OPERATIONS QUALITY CONTROL MANAGEMENT

11.7.1 Project Manager (PM) Responsibilities. The PM is responsible for the quality of the end-product, which is provided to the client. He has the responsibility of ensuring that QC procedures are implemented in accordance with this approved work plan. The daily authority for this task is delegated to the site UXO QC Specialist. See organizational chart in Chapter 2.

11.7.2 UXO QC Specialist Responsibilities. The UXO QC Specialist has the authority for day-to-day implementation of the QC process for all on-site operations. Daily QC audits of documentation and work in progress will be conducted and recorded on the Quality Conformance Inspection (QCI) Record, SCI Form P-114. This documentation will be the basis of the daily report to the project manager. The Quality Conformance Inspection Schedule will outline the audits the UXO QC Specialist is required to complete.

11.7.2.1 Search Effectiveness (SE) Inspections. The UXO QC Specialist will conduct SE Inspections, which are the vehicle by which SCI verifies that the clearance standard has been accomplished and the grid/product is ready for acceptance. The following guideline will be followed during SE QCI:

- Every grid will undergo a SE QCI, which involves a minimum of 15% of the square footage. The exact location of this square footage is at the discretion of the QC Specialist.

11.7.2.2 Geophysical Equipment Operator and Equipment Certification Grid. The UXO QC Specialist is responsible for the establishment, operation, and maintenance of the Geophysical Equipment Operator and Equipment Certification Grid, when it is deemed appropriate.

11.7.2.3 Stop-Work-Authority. The UXO QC Specialist has Stop-Work-Authority for quality issues.

11.7.3 Senior UXO Supervisor. The Senior UXO Supervisor is the onsite field data manager and will be responsible to the project manager for tabulating all data collected or produced by the UXO Teams, and placing the data under the custody and control of the project data management system. The UXO QC Specialist will perform periodic audits to verify the data.

The Senior UXO Supervisor has Stop-Work-Authority for quality issues.

11.7.4 Team Leaders. Team Leaders are responsible for the quality of the team's work.

11.7.5 Team Members. Every team member is responsible for the quality of his or her work.

11.8 EQUIPMENT CHECKOUT, CALIBRATION AND RECEIVING INSPECTIONS. Operator equipment pre-operation, during-operation, post-operation preventive maintenance procedures, and scheduled maintenance will be audited by the QC specialist.

11.9 QC AUDITS AND FREQUENCY. The frequencies of Quality Conformance Inspections will follow the below QCI Schedule:

Quality Conformance Inspection (QCI) Schedule

TASK	100%	DAILY	WEEKLY	BI-WEEKLY	AS NEEDED
Personnel Qualifications	■				
Accident/Incident Reporting	■				
Search Effectiveness	■				
Turn-in of Recovered OE-related Scrap	■				
Preventive Maintenance			■		
Personal Protective Equip.			■		
Medical Support			■		
Communications Effectiveness			■		
Explosives Storage & Accountability			■		
Explosives – UXO Transportation			■		
Physical Security (after hours)				■	
Surveying & Mapping			■		
Brush-Vegetation Removal			■		
Geophysical Detection Operations			■		

Excavation Activities				■	
UXO Final Disposal	■				
UXO/OE Accountability		■			
Fire Protection - Prevention				■	
Project Administration				■	
Safety & Health Program				■	
Management of SCI Property				■	
Management of Government Furnished Property				■	
Conservation of Utilities				■	
Environmental - Cultural – Historical Resources Practices				■	
Currentness of WP/SSHP				■	
Visitor Briefing					■
Site-Specific Training					■
Hazard Assessment - Risk Analysis					■

Note: The QC Specialist has the authority to deviate from this schedule based on his assessment of on-site operations and conditions

In addition to the scheduled audits, the SCI General Manager may conduct unannounced field audits during the field effort to ensure compliance with all QC protocols. If the General Manager conducts an audit, a report of his findings will be forwarded to the SCI project manager.

11.10 Reports

11.10.1 Quality Conformance Inspection (QCI) Record. The results of QCI will be documented on an SCI Form P-114, QCI Record (See Appendix D). This record may be legibly hand written, in ink, but the preferred method is via computer (Word) on the site. Instructions for completion of the form and distribution are contained on the reverse of the form.

- A QCI Record will be completed for tasks when they are in conformance with the Work Plan. QCI Records for conforming tasks will not be distributed off the project site
- A QCI Record will be completed for tasks when they do not conform to the Work Plan. Nonconformances will be categorized as minor, major, or critical. QCI Records for nonconformance issues will be forwarded by facsimile (or email) to:
  - General Manager (dlamoth@bellsouth.net)
  - Project Manager (jgferris@bellsouth.net)

- A QCI Record will be completed for re-inspection of nonconformances. Nonconformances have to be corrected by the on-site management. Inaction by the on-site management will result in another QCI being conducted and a continuing nonconformance being issued.

→ If a re-inspection indicates the nonconformance has been corrected, both QCI Records will be filed in the Inactive Subfile. A copy of the re-inspection QCI Record will be forwarded to the General Manager and the PM.

→ If a re-inspection indicates the nonconformance has not been corrected, both QCI Records will be filed in the Active Subfile. A copy of the re-inspection QCI Record will be forwarded by facsimile (or email) to:

- General Manager (dlamoth@bellsouth.net)
- PM (jgferris@bellsouth.net)

11.10.2 Files. The QC Specialist will establish and maintain two files:

- QCI Record File
- Customer Action Request (CAR) File

11.10.2.1 QCI Record File The QCI Record File will be a two-part file containing an Active and an Inactive subfile.

- The Inactive Subfile will contain those QCI Records for tasks that were found to be in compliance with the Work Plan and those that were not in compliance, but have been re-inspected and found to have been corrected.
- The Active Subfile will contain those QCI Records for tasks that were found to be not in compliance with the work plan and have not been corrected.

11.10.2.2 CAR File. The CAR File will be a two-part file containing an Active and an Inactive Subfile. A CAR will be maintained in the Active file until follow-up has been conducted and deemed satisfactory. Once the follow-up is completed, the CAR will be placed in the Inactive File.

11.10.3 Databases The UXO QC Specialist will maintain two databases on-site, as follows:

# Grids Cleared	# Grids (QC) Passed First Time		# Grids (QA) Accepted First Time	
	#	%	#	%

# QCI Conducted	# QCI Conformance First Time	First Time QCI %

- These two databases shall be maintained in Excel, if available, on-site. The information shall be emailed to the same addressees specified above, on a weekly basis.
- If computers and/or Excel are unavailable on the job site, the UXO QC Specialist will manually maintain this information and submit it weekly via facsimile to the above addressees

11.10.4 Available to Government. All Quality Control Records will be made available to the authorized on-site Government representative

11.11 Client Complaints. Client complaints will be addressed immediately. The complaint may come in the form of a verbal comment, written correspondence, or a CEHNC Form 948, or a SPL form, etc. Whatever the vehicle, the Project Manager will conduct an investigation to analyze the complaint and assure corrective action has been initiated. The corrective action will address not only the root cause but also the application of controls to assure its effectiveness.

- The Project Manager will utilize SCI Form P-105, Customer Action Request (CAR) (Appendix D) to document the complaint or nonconformance and the investigation. Instructions for completing the form are on the reverse of the form.
- The Project Manager will look for the root cause. This will entail studying the symptoms of the problem and determining the cause(s).

11.11.1 Follow-up. The action on the CAR is not complete until the UXO QC Specialist has completed follow-up. The corrective/preventive actions have to be adequate to prevent reoccurrence and the client must be satisfied with these actions.

- The complaint/nonconformance issue addressed in the CAR will be an item for a future QCI to ensure that the corrective/preventive actions have in fact addressed the issue and the solution was permanent.

11.12 Document Control. As required by SCI Standard Operating Procedure Number 5, the Work Plan (WP) will be subjected to document control. The UXO QC Specialist will audit that the basic and any revisions to the WP are processed, controlled, and communicated to site personnel in accordance with SOP 5.

11.13 RISK MANAGEMENT. The Project Manager and Site QC Specialist will ensure that a Hazard Analysis is performed for each work task. The Hazard Analysis will be incorporated into the Risk Management Chapter of the SSHP

11.14 QC CHECKLISTS as attached may be used by the UXO QC Specialist to assist in conducting audits.

CHECKLIST:	**Comprehensive Work Plan for the Site Program**
REFERENCES:	**29 CFR 1910.120(b)(3)**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response If not using computer, circle response. A NO requires remarks at the bottom.		
1. The Work Plan has been approved by the client/Government.	YES	NO	
2. A copy of the approved work plan is on site.	YES	NO	
3. The work plan defines anticipated cleanup activities as well as normal operating procedures.	YES	NO	
4 The work plan defines work tasks and objectives and identifies the methods for accomplishing those task and objectives	YES	NO	
5 The work plan establishes personnel requirements for implementing the plan.	YES	NO	
6. The work plan provides for the implementation of required training IAW 29 CFR 1910.120(e).	YES	NO	
7. The work plan provides for the implementation of the required informational programs IAW 29CFR1910.120(l)	YES	NO	
8 The work plan provides for the implementation of the medical surveillance program IAW 29CFR1910.120(f).	YES	NO	
9. There are provisions for employee suggestions or complaints relating to safety and health issues.	YES	NO	
10 There is a process in place for trying to continually improve the effectiveness of the safety and health program.	YES	NO	

REMARKS:

CHECKLIST:	Site Specific Safety and Health Plan for the Site Program
REFERENCES:	29 CFR 1910.120(b)(4)
	Work Plan Chapter _____

	If using computer, BOLD response. If not using computer, circle response A NO requires remarks at the bottom.		
1. The SSHP has been approved by the client/Government.	YES	NO	NA
2. A copy of the approved SSHP is located on-site.	YES	NO	NA
3. The SSHP addresses the following:	YES	NO	NA
3a A safety and health risk or hazard analysis for each task and operation.	YES	NO	NA
3b. There is training documentation to assure compliance with 29 CFR 1910.120 (e).	YES	NO	NA
3c. Personal protective equipment to be used by employees for each of the site tasks and operations.	YES	NO	NA
3d. A PPE program as required by 29CFR1910.120(g)(5).	YES	NO	NA
3e. A PPE program as required by 29CFR1910.132	YES	NO	NA
3f. A PPE program as required by 29CFR1910.133	YES	NO	NA
3g. A PPE program as required by 29CFR1910.134	YES	NO	NA
3h. A PPE program as required by 29CFR1910.135	YES	NO	NA
3i. A PPE program as required by 29CFR1910.136	YES	NO	NA
3j. A PPE program as required by 29CFR1910.137	YES	NO	NA
3k. A PPE program as required by 29CFR1910.138	YES	NO	NA
3l. Medical surveillance requirements IAW 29CFR1910.120(f).	YES	NO	NA
3m. Frequency and type of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, to include methods of maintenance and calibration.	YES	NO	NA
3n. Site control measures IAW 29CFR1910.120(d).	YES	NO	NA
3o. Decontamination procedures IAW 29CFR1910.120(k).	YES	NO	NA
3p. PPE is being properly decontaminated before being reused.	YES	NO	NA
3q. An emergency response plan IAW 29CFR1910.120(l)	YES	NO	NA
3r. The plan is compatible with local and state emergency plans.	YES	NO	NA
3s. Confined space entry procedures	YES	NO	NA
3t. A spill containment program as required by 29CFR1910.120(j)	YES	NO	NA
3u. Requires pre-entry briefings to be held prior to initiating any site activity.	YES	NO	NA
3v. Provides for briefings other times to ensure personnel are apprised of the SSHP and that the plan is being is being followed.	YES	NO	NA
3w The Site Safety and Health supervisor conducts inspections to determine effectiveness of the SSHP.	YES	NO	NA
3x. All noted deficiencies, from these inspections, have been documented and corrected, as required.	YES	NO	NA
3y. Contains accident investigation and reporting procedures.	YES	NO	NA

CHECKLIST:	**Training**
REFERENCES:	**29 CFR 1910.120 (e)**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response If not using computer, circle response A NO requires remarks at the bottom.		
1. All site personnel who enter exclusion zones, have received the initial 40-hour HAZWOPER training.	YES	NO	NA
2. All site management and supervisory personnel have received the initial 40-hour HAZWOPER training.	YES	NO	NA
3. All personnel, to include management and supervisory, have received an annual 8-hour refresher.	YES	NO	NA
4 Management and supervisory personnel have received the 8-hour Supervisors training.	YES	NO	NA
5. All personnel, to include management and supervisory, have received the three days of actual field experience under the direct supervision of a trained, experience supervisor.	YES	NO	NA
6 The following Training Certificates are on site for everyone:			
6a. 40-hour HAZWOPER	YES	NO	NA
6b. 8-hour HAZWOPER Annual Refresher	YES	NO	NA
6c. 8-hour HAZWOPER Supervisor	YES	NO	NA
6d. 3-day actual field experience	YES	NO	NA

REMARKS:

CHECKLIST: **Medical Surveillance**
REFERENCES: **29 CFR 1910.120 (f)**
Work Plan Chapter _____

PROJECT: _____
DATE: _____
UXO QC SPECIALIST: _____

	If using computer, BOLD response. If not using computer, circle response. A NO requires remarks at the bottom.		
1. All personnel, who enter the exclusion zone, have received a base line medical examination.	YES	NO	NA
2. These same personnel have received a medical evaluation within the past 12 months (365 days).	YES	NO	NA
3. Documentation is on site.	YES	NO	NA

REMARKS:

CHECKLIST:	**Sanitation at Temporary Workplaces**
REFERENCES:	**29 CFR 1910.120 (n)**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST: _____

	If using computer, BOLD response If not using computer, circle response. A NO requires remarks at the bottom.		
1. There is an adequate supply of potable water onsite.	YES	NO	NA
2. All potable water containers are capable of being tightly closed and equipped with a tap.	YES	NO	NA
3 All potable water containers are clearly marked as such and not used for any other purpose.	YES	NO	NA
4. Adequate toilet facilities are available.	YES	NO	NA
5. Personnel washing facilities are available.	YES	NO	NA

REMARKS:

CHECKLIST:	**Inclement Weather**
REFERENCES:	**EM 385-1-1**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

If using computer, BOLD response.
If not using computer, circle response.
A NO requires remarks at the bottom.

1. Site Safety Officer monitors the weather for indications of impending severe weather and notifies site personnel.	YES	NO	NA
2. The work plan contains a heat/cold stress monitoring plan.	YES	NO	NA
3. Specified work and rest regimes have been established.	YES	NO	NA
4. The established work and rest regimes are followed.	YES	NO	NA
5. The Safety Officer monitors the Wet Bulb Globe Temperature Index	YES	NO	NA
6. In hot environments, cool drinking water is available.	YES	NO	NA
7. Electrolyte replenishment, I.e., Gatorade, is available.	YES	NO	NA
8. Personnel are encouraged to drink frequently.	YES	NO	NA
9. At temperatures below 60 degrees F., personnel have been issued gloves and are wearing them.	YES	NO	NA
10 During the performance of tasks when bare hands are required for more than 10-20 minutes and the temperature is below 50 degrees F., there are provisions for keeping hands warm.	YES	NO	NA
11 Metal handles of tools and control bars are covered by thermal insulating material when temperature is below 30 degrees F.	YES	NO	NA
12. During cold weather, hot drinks, I.e., coffee, tea, etc, are available.	YES	NO	NA
13. The Safety Officer monitors the air temperature.	YES	NO	NA
14. The Safety Officer measures and records the dry bulb temperature when the air temperature is below 30 degrees F.	YES	NO	NA
15. The Dry Bulb temperature is measured and recorded every 4 hours.	YES	NO	NA
16. Wind speed is measured and recorded at the same interval as the air temperature.	YES	NO	NA
17. Wind chill is determined and monitored.	YES	NO	NA
18. Site personnel are advised of wind chill.	YES	NO	NA

REMARKS:

CHECKLIST:	**Medical and First Aid Requirements**
REFERENCES:	**EM 385-1-1, 3.A; 29CFR1910.151**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response If not using computer, circle response. A NO requires remarks at the bottom.		
1. A workplace hazard assessment has been conducted to determine the potential work-related hazards.	YES	NO	NA
2. A transportation and communication system is in place to effectively care for injured workers.	YES	NO	NA
3. The telephone numbers of physicians, hospitals, or ambulances, and the route to the hospital, is conspicuously posted.	YES	NO	NA
4. Personnel are aware of the telephone numbers and the route to the hospital.	YES	NO	NA
5. If a medical facility or physician is not accessible within 5 minutes, at least 2 on-site employees are qualified to administer first aid and CPR.	YES	NO	NA
6. In the event severe bleeding, or other life threatening injuries can be expected, a response time of 3-4 minutes is adhered to.	YES	NO	NA
7 On-site personnel designated to perform first aid and CPR hold current certification.	YES	NO	NA
8 On-site personnel designated to perform first aid and CPR have received Bloodborne Pathogens Training.	YES	NO	NA
9 The on-site personnel designated to perform first aid and CPR have liaison with a local physician.	YES	NO	NA
10. Sixteen (16) unit first aid kits are provided at the ratio of one for every 25 persons or less.	YES	NO	NA
11. First aid kits have been inspected for completeness.	YES	NO	NA
12. Eye-wash facilities are immediately available if personnel will be exposed to toxic or corrosive materials.	YES	NO	NA
13. Appropriate ointment is available for personnel who will be exposed to epoxy resins, solvents, hydrocarbens, cement, lime, or other dermatitis-producing substances (poison oak, sumac, etc.)	YES	NO	NA

REMARKS

CHECKLIST:	**Storage and Accountability for Explosives**
REFERENCES:	**Institute of Makers of Explosives; USACE Basic Safety Concepts Work Plan Chapter _____**

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response If not using computer, circle response A NO requires remarks at the bottom.		
1. A physical security survey has been completed, which determined if fencing and/or guards were required.	YES	NO	NA
2. The storage area meets inhabited building and public traffic route distances as specified in DoD 6055-.9-STD.	YES	NO	NA
3. If the storage area does not meet the above distances, a a barricading and berm plan has been prepared and approved.	YES	NO	NA
4. The magazines meet ATF Regulations.	YES	NO	NA
5. The magazines comply with State/County Law.	YES	NO	NA
6. Each magazine has a Net Explosive Weight established.	YES	NO	NA
7. Each magazine has appropriate lightning protection.	YES	NO	NA
8. Magazines meet intramagazine distances.	YES	NO	NA
9. Magazines are inspected at least every seven days.	YES	NO	NA
10. Site specific work plan contains procedures for reporting theft or loss of explosives.	YES	NO	NA
11 Magazine housekeeping: 11a. Smoking, matches, open flame and spark producing devices are not permitted within 50 feet.	YES	NO	NA
11b. Magazines are clean, dry and free of empty containers.	YES	NO	NA
11c. The area around the magazines is clear of volatile materials for at least 50 feet.	YES	NO	NA
11d. The area around the magazines is clear of brush and dry grass for at least 25 feet.	YES	NO	NA
12. A copy of SCI's license is posted and available for inspection.	YES	NO	NA
13. Records of receipt of explosive materials are maintained on-site.	YES	NO	NA
14. A record of daily magazine transactions are maintained utilizing DAF 3020 or SCI Form P111 (Magazine Data Card).	YES	NO	NA
15. Personnel responsible for the storage of explosives have received training on the local, state, federal regulations and SCI policies on storage of explosives.	YES	NO	NA
15a. The documentation for this training is on-site.	YES	NO	NA
16. Safety rules covering the operation of magazines are posted on the interior of the magazines.	YES	NO	NA
17. Packages of explosive materials are closed when inside the magazines.	YES	NO	NA
18. Magazines are posted with required signs: EXPLOSIVES - KEEP OUT!	YES	NO	NA
USDOT BLASTING AGENT (on type 5)	YES	NO	NA
DANGER! NEVER FIGHT EXPLOSIVE FIRES	YES	NO	NA
The Site Safety Officer conducted an inspection of the above to verify adherence on (date) _____	YES	NO	NA

REMARKS:

CHECKLIST:	**Management of Government-Furnished Property**
REFERENCES:	**FAR 45.5**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST: _____

	If using computer, BOLD response. If not using computer, circle response A NO requires remarks at the bottom.		
1. The Work Plan contains a property control chapter.	YES	NO	NA
2 The property control system identified in the WP is adequate to control, protect, preserve, and maintain all Government property.	YES	NO	NA
3. The property records are available to the Government pers.	YES	NO	NA
4 The type, frequency, and procedures for inventories have been established.	YES	NO	NA
5. Personnel performing the inventories are not the same individuals who maintain the property records or have custody of the property.	YES	NO	NA
6. A listed that identified all discrepancies disclosed by the inventory was provided to the CO, if applicable.	YES	NO	NA
7. A signed statement has been provided to the CO that an inventory was completed on a give date and that the official property records were found to be in agreement	YES	NO	NA
8. Preventive maintenance is scheduled and conducted.	YES	NO	NA
9. Records are maintained of the maintenance actions.	YES	NO	NA
10. Excess Government Property has been reported.	YES	NO	NA
11. All incoming Government property is inspected for overages, shortages, serviceability and damage.	YES	NO	NA
12 Government property items are marked indicating Government ownership.	YES	NO	NA
13. Government Property was last inventoried on : _____ 14 The last QCI involving property accountability was conducted on: _____			

REMARKS

CHECKLIST:	**Accident/Incident Reporting**
REFERENCES:	**EM 385-1-1; Contract Scope of Work**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST: _____

	If using computer, BOLD response If not using computer, circle response A NO requires remarks at the bottom.		
1. Copy of AR 385-40, Accident Reporting and Record, with the USACE Supplement is on-site.	YES	NO	NA
2. Blank ENG Form 3394, USACE Accident Investigation Reporting are on-site.	YES	NO	NA
3. The Site Safety Officer is aware of the requirements contained in AR 385-40 with USACE Supplement and the WP.	YES	NO	NA
4. All recordable accidents/injuries/illnesses are reported to the CO	YES	NO	NA
5. Completed ENG Form 3394 filled out with the necessary information.	YES	NO	NA

REMARKS:

CHECKLIST:	**Machinery and Mechanized Equipment**
REFERENCES:	**EM 385-1-1, 16**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response. If not using computer, circle response A NO requires remarks at the bottom.		
1. A workplace hazard assessment has been conducted to determine the hazards involved with the operation of the equipment.	YES	NO	NA
2. Machinery-mechanized equipment operators have received training in the safe operation of the equipment.	YES	NO	NA
2a. This training is documented.	YES	NO	NA
3. All machinery-mechanized equipment was inspected and certified to be in safe operating condition before being placed in use.	YES	NO	NA
4. The manufacturer's operator manual is available for all machinery and mechanized equipment.	YES	NO	NA
5. The machinery-mechanical equipment is maintained in accordance with the manufacturer's instructions.	YES	NO	NA
6. Daily pre-operational checks are conducted.	YES	NO	NA
7. A record of the maintenance activities, tests and inspections are maintained on-site.	YES	NO	NA
8. Self-propelled equipment contains a "back-up alarm".	YES	NO	NA
9. The equipment is operated in a safe manner.	YES	NO	NA

REMARKS:

CHECKLIST:	**Pruning and Trimming Brush-Trees**
REFERENCES:	**EM 385-1-1, 13F & 31E**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response If not using computer, circle response A NO requires remarks at the bottom.		
1. A workplace hazard assessment has been conducted to determine the hazards involved with this operation.	YES	NO	NA
2. All personnel involved in this task have received training in the safe operation of the tools and procedures.	YES	NO	NA
2a. This training is documented.	YES	NO	NA
3. Pole pruners and pole saws are equipped with wood or nonmetallic poles.	YES	NO	NA
4. When not in use, the pole pruners and pole saws are hung securely in a vertical position with the sharp edges away from personnel.	YES	NO	NA
5. Power saws are started only when all co-workers are clear.	YES	NO	NA
6 Power saws are shut off when they are being carried over slippery surfaces, through heavy brush, or adjacent to personnel.	YES	NO	NA
7 Power saws are maintained in accordance with the manufacturer's operation manual.	YES	NO	NA
8. Chain saws have an automatic chain brake or kickback device	YES	NO	NA
9. When the chain saw engine is idling, the chain does not move.	YES	NO	NA
10. Chain saw operators wear the appropriate PPE.	YES	NO	NA
11. Chain saws are not refueled while running or hot.	YES	NO	NA
12. Chain saws are operated with both hands.	YES	NO	NA
13. Operators do not operate the chain saw above the operator's shoulder height.	YES	NO	NA

REMARKS:

CHECKLIST:	**Brush Removal and Chipping**
REFERENCES:	**EM 385-1-1, 31D**
	Work Plan Chapter _____

PROJECT: _____

DATE: _____

UXO QC SPECIALIST:

	If using computer, BOLD response. If not using computer, circle response. A NO requires remarks at the bottom.		
1. A workplace hazard assessment has been conducted to determine the hazards involved with this operation.	YES	NO	NA
2. All personnel utilizing a chipper have received training in the safe operation of the chipper.	YES	NO	NA
2a. This training is documented and on-site.	YES	NO	NA
3 A copy of the manufacturer's operation manual for the chipper is available to the operators.	YES	NO	NA
4 Brush Chippers: 4a. The in-feed hopper is not less than 85 inches.	YES	NO	NA
4b. The in-feed hopper has sufficient height on its side members to prevent personnel from contacting the blades of the chipper.	YES	NO	NA
4c. The chipper has a flexible antikickback device installed in the in-feed hopper.	YES	NO	NA
4d. The chipper has a locking device on the ignition system.	YES	NO	NA
4e. The chipper is maintained in accordance with the manufacturer's manual.	YES	NO	NA
5 Trailer brush chippers detached from the truck are chocked or otherwise secured.	YES	NO	NA
6. Personnel operating the chipper are wearing appropriate PPE	YES	NO	NA
7. Personnel operating the chipper are not wearing loose clothing, rings, watches, etc , that could possibly be caught in the chipper.	YES	NO	NA
8. Push Sticks are used, if needed.	YES	NO	NA
9. The chipper is fed from the side of centerline.	YES	NO	NA

REMARKS:

CHAPTER 12
ENVIRONMENTAL PROTECTION PLAN
DID OE-005-12, 000303

Note: The City of San Diego Planning Department has evaluated the biological resources of East Elliott in the context of its draft regional plans for open space and habitat protection. Of particular concern is the Multiple Species Conservation Program, which seeks to preserve endangered habitat such as the coastal sage habitat that serves as home to the California gnatcatcher, a Federally threatened species and California species of special concern. East Elliott is included within a "core resource area," which is defined as an area with a "high concentration of sensitive biological resources, which, if lost, could not be replaced or mitigated elsewhere" Over 65% of the habitat within East Elliott is considered to be of "very high" value. In addition to the California gnatcatcher, other sensitive species are recognized from the vicinity of East Elliott. (Montgomery Watson, 1999)

12.1 IDENTIFICATION AND LOCATION OF KNOWN ENDANGERED/THREATENED SPECIES:

Two species which inhabit the East Elliott area throughout the year have been Federally protected by the Endangered Species Act; the coastal California Gnatcatcher (Federally threatened), and the San Diego Fairy Shrimp (Federally endangered). Two other Federally endangered species may occur as transients in one of area of East Elliott; least Bell's Vireo, and Southwestern Willow Flycatcher. Populations of two additional species, Willowy Monardella and San Diego Ambrosia, have been identified nearby in Mission Trails Regional Park Willowy Monardella was seen occasionally in suitable habitat in Spring Canyon, but evidently does not grow there predictably from one year to the next. Historically, the Southwestern Arroyo Toad inhabited this region of San Diego River and, most likely, used dry and sandy terraces along Spring Canyon as foraging habitat even during the non-breeding season. (EECA Montgomery Watson, 1999)

- The California Gnatcatcher (Polioptila californica) is a small, long-tailed member of the thrush family Muscicapidae. Its plumage color is dark blue-gray above and grayish-white below. The tail is most black above and below The male has a distinctive black cap that is absent during the winter. Both sexes have a distinctive white eye-ring. Vocalizations of this species include a call consisting of a rising and falling series of three, kitten-like, mew notes.

The gnatcatcher's habitat occurs almost exclusively in the coastal sage scrub plant community.

The gnatcatcher is non-migratory and defends breeding territories ranging in size from 2 to 14 acres. The breeding season extends from late February through July with the peak of nest initiations occurring from mid-March through mid-May. Nests are composed of grasses, bark strips, small leaves, spider webs, down, and other materials, and are often placed in coastal sagebrush about 3 feet above the ground.

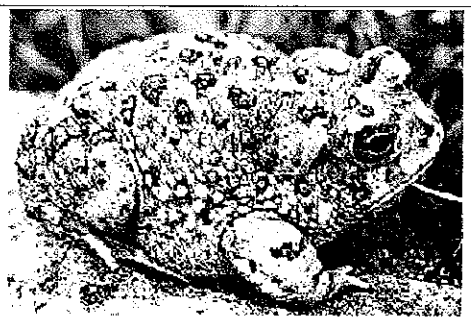
- San Diego fairy shrimp (Federally endangered) are small crustaceans, which inhabit evanescent pools that form during winter rains. As rainwater fills these basins, "eggs" of fairy shrimp left to dry in the mud by their parents begin to hatch, typically early in January. Young animals grow rapidly and can attain reproductive adulthood within 10 to 14 days. They, in turn, leave behind another generation of "eggs", which must dry completely before they can hatch. Under suitable conditions, the species may complete two generations during one winter season. San Diego fairy shrimp have been identified in a small basin formed in the center of a dirt road within East Elliott.

- The Southwestern Willow Flycatcher is usually less than 6 inches in length, including tail. Conspicuous light-colored wingbars; lacks the conspicuous pale eye-ring of many similar Empidonax species. Overall, body brownish-olive to gray-green above; throat whitish, breast pale olive, and belly yellowish. Bill relative large; lower mandible completely pale. Best identified by vocalizations; call a liquid, sharply whistled whit! Or a dry spritt; song a sneezy witch-pew or fitz-bew. While perched, characteristically flicks tail slightly upward

The flycatcher is found only in riparian habitats where dense willows, arrowweed and other species provide foraging and nesting habitat. Nesting occurs in even-aged thickets of trees and shrubs approximately 13-23 feet tall. Nesting begins upon arrival at suitable breeding areas in late May and early June and young are fledged from late June through mid-August.

- The least Bell's vireo is a small, olive-grey migratory songbird that nests and forages almost exclusively in riparian woodland habitats.

- The Southwestern Arroyo Toad is a small, buff-colored toad that measures between two and three inches in length and has dark-spotted, warty skin. Its call is a soft, high, whistled trill that is commonly mistaken for the call of an insect. Arroyo toads prefer shallow pools and open, sandy stream terraces. They use adjacent upland habitat for feeding and shelter in winter and have also been reported in such habitat during summer months.



- San Diego Ambrosia Habitat is undisturbed soils along upper benches of riverbeds, seasonally dry drainages, floodplains, open grasslands, and small openings in coastal sage scrub, usually on the periphery of willow woodland without a protective tree canopy.

- Willowy Monardella. Habitat is riparian scrub, usually at sandy locales in seasonally dry washes. Generally there is no canopy cover and river cobbles may lie nearby.

12.2 WETLANDS

There are no known wetlands within the project area.

12.3 CULTURAL RESOURCES

The area of potential effects has been surveyed by qualified archeologists. In addition, a record search at the regional archeological information center has been performed. There are numerous archeological sites present within the project area. Efforts will be made to avoid all cultural resources during implementation of the proposed project. This will be accomplished by the following:

- Location data on the proposed grids will be provided to the USACE archeologist to check for the presence of recorded cultural resources. If cultural resources are present within a grid(s) and if possible, those grids containing cultural resources will either be cancelled or moved. Otherwise, photographs of the cultural resources will be taken prior to UXO investigation, and the USACE archeologist will perform a damage assessment after the UXO detection investigation. Subsurface excavations will remain open until inspection by the Corps archeologist has been completed.
- The presence of an archeological monitor during the project may be required.
- UXO personnel will be briefed on cultural resources by the USACE archeologist.
- SCI personnel will not pickup and/or remove any artifacts. If artifacts are encountered during subsurface exploration, work will temporarily halt and the Corps archeologist notified for further instructions.
- All ancillary areas, including staging and disposal areas, will be cleared by the USACE archeologist

- UXO discovered in association with archeological sites will be relocated for disposal if safety permits. If an archeological site is disturbed by the in-situ disposal of UXO, the USACE archeologist shall perform a damage assessment when safety permits.
- If human remains are encountered, work will halt immediately and the USACE and the San Diego County Coroner shall be notified immediately per Section 7050.5 of the Health and Safety Code. If the remains are determined to be in a prehistoric context, the Native American Heritage Commission in accordance with California Public Resources Code 5097.9 will identify the most likely descendant.
- The location of archeological sites is confidential and will therefore not be provided to the public. USACE Safety Office will have access to the confidential information for planning purposes.
- The USACE archeologist shall ensure compliance with the National Historical Preservation Act.

12.4 WATER RESOURCES

There are no known water resources within the project area.

12.5 COASTAL ZONES

There are no known coastal zones within the project area

12.6 TREES AND SHRUBS TO BE REMOVED

No trees, shrubs or vegetation of any type will be removed during this clearance action, except dried grasses in the immediate vicinity of an intentional detonation site, which will be cleaned as close to the ground as possible with a string-type trimmer to reduce fire risk

12.7 EXISTING WASTE DISPOSAL SITES WITHIN THE SITE

There are no known waste disposal sites within the project area.

12.8 PROCEDURES AND METHODS TO PROTECT/MITIGATE KNOWN RESOURCES IDENTIFIED IN 12.1

12.8.1 Excavation: This is a subsurface clearance. Only hand excavation is anticipated. Soil removed from excavation holes will be placed nearby the hole so that it may be placed back into the hole, once excavation is completed.

~~**12.8.2 Vegetation Thinning.** Personnel will not walk through any brush heavy enough to require cutting, pruning, or thinning. No vegetation will be thinned or cut for the express purpose of gaining access to otherwise dense stands of chaparral and coastal sage scrub vegetation. If dried annual plants surround the immediate area where an UXO must be detonated in place, gasoline powered string trimmers shall be used to minimize flammable tinder in the area. A~~

~~"prudent" radius around the pending detonation site shall be groomed and trimmings raked back from the site. Each team truck will have the equipment listed in Chapter 17.~~

12.8.2 Conservation of Biotic Resources: Personnel will have site-specific training in recognition of and procedures to observe regarding plants and animals protected by the Endangered Species Act: California gnatcatcher and critical habitat it requires, San Diego ambrosia and willowy mondardella. If individuals of the two plants have been identified within the project area, their location(s) will be transmitted to field personnel. The field instruction will include remarks about the behavior of rattlesnakes and techniques for relocating those, which cannot be avoided. Where necessary to probe dense clusters of vegetation, branches may be trimmed. Chain saws, lopping shears, small handsaws, and so forth will be used to prune/trim vegetation to a maximum of 30% from any single plant. No plants will be cut to the ground but all plants in a dense area may be trimmed selectively and in moderation, enough to permit reasonable access to all parts of the stand's interior reaches. Excavation and disposal of an anomaly that proves to be UXO can be accomplished by cutting or removing vegetation only in the immediate area and as needed for safety considerations and access to the item; removal of woody vegetation will not be an inherent step in field techniques. If dried grasses and low-growing herbaceous plants surround the area where an UXO item must be detonated in place, gasoline powered string trimmers may be used to minimize flammable tinder in the area. A prudent radius around the pending demolition may be groomed and trimmings raked back from the site of the UXO. Following demolition shots, all debris will be policed from the site. Holes dug for investigation and craters made by UXO disposal will be filled with available dirt and rocks and the location graded back to approximately natural contours.

12.8.3 Explosive Operations: Explosive operations will be conducted when items are encountered which require disposal or demilitarization.

12.8.4 MITIGATION PROCEDURES:

No heavy equipment of any type will be utilized during this clearance, nor is any wholesale movement of soils allowed, for any reason.

Field investigation activities have been developed to avoid impacts to sensitive resources. For this reason, extensive mitigation is not anticipated. The following general mitigation procedures will be followed:

- Impacts to sensitive species will be minimized during the field investigation activities by avoiding known or suspected sensitive wildlife habitats identified during field activities
- If sensitive resources are determined to fall within the site, extra care will be taken to minimize time spent in the area and amount of activity conducted.
- ~~Localized regions where gnatcatchers have established breeding territories will be identified by biologists from the US Fish & Wildlife Service immediately prior to consideration for clearance. Areas where birds are actively raising young of the year will be marked in site survey maps and will be completed off-limits until after the Service biologists have~~

~~reexamined these areas at a later date. With their approval, tentatively after September 15, personnel may then enter and examine the parts of these areas, which are readily passable without thinning brush.~~

- Localized stands of coastal sage scrub where gnatcatchers have established breeding territories or which are suitable as foraging habitat will be identified by the Corps biologist working in direct consultation with the U.S. Fish and Wildlife Service prior to mobilization of field personnel. Areas where birds are actively nesting or foraging will be marked on site survey maps and furnished as geospatially referenced polygons. Field personnel will respect a 200-foot buffer around these gnatcatcher tracts between the inception of fieldwork and mid-August. These regions will be completely off-limits to entry for all UXO activities until they can be re-examined later in the breeding season. With approval of the Fish and Wildlife Service. Tentatively after August 15, field personnel may then enter these areas, thinning brush as necessary for detection and disposal of UXO, following standard procedures.
- Impacts to archeological sites shall be minimized during the field activities by avoiding known site locations.

12.9 SPILL CONTROL AND PREVENTION. Motor vehicles will be operated on the project site, but will not be fueled on the site. Each team vehicle will carry a spill kit. The opportunity for spills is negligible, but should a spill occur, the following applies:

- Any spill will be isolated, contained and eliminated. The liquid and any soil it has seeped into, will be shoveled into plastic bags and placed in DOT approved 55-gallon drums Each drum will be properly labeled to identify content and will disposed of at a permitted facility in accordance with CFR 260 through 272.

- **EMERGENCY PROCEDURES - NOTIFICATION OF CONTRACTING OFFICE.** Spills will be reported immediately to the USACE Representative and will be followed up with a written report. The written report will include the following information:

  - Description of the material spilled, including the identification and quantity of material spilled.
  - Exact time, date, and location of the spill.
  - Spill/discharge containment procedures used.
  - Description of the cleanup procedures used, including the storage and disposal of the material.
  - A copy of the waste disposal manifest.

12.10 STORAGE AREAS. The only storage area on the project site will be in the administrative area where tools and equipment will be stored.

12.11 ACCESS ROUTES. Access to the project site will be gained through any of the following:

- Mast Road Mission Trails Regional Park Entrance
- San Diego Landfill entrance
- Miramar Marine Corps Air Station

12.12 TREES AND SHRUBS PROTECTION AND RESTORATION

When a detonation of an ordnance item is planned, sandbags filled with construction grade sand will be utilized to tamp the detonation and minimize any damage to nearby trees and shrubs. The preparation shall be thoroughly soaked with water and the immediate area watered as well to minimize the possibility of secondary fires.

~~In lieu of the sandbags, a child's wading pool may be used. An appropriate amount of water will be placed in the pool. This procedure will accomplish both tamping and fire retardant.~~

12.13 MANIFESTING AND TRANSPORTATION OF WASTES. No hazardous wastes will be generated on this project site.

12.14 TEMPORARY FACILITIES. SCI will establish an office at the San Diego Land fill administrative area. The office will be a trailer and it will be placed in an established, fenced area belonging to the San Diego Landfill.

12.15 MISCELLEANOUS

12.15.1 SURFACE WATER. (Ref EE/CA August 1999, Montgomery Watson) The East Elliott area is part of the Upper San Diego River Basin. Ephemeral streams in East Elliott canyons flow southward into the westward flowing San Diego River. Streambeds are dry for the majority of the year, and flowing water is confined to episodic storm events during the annual rainy season (November to March). It is not anticipated that the ordnance removal action activities will not have any impact on surface water.

12.15.2 GROUND WATER Minor subsurface disturbance will be during the hand excavation and/or detonation-in-place of located unexploded ordnance. The activities to be conducted during this removal action are not likely to have an impact upon groundwater.

12.15.3 SOIL TYPE. (Ref EE/CA dated August 1999, Montgomery Watson) The geology of the San Diego area that encompasses East Elliott is grouped into two major units: 1) Jurassic-Cretaceous metamorphic and granitic rocks, and 2) the overlying sedimentary rock series. Weathered outcrops of Cretaceous quartz diorite and/or gabbro are just inside the southwest and southeast boundaries of the site. Sedimentary rocks unconformably overlie the basement complex within East Elliott. The sedimentary rocks are generally flat-lying with dips of less than 6 degrees. As a consequence, topography in the area consists of dissected terraces. Descriptions of the sedimentary units can be found in the EECA. Several soil types have been identified within the East Elliott area based on parent rock type and slope angle. The soils are generally referred to as various types of "sandy loam" (mixture of sand, silt, and clay) with rocks. Soils are

generally thickest in the canyon areas because of accumulation of unconsolidated materials in these areas. These soils also have higher moisture content and support more abundant vegetation. Elsewhere in East Elliott, soils are generally thin (i.e., less than 3 feet thick). The ordnance removal action activities will have minimal impact upon soil. Excavations are expected to be less than 3 feet in depth. Vehicular traffic is restricted to active trails – thus majority of the activities will be conducted on foot and this foot traffic is restricted to areas without dense vegetation. The main opportunity for disturbing the soil will be with the detonation-in-place of located unexploded ordnance. Pre- and post-detonation soil samples will be taken and analyzed as specified in Chapter 10.

12.15.4 AIR. A maximum of six vehicles will be utilized on this site which is considered inconsequential considering the proximity of California State Highway 152. All located unexploded ordnance will be sandbagged and detonated-in-place. The sandbag structure's primary purpose is to assist in the prevention of wildfires, but this will also aid in minimizing possible airborne constituents to include dust.

12.15.5 RISK OF UPSETS. A concern is that of unauthorized personnel walking into the exclusion zone during detonation activities. When a detonation-in-place is to occur, SCI personnel will be posted in a 360-degree radius around the detonation site, at a safe distance. Whenever possible, an electrical firing system will be utilized for maximum control. All trails will be blocked. Even with these positive factors, it is still a concern that hikers could penetrate the personnel posted radius because of the high vegetation, which limits visibility. SCI will exercise maximum care to assure this does not happen.

It is unlikely, but a possibility exists, that unexploded ordnance could be lying on the ground in the vicinity of the utility power lines and structures. This would necessitate the recalculation of the sandbag structure to assure protection of the power lines.

12.15.6 PUBLIC HEALTH AND SAFETY. The primary public health and safety exposure on this site is unexploded ordnance laying on the surface. This ordnance removal action is intended to mitigate that hazard. The Montgomery Watson EECA contains a hazard evaluation and risk assessment.

12.15.7 POPULATION. There are no residents within the confines of East Elliott, thus no impact will occur. See 12.15.9.

12.15.8 HOUSING. There is no housing located within the confines of East Elliott, thus no impact will occur.

12.15.9 RECREATION. This site has unrestricted access to the public. Hikers, bike riders, horseback riders, rock climbers and others meander into the East Elliott area. The ordnance removal action activities will have an impact upon these recreational activities during workdays, as the trails will be barricaded and personnel will be urged to stay out.

12.15.10 HABITAT. (Ref EE/CA dated August 1999, Montgomery Watson) See information above. The ordnance removal action will be restricted to areas of non-dense vegetation and non-steep slopes. Minimal vegetation thinning/pruning is authorized Removal action activities are to be conducted during time frames approved by biologists/botanists, so as to not interfere with species. With the multitude of restrictions in place, it is not envisioned that any impacts will occur.

12.15.11 LAND USE. (Ref EE/CA dated August 1999, Montgomery Watson). The EECA discusses potential land uses.

12.15.12 UTILITIES. There are utility power lines transgressing the project site. It is not envisioned that the ordnance removal action will have any impact upon these lines.

12.15.13 NOISE. See 12 15.4 above. The sandbag structure will also minimize noise from detonations. A maximum of six small trucks will be utilized on this site. It is not envisioned that any impacts will occur.

12.15.14 AESTHETICS With the restrictions in place, the aesthetics of the East Elliott area should not be impacted.

12.15.15 NATURAL AND CULTURAL RESOURCES. See 12.3 above.

CHAPTER 13
INVESTIGATIVE DERIVED WASTE PLAN
DID OE-005-13, 000303

Not required for current tasking.

CHAPTER 14
GEOGRAPHICAL INFORMATION SYSTEM
DID OE-005-14

Not required for this project.

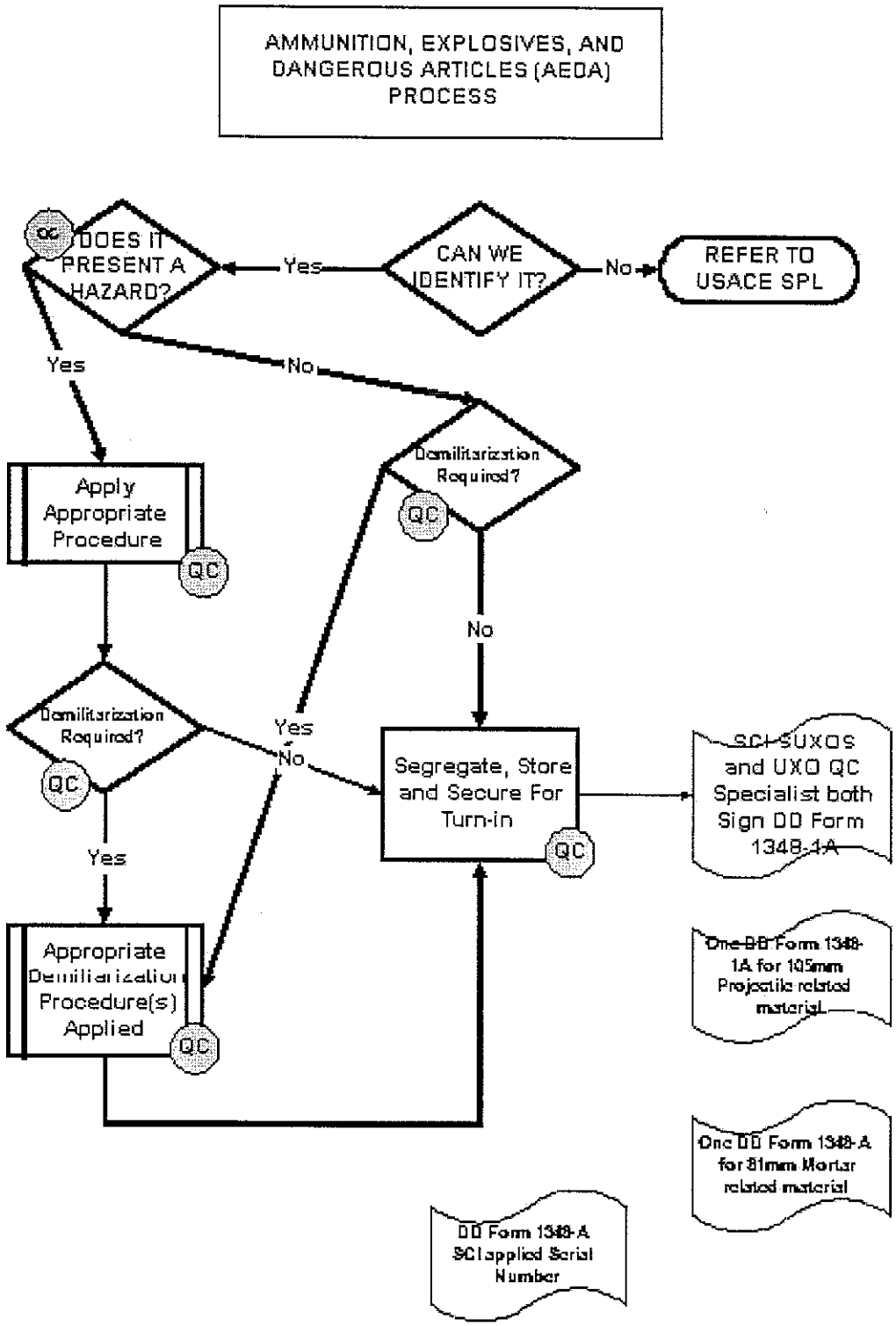
CHAPTER 15
SCRAP MONITORING AND DISPOSAL PLAN

15.1 DEFINITIONS.

- Range Residue (DOD 4160.21-M)
  - Group 1: Munitions components or casings that previously contained explosives or related materials, or property that does not contain items of a dangerous nature:
    - Group 1a: Firing range expended small-arms cartridge cases and inert metal Gleaned from range cleanup.
    - Group 1b: Certifiable material or item not meeting the criteria in 1a above.
  - Group 2: Inherently dangerous items that may potentially contain explosives or related material residue and cannot be certified as inert.
- Ammunition, Explosives, and Dangerous Articles (AEDA) – any substance that, by its composition and chemical characteristics, alone or when combined with other substances, is or becomes an explosive or propellant, or is hazardous or dangerous to personnel, animal, or plant life, structures, equipment, or the environment as a result of blast, fire, fragmentation, radiological, or toxic effects.
- Scrap metal that is not excluded under 40 CFR Section 261.4 (a) (13) is not considered hazardous waste [40 CFR 261 6]

15.2 DETAILED PROCEDURES FOR MANAGING, REPORTING, VENTING, AND DISPOSING OF OE SCRAP AND NON-OE SCRAP.

15.2.1 AEDA PROCESS. The following flowchart visually portrays the AEDA process. SCI understands the necessity in assuring that no live ordnance-related material leaves the project site.


AMMUNITION, EXPLOSIVES, AND DANGEROUS ARTICLES (AEDA) PROCESS
QC
DOES IT PRESENT A HAZARD?
Yes
CAN WE IDENTIFY IT?
No
REFER TO USACE SPL
Yes
No
Apply Appropriate Procedure
QC
Demilitarization Required?
QC
No
Demilitarization Required?
QC
Yes
No
Yes
Segregate, Store and Secure For Turn-in
QC
SCI SUXOS and UXO QC Specialist both Sign DD Form 1348-1A
Appropriate Demilitarization Procedure(s) Applied
QC
One DD Form 1348-1A for 105mm Projectile related material
One DD Form 1348-A for 81mm Mortar related material
DD Form 1348-A SCI applied Serial Number

15.2.1.1 Venting

Shaped-charges and/or boosters will be used to vent and/or demilitarize items that require it.

15.2.2 Inspection and Certification.

SCI will assure that a 100% inspection and certification of all ordnance-related items encountered is accomplished. The inspection process will involve the following personnel:

- The UXO Team Leader will verify that an ordnance-related item is inert before it is removed from the grid. If it is not inert, it will not be removed from the grid.
- The Senior UXO Supervisor will inspect and certify that the ordnance-related material is inert and free of hazards.
- The UXO QC Specialist will audit this entire process and will certify that the ordnance-related materials are inert and free of hazards.

The above individuals will meet or exceed the minimum qualification requirements as required by the contract.

15.2.2.1 Certification

All AEDA/Range Residue certification will be accomplished on a DD Form 1348-1A (in Appendix D). The following statement will be entered on the DD Form 1348-1A:

"This certifies that the AEDA residue, range residue, and/or explosive contaminated property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

The DD Forms 1348-1A will contain the typed/printed name, organization, signature, and phone number of the persons certifying the material.

15.2.2.2 Serial Number

The DD Forms 1348-1A will contain an SCI serial number as follows:

SCI-EE- and number and year, i.e., SCI-EE-1-2001, SCI-EE-2-2001, etc. This number will be entered in the lower right hand corner of the form as shown in Appendix D.

The Senior UXO Supervisor will maintain the serial number log and the UXO QC Specialist will audit for accuracy.

A separate DD Form 1348-1A will be completed for separate groups of scrap, i.e.,

- 81mm mortars
- 75mm projectiles
- non-OE related scrap

Groups of scrap will not be mixed on one DD Form 1348-1A

15.3 Turn-in Point

- The San Diego Landfill Scrap Metal Recycling Point has agreed to accept all scrap metal generated from this project.
- The San Diego DRMO Chief, Ms. Sally Wigmore, 3420 Guadalcanal Road, San Diego, (619) 437-9446, has concurred that the scrap generated from this site can be disposed of by turning into the Metal Recycling Point. This authority was granted via email dated April 17, 2001 and will be on file at the site office.

CHAPTER 16
COMMUNITY RELATIONS PLAN

No SCI team member, to include subcontractors, shall make available or publicly disclose any data generated or reviewed under this contract unless specifically authorized by the Contracting Officer, U.S. Army Engineer District, Los Angeles and the Los Angeles District Public Affairs Officer. When approached by any person or entity requesting information about the subject of this contract, the person shall be referred to the CESPL onsite representative for response.

Reports and data generated under this contract are the property of the Government and shall not be distributed to any other source unless authorized by the Contracting Officer.

CHAPTER 17
WILDFIRE CONTROL PLAN

17.1 ANALYSIS

The project site contains dense vegetation. During the dry season, this vegetation could be susceptible to fire created by hot fragments from detonation of unexploded ordnance.

An intentional detonation site will have the dried grass cleaned away with a string-typed trimmer. Loose, flammable materials will be raked away from the site.

17.2 MEASURES TO REDUCE THE LIKLIHOOD OF WILDFIRE.

All items to be detonated will be surrounded and covered with a thick sandbag barricade to minimize the discharge of fragments. In addition, water will be sprayed on the sandbags and the immediate surrounding vegetation prior to the detonation.

The immediate area around a detonation site will be raked clear of dry vegetation to bare ground, if possible

Kiddie wading pools will also be used to mitigate wildfires. A pool will be placed on top of the item to be destroyed and filled with water. See Chapter 2

Liaison has been conducted with the Santee Fire Department and the San Diego Fire Department. See Appendix C for points of contact.

During site-specific training, personnel will view "Fire fighter Safety Video" on www.firewise.org/pubs/firefighter_safety/main.html

The UXO Safety Officer will present the daily weather forecast at the morning tailgate safety briefing. This will include the predicted temperature, humidity, and wind speed and direction.

17.3 IN-HOUSE WILDFIRE CONTROL TEAM

SCI will have 2 teams of personnel working on the site. All personnel of these 2 teams will be team members of the wildfire control team. If a fire starts, all personnel will cease their clearance efforts and be directed to the fire site by the Senior UXO Supervisor.

Each of the 2-team trucks will have the following equipment:

- Firefighting gloves (6 pair)
- Dust masks (one box)
- Fire extinguishers (2 each)
- Fire fighting brooms (3 each)

- Firefighting shovels (3 each)
- Backpack firefighting pump (3 each)
- First aid kit
- Burn kit
- Eye care kit (2 each)

Since vehicles may be quite a distance from the grid, the Team Leader will determine which of these items will be hand-carried to the grid, based upon his assessment of operations.

The person performing intentional detonation operations will assure that the necessary fire fighting equipment is pre-staged for use in case of a fire.

Incident priorities are expressed as RECEO:

- **R**escue
- **E**xposures (structures)
- **C**ontainment
- **E**xtinguishment
- **O**verhaul or mop-up

Life safety is always the first priority for SCI personnel. This site contains several trails that are narrow and impassable for larger vehicles. Personnel will be alert to their location at all times and aware of the evacuation route.

This site contains overhead electrical lines. SCI personnel will be aware of their location in relation to the electrical lines and will not park vehicles under power lines.

Note: Fires run uphill in natural chimneys, gullies, or on steep slopes.

17.4 EMERGENCY EVACUATION.

Evacuation route maps will be in each vehicle. Team Leaders will be aware of their team's location and the closest evacuation route.

Periodic review of paragraph 6.11 of this Work Plan will be conducted.

Revised
STATEMENT OF WORK
Modification R00106
DACA09-01-D-0005
East Elliott Project
San Diego, CA
3 September 2003

1.0 OBJECTIVE:

For clarification purposes, this SOW will address changes to the original SOW dated 21 Dec 2000 and the Revised SOW dated 13 Nov 2001. This SOW will be in a new format and will address all areas in the original and revised SOWs. Any portion of the original and revised SOW not changed, deleted, revised will remain in force

The objectives of this Revised Statement of Work are for the Contractor to safely and efficiently locate and remove surface and subsurface conventional unexploded ordnance (UXO) from approximately 110 acres at the former Camp Elliott, East Elliott site, San Diego, California.

2.0 BACKGROUND:

2.1 UXO is a safety hazard that may constitute an imminent and substantial danger to the personnel performing construction activities, nearby residents, and the public in general. UXO contamination must be considered a possibility on all formerly used defense sites (FUDS) and active military installations. The surface danger zone of a range (active or inactive), the target area, impact area, ricochet area and the secondary danger zones may be contaminated with UXO. UXO may be found on the surface and/or subsurface. The varying types of ammunition, angle of fire, and soil types preclude the accurate estimation of the depth of any subsurface UXO

2.2 Location of Work

2.2.1 Currently the project is divided into 4 different sectors, this Task Order will encompasses those areas of Sectors 2 as detailed below.

2.2.2 Sector 2, North Central section of the project. It is bordered on the west by sector 1, the east by sector 4 and the south by sector 3. This sector surrounds the Sycamore Landfill and is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous clearances and evaluations encountered 37 mm and 75 mm projectiles and other related scrap in this 650-acre area. Of the approximate 650 acres, 170 acres is occupied by the current landfill and an additional 53.3 acres was cleared in 1996, leaving about 423 acres to be cleared. Portions of this sector are being absorbed into the Mission Trails Regional Park. For this tasking, only Sub-sectors 1 and 2, the portions that lie between the ridge top overlooking Spring Canyon to the west, the eastern bank of Little Sycamore Canyon to the east, Miramar MCAS to the north and Sector 3 to the south will be cleared. Priority will be given to sub-sector 1 (approximately 50 acres), then sub-sector 2 (approximately 46 acres). See attachment 1.

2.3 Site History

2.3.1 The area encompassing Former Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, Post-World War II (1945 to 1960);

2.4 Chemical Warfare Materiel. During a comprehensive review of archival records, no evidence of the potential existence of chemical warfare materiel (CWM) or CWM byproducts on the Former Camp Elliott Area

was discovered In the event suspect CWM is encountered, all work will immediately cease and project personnel will be evacuated along cleared paths upwind from the discovery A team consisting of a minimum of two personnel shall immediately secure the area to prevent unauthorized access. Reporting procedures will be in accordance with paragraph 6 5 4

3.0 SPECIFIC REQUIREMENTS

3.1 **(Task1) Technical Project Planning (TPP):** The contractor shall attend 4 public/stakeholder meetings This includes taking minutes, preparing and producing display charts and maps. The contractor will prepare a project fact sheet for the project. Coordination of these activities will be with Mr. Lloyd Godard, 213-452-4014 or Mr. Calvin Cox, 213-452-4031.

3.2 **Site Visit:** Not Required, this was completed under the original SOW

3.3 **Community Relations Plan (CRP):** Not Required, this task is covered in Task Order 002.

3.4 **Geophysical Prove-Out:** Not Required, however, geophysical instruments will be used during this project. Geophysical instruments being used shall be field-tested daily to ensure they are operating properly This shall be accomplished by using an established test plot located at the site or an approved alternate method The instrument should be able to locate a ferrous object having the equivalent mass or signature of a 75mm projectile, buried at 2 5 ft If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

3.5 **Explosive Safety Submission:** Not Required, this was completed under the original SOW.

3.6 **(Task 2) Work Plan:** The existing Work Plan (WP) will be used and appendices will be added to cover additional requirements by this SOW

3 7 **(Task 3) Location Surveys And Mapping.** This task will be accomplished in accordance with CEHNC Data Item Description (DID) OE-005-07 01.

3 7 1 The following areas will be surveyed and mapped:

a. The entire East Elliott Project site, detailing the boundaries of MCAS Miramar, The Cities of San Diego and Santee, the County of San Diego, the current landfill and it's boundaries and Highway 52.

b The current project site boundaries.

c Establish a master grid (100'x100') system that ties the entire project site into the areas previously completed. Only the current project site will have grids surveyed.

3 7 2 Items and data to be submitted as part of this task are as follows:

a. Control Points List A tabulated list of all control points showing the adjusted coordinates established and/or used for this survey

b Grid Corners List A tabulated list of all grid corners shall be provided

c Description Cards. A "Report of Establishment of Survey Mark" (Description Card) on each control point established and/or used for surveying. The Description Cards shall be 5" X 8" (12.7mm X 20 3mm) with one description per card In addition to the name or ID number of the control points, the cards should show the adjusted coordinates, a written description for locating the control points, and a sketch showing how to locate the control points. Installation of concrete monuments will not be required; existing monuments will be described and referenced on the survey drawing.

d. Drawings. All maps shall be drawn at a scale no smaller than 1 inch = 400 feet

(1:2400), referenced to the North American Datum of 1983 (NAD83), and provided on both reproducible (Mylar) drawings and in a digital format. One original and two blue line prints of each final drawing shall be delivered to the Government English units will be used.

d. As required by paragraph 8.8, EM 1110-1-4009.

3 8 **(TASK 4)- Establishment and Management of GIS.** This task will be accomplished in accordance with CEHNC Data Item Description (DID) OE-005-14 01.

3.8.1 The GIS should include all events performed by the U.S. Army Corps of Engineers to include previous investigations, EE/CA, removal actions, construction support, Time Critical Removals, and etc.

3 9 **(TASK 5)- Brush Clearing.** All brush, grass and trees will be cut/grubbed as needed.

3 10 **(Task 6)- OE Removal Action**

3.10 1 The Contractor shall provide all necessary personnel and equipment to find and recover all [ferrous]/[metallic] UXO, OE and OE-Scrap to it's depth and all anomalies will be investigated within the area identified in Attachment 1 and 2

3.10.2 Only UXO personnel approved by the contracting officer shall perform OE-related tasks. See DID OE-025.01

3 10 3 Geophysical instruments being used shall be field-tested daily to ensure they are operating properly. This shall be accomplished by using an established test plot located at the site or an approved alternate method The instrument should be able to locate a ferrous object having the equivalent mass or signature of a 75mm projectile, buried at 2.5 ft If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

3 10 4 If an excavation is required in an area of an endangered/ protected plant/animal, or known/suspected historical site, excavation shall proceed only after coordination through the on-site OE Safety Specialist.

3.10 5 All access/excavation/detonation holes shall be back-filled. A before and after photo of the holes may be required by the USACE OE Safety Specialist or SPL Archeologist The archeologist may also require examination of the detonation hole prior to back-filling. This will be coordinated in advance

3 10 6 During seasonal environmental concerns, some areas may be off limits until such time as released by Fish & Wildlife or LA District Biologist.

3 10 7 Artifacts unrelated to OE material or operations will not be disturbed/removed by the Contractor.

3 10 8 The Corps archeologist will clear the proposed locations for equipment staging and OE disposal except for Blow-in-Place items

3 10 9 Final Disposition of AEDA / Range Residue/ OE Scrap. The Contractor shall furnish all necessary personnel and equipment to make final disposition on all recovered AEDA/Range Residue/OE Scrap The methodology to accomplish this task shall be proposed in the Work Plan. The Corps archeologist will examine the all scrap material prior to Final Disposition.

3 10 9.1 The Contractor shall follow the provisions of DOD 4160.21-M when making final disposition of AEDA/Range Residue The Contractor shall complete a DD Form 1348-1A. In the event that DRMO does not accept scrap or is not locally available, the Contractor shall arrange in advance for local scrap contractor to accept the scrap. The DRMO or local scrap dealer shall be identified in the Work Plan. The contractor will also include in the Work Plan the written direction from DRMO if directed to a

local scrap dealer and a written statement from the dealer that the scrap will be processed through a smelter or furnace prior to resale or release. These documents are required even if The AEDA/Range Residue/OE Scrap is conveyed to a local scrap dealer rather than DRMO

3.10.9.2 The UXO contractor shall ensure that this property is 100% properly inspected IAW the inspection procedures specified in the Work Plan. Qualified UXO personnel shall perform the inspection. UXO contractor personnel responsible for certifying AEDA/Range residue must meet the qualification requirements specified in DID 0E-025.01. *AEDA/Range residue certification will be entered on the DD 1348-1A as follows:*

"This certifies that the AEDA residue, Range Residue, and/or Explosive Contaminated Property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

3.10.9.3 All certificates must clearly show the typed/printed name, organization, signature, and phone number of the person certifying the inspection.

3.10.9.4 Material, which cannot be certified as above, shall be returned to the range and detonated and then re-inspected.

3.10.9.5 These procedures shall apply to AEDA/Range Residue turned into DRMO or a local scrap dealer. Once the inspection is completed, the contractor shall ensure the inspected AEDA/Range Residue is not mixed with other types of material. The contractor shall implement adequate controls to ensure that mixing does not occur.

3.10.9.6 Disposal documentation receipts shall be submitted as a component of the Removal Report.

3.11 Quality Control. The Contractor shall develop a Quality Control (QC) Program that shall ensure a quality product from all aspects of the project to include any work performed by a subcontractor on the project. The Contractor shall develop QC procedures in accordance with DID OE-005-11.01 and submit those procedures, for all phases and types of work, in the project work plan(s). The contractor shall ensure that documentation is maintained and provided in the final report that supports the QC process. In addition to the QC process by the contractor, the Government may perform Quality Assurance (QA) on all phases and types of work performed. Any work that fails the Government QA process shall be re-done by the contractor, at no cost to the Government. The Contractor shall provide full documentation detailing what fail the QA process, why it failed and how the problem was corrected.

3.11.1 Corrective Actions. If the Government, through its Quality Assurance (QA) process, encounters any UXO, OE (UXO like), or hazardous OE Scrap in any grid, then the Government will not accept that grid and that grid will need to be re-cleared. The Contractor shall perform corrective actions, as the Government deems necessary, to achieve performance standard. If more than 5% of the project grids fail initial Government QA checks, the Contractor will not be paid "fee" (profit) for corrective action activities on grids that subsequently fail. The terms of the basic contract pursuant to FAR 52.246-6 remain in force.

3.12 **(TASK 7)- Soil Sampling and Chemical Analysis.** The contractor will take before and after soil samples of each disposal operation. The before samples will be taken as close as possible to the OE item that can safely be taken and the after samples will be taken in the destruct hole. Samples will be performed on three items of each type of OE discovered. The contractor may be required to perform further sampling depending on results. This will be conducted in accordance with the current approved Work Plan.

3.13 **(TASK 8)- Prepare Removal Report.** The contractor shall prepare a Final Report in accordance with DID OE-030.01. This report shall be submitted as Draft and Final versions according to section 4.0 of this SOW.

4.0 SUBMITTALS AND CORRESPONDENCE

4.1 Format and Content of Engineering Reports The Final Report shall be prepared in accordance with DID OE-030.01. In addition to the Final Report, a video tape with narrations of field operations shall be included, which shall be a minimum of 45 minutes in length and prepared in accordance with DID OE-030.01.

4.2 Review Comments: Various reviewers will have the opportunity to review submittals made by the Contractor under this Contract The Contractor shall review all comments received through the CESPL Contracting Officer's Representative (COR) and provide responses to all comments. The Contractor shall not non-concur with any comment without coordinating with the COR. If the COR, is unavailable, then the Contractor shall resolve the comment through the CESPL-PM The Contractor shall also note in the response to comments when text is moved within the document.

4.3 Draft Reports. Each page of draft reports shall be stamped "DRAFT". Submittals shall include incorporation and notation of all previous review comments accepted by the Contractor

4.4 Presentations. The Contractor shall make presentations of work performed as required. Each presentation shall consist of a summary of the work accomplished and anticipated followed by an open discussion among those present.

4.5 Correspondence. The Contractor shall keep a record of each phone conversation and written correspondence affecting decisions relating to the performance of this T.O. A summary of the phone conversations and written correspondence shall be submitted with the monthly status report to the CO.

4.6 Weekly Status Reports. The Contractor shall submit weekly status reports in accordance with DID OE-085.01

4.7 Monthly Status Reports The Contractor shall submit monthly status reports in accordance with DID OE-080.01.

4.8 Daily Status Report. The Contractor shall submit a daily status reports in accordance with DID SPL-OE-001.

4.9 On-Site Coordination. The Contractor shall keep the CO's on-site representative informed of day-to-day field activities occurring on site. Where Contractor activities are likely to require coordination with various other activities at the site, the Contractor shall notify the point of contact (POC) identified by the COR sufficiently ahead of time to allow for coordination activities to take place

4.10 Computer Files. All final text files generated by the Contractor under this contract shall be furnished to the CO in Microsoft Word 6.0 or higher software, IBM PC compatible format and Microstation 95 format. All meta data shall be in FGDC Standard Format All GIS data shall be in ESRI (Arcview/Arcinfo) format All electronic data shall be provided on CD-R media The CD-R disks shall be placed in a plastic 3-ring folder insert that will be placed in the back of work plans or final reports. Arrange all the documents on the CD into folders that correspond to the chapter where they are found in the Work Plan. Title each folder Chapter 1, Chapter 2, ...to Appendix H. The cover Page, Document Control Page, Title Sheet, and table of contents shall be in a folder titled "Beginning Pages". Also, convert the whole document into one Adobe Acrobat document and place the file into a folder called "Entire Document.

4.11 Public Affairs. The Contractor shall not make available or publicly disclose any data generated or reviewed under this contract or any subcontract unless specifically authorized by the Contracting Officer, the U.S. Army Engineer District Los Angeles, PAO. When approached by any person or entity requesting information about the subject of this contract, the Contractor shall defer to the PAO for response. Reports and data (including all digital data) generated under this contract shall become the property of the Department of Defense and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.

4.12 Submittals

4.12.1 The Contractor shall furnish copies of the plans and reports to each addressee listed below in the quantities indicated. One copy of all contract submittals, review comments and review comment responses shall be sent to the Project Manager on CD-ROM in an acceptable format in addition to the number of hard copies identified below. The Contractor shall use express mail services for delivering these plans and reports. Following each submission, comments generated as a result of their review shall be incorporated.

4.12.2 The contractor will be required to provide extra copies of any or all submittals, in either CD-ROM or Hard Copy format, to outside entities as directed by the Contracting Officer, Project Manager or on-site representative.

*** HC = Hard Copy** *** CD = CD-ROM** **Addressee**	**Draft WP**	**Final WP**	**Draft ESS**	**Final ESS**	**Draft Removal Report**	**Draft Final Removal Report**	**Approved Final Removal Report**	**Other Submittals**
Commander U.S. Army Corps of Engineers, Los Angeles ATTN: CESPL-PM-M (Lloyd Godard) 911 Wilshire Blvd Los Angeles, CA 90017	4 - HC 4 - CD	4 - HC 4 - CD	***	***	4 - HC 4 - CD	4 - HC 4 - CD	4 - HC 4 - CD	IAW DIDs
Commander U.S. Army Corps of Engineers, Los Angeles San Diego Project Office ATTN: OE Safety (B.J. Allen) 16885 W. Bernardo Drive #300-B San Diego, CA 92127	1 - HC	1 - HC			1 - HC	1 - HC	1 - CD	IAW DIDs
** The contractor may be directed to forward additional copies to outside agencies as needed and await response. *** The ESS was previously completed.								

4.12.3 Submittals and Due Dates

SUBMITTAL	**DUE DATES**
Draft Work Plan (changes due to this modification)	14 days from NTP
Final Work Plan (changes due to this modification)	7 days after comments
Conventional Explosives Safety Submittal	Completed
Daily QC/Safety Inspection Report	IAW DID SPL OE-001
Accident/Incident Report	IAW DID SPL OE-002
Report/Minutes Record of Meeting	IAW DID OE-045

Telephone Conversation Correspondence	IAW DID OE-055
Weekly Status Report	IAW DID OE-085
Draft Removal Report	30 days from completion of removal action
Draft Final Removal Report	14 days after receipt of comments
Final Removal Report	14 days after receipt of comments

5.0 REFERENCES:

5 1 DOD Manual 4160 21 M, Defense Utilization and Disposal Manual.

5 2 AR 200-1, Environmental Protection and Enhancement.

5 3 AR 385-40 with USACE Supplement

5.4 AR 386-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat.

5 5 EM 385-1-1, CE Safety and Health Requirements Manual

5 6 DA PAM 385-64, Ammunition and Explosive Safety Standards.

5 7 EP 385-1-95a, Basic Safety Concepts and Considerations for Ordnance and Explosives Operations, 29 June 2001.

5.8 DoD 6055 9 Std. DoD Ammunition and Explosive Safety Standards

5 9 TM 60A 1-1-31, Explosive Ordnance Disposal Procedures

5.10 National Contingency Plan, 40 CFR 300

5 11 Federal Acquisition Regulation, F A R Clause 52.236-13: Accident Prevention.

5 12 Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910 and Construction Industry Standards, 29 CFR 1926; especially 196.120/29CFR1926 65-Hazardous Waste Site Operations and Emergency Response

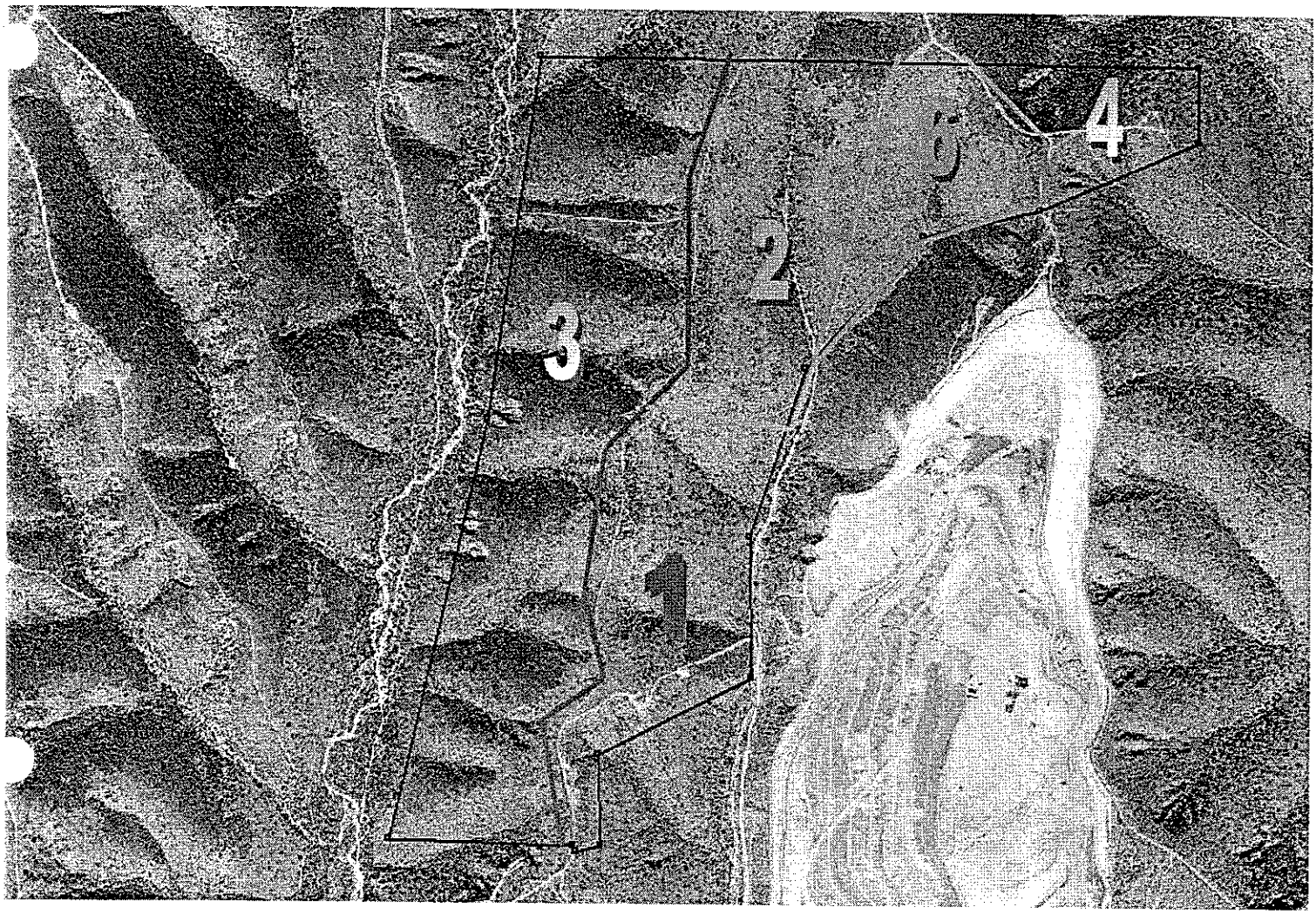
5.13 NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985. (DHHS (NIOSH) Publication No. 85-115)

5 14 CEHNC (dated Oct 2002) and SPL Data Item Descriptions (DID)

	Data Item Description (DID)
OE-005-01.01	Type II Work Plan
OE-005-02.01	Technical Management Plan
OE-005-03.01	Explosives Management Plan
OE-005-04.01	Explosives Siting Plan
OE-005-05.01	Geophysical Investigation Plan
OE-005-05A.01	Geophysical Prove-out (GPO) Plan and Report
OE-005-06.01	Site Safety and Health Plan
OE-005-07.01	Location Surveys and Mapping Plan
OE-005-08.01	Work, Data, and Cost Management Plan
OE-005-09.01	Property Management Plan
OE-005-10.01	Sampling and Analysis Plan/Environmental Sampling and Analysis Plan

OE-005-11.01	Quality Control Plan
OE-005-12.01	Environmental Protection Plan
OE-005-13.01	Investigative Derived Waste Plan
OE-005-14.01	Geographic Information System Plan
OE-015.01	Accident/Incident Reports
OE-025.01	Personnel/Work Standards
OE-030.01	Site Specific Final Report
OE-040.01	Disposal Feasibility Report
OE-045.01	Report/Minutes, Record of Meetings
OE-055.01	Telephone Conversation/Correspondence Records
OE-060.01	Conventional Explosives Safety Submission
OE-080.01	Monthly Status Report
OE-085.01	Weekly Status Report/Project Status Report
SPL-OE-001	Daily Status Report
SPL-OE-002	Accident/Incident Reports

Attachment 1



REVISED
STATEMENT OF WORK - Task Order 0001
DACA09-01-D-0005
East Elliott Project
San Diego, CA
13 Nov 2001

1.0 OBJECTIVE.

For clarification purposes, this SOW will address changes to the original SOW dated 21 Dec 2000 Any repeat of paragraphs or sentences is used to assist in clarification of revision. Any portion of the original SOW not changed, deleted, revised will remain in force.

The objectives of this Revised Statement of Work are for the Contractor to safely and efficiently locate and remove surface and subsurface conventional unexploded ordnance (UXO) from approximately 110 acres at the former Camp Elliott, East Elliot site San Diego, California.

2.0 STATEMENT OF WORK.

2.1 GENERAL

2.1.1 The work required under this Statement Work (SOW) falls under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS). Ordnance and Explosives (OE) exists on this property formerly owned or controlled by the Department of Defense and currently owned by the Cities of San Diego and Santee, the County of San Diego and various individuals. The work described in the SOW will be performed in a manner that is consistent with the National Contingency Plan (NCP) and the Comprehensive Environment Response, Compensation, and Liability Act (CERCLA). The applicable provisions of 29 CFR 1910 120 shall apply to all actions taken at this site

2.1.2 Due to the inherent risk in this type of operation, the Contractor shall be limited to a 40-hour work week (either five 8-hour days or four 10-hour days). Unexploded Ordnance (UXO) personnel shall not perform OE-related tasks for more than 10 hours per day.

2.1.3 Chemical Warfare Materials. This site is not a suspected Chemical Warfare Material (CWM) site However, if the Contractor or subcontractors encounter suspected CWM during any phase of work, they shall immediately withdraw upwind from the work area and notify the SPL on-site OE Safety Specialist, COR or COTR, who will notify the Project Manager and CEHNC OE Safety Group. The CEHNC OE Safety Group will notify the Technical Escort Unit (TEU) This notification sequence shall be specified in the Work Plan.

2.2 Ordering Provisions

2.2.1 This Task Order is issued as a unilateral Time and Materials Order with a Not- to-Exceed Ceiling Price subject to the provisions of the basic contract Section H.13. Pricing shall be in accordance with the attached Pricing Schedule. The Government intends to convert this order to a firm-fixed priced order at the earliest practicable time following the completion of the Site

Visit and approval of the Work Plan. The Contractor shall prepare a firm-fixed priced Ordering Estimate for all remaining work to be performed under this Task Order upon the request of the Contracting Officer or ACO. Conversion to a firm- fixed priced order shall be accomplished pursuant to the Changes Clause of this contract.

2.2 2 Contract Line Item Pricing (CLIN). Extended pricing on individual line items may be changed between line items. If it becomes necessary to vary the quantities originally ordered, this may be accomplished as long as the total price of the order is not affected. For example, a labor CLIN may be reduced to provide for materials increase if directed by the COR.

2.3 Phasing Provisions and Performance Period

Work to be performed under this order shall be phased as follows:

Phase 1. Site Visit and Work Plan, including Explosive Safety submission, as per paragraph 4.1 and 4.2, to commence with the issuance of this order. The site visit shall be scheduled to be completed by 29 January 2001.

Phase 2. Remediation/Execution Authorization to proceed with this Phase will be upon the written direction of the Contracting Officer or ACO.

The total project duration for this Task Order shall be 365 Calendar Days

3.0 SITE DESCRIPTION.

3.1 Site Location: The former Camp Elliott, East Elliott site lies within the City of San Diego and is bordered by the following features:

- Oak Canyon to the west
- Marine Corps Air Station (MCAS) Miramar to the north and west
- Sycamore Canyon to the east
- The City of Santee to the east and south
- State Highway 52 and Mission Trails Regional Park to the southwest

The approximate 110 acres includes roads and trails, in sector 2 and 3, and a designated area of approximately 107 acres. The 107-acre area is bounded by Little Sycamore canyon to the east, Miramar to the north, the power line access road to the south, a trail that runs north/south and bisects sector 2 to the west. See attachment 1 and 2 for an approximate position and location of the 107-acre area. The following roads and trails; approximately 3 acres total, are included in this tasking; the road that enters sector 3 from Mission Trails, under highway 52, up to the point where it intersects the second power line access road, power line access road from Spring Canyon to the bottom of Little Sycamore Canyon and all other roads/trails that are utilized by personnel for hiking and trail bikes throughout sector 2 and eastern portion of sector 3, between the creek bed in Spring Canyon to the creek bed in Little Sycamore Canyon.

The site is mostly undeveloped. Narrow ridges and canyons trend north to south through the site. Intermittent streams flow southward toward the San Diego River, which is approximately 0.4 miles south of East Elliott Topography is typified by moderate to steep slopes that are predominantly vegetated with native grassland, coastal sage or black sage habitat, or chaparral. Deciduous trees and other riparian vegetation are locally abundant in the two largest

canyons in East Elliott, Oak Canyon and Spring Canyon Several dirt roads and trails are located within East Elliott, particularly along ridges and within canyons. Many of these roads are accessible only by 4-wheel-drive vehicles. Most access to the site is provided by roads and trails that enter East Elliott from the south and east.

3.2 Site Owners: Property within the former Camp Elliott, East Elliott site is currently owned by the Cities of San Diego and Santee, the County of San Diego and various individuals. Rights of Entry will be obtained by the U.S. Army Corps of Engineers, Los Angeles District

3.3 Site History: The area encompassing Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following four general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, post-World War II (1945 to 1960); and
- Camp Elliott closure (1960 to August 1999).

3 4 Project Location: Currently the project is divided into 4 different sectors. The location of sectors referenced below may be accessed at the Huntsville OE website through the Project Webs: http://www.hnd.usace.army.mil/oew/projwebs/Projects/elliott/EECA/chap2.pdf. This Task Order will encompasses those areas of Sectors 2 and 3 as detailed below:

3.4 1 Sector 2, North Central section of the project. It is bordered on the west by sector 1, the east by sector 4 and the south by sector 3. This sector surrounds the Sycamore Landfill and is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous clearances and evaluations encountered 37 mm and 75 mm projectiles and other related scrap in this 650-acre area. Of the approximate 650 acres, 170 acres is occupied by the current landfill and an additional 53 3 acres was cleared in 1996, leaving about 423 acres to be cleared. Portions of this sector are being absorbed into the Mission Trails Regional Park. For this Task Order, only the portions that lie between Spring Canyon to the west, Little Sycamore Canyon to the east, Miramar MCAS to the north and Sector 3 to the south will be cleared.

3 4.2 Sector 3, Southwest section of the project. Oak Canyon and MCAS Miramar form the west, sectors 1 and 2 to the north, sector 4 and the Sycamore Landfill Road to the east and Highway 52 and the Mission Trails Regional Park to the south. It is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous evaluations of these 750 acres found no evidence of live OE, two 37 mm APT projectiles were found. Portions of this sector are being absorbed into the Mission Trails Regional Park For this Task Order, only the roads and trails that lie between Spring Canyon to the west, Little Sycamore Canyon to the east, Sector 2 to the north and Hwy 52 to the south will be cleared

3 5 Deleted

3 6 Corrective Actions. If the Government, through its Quality Assurance (QA) process, encounters any UXO, OE, or hazardous OE Scrap in any grid, then that grid will not be accepted by the Government The Contractor shall perform corrective actions, as the Government deems necessary, to achieve performance standard. If more than 5% of the project grids fail initial Government QA checks, the Contractor will not be paid "fee" (profit) for corrective action

activities on grids that subsequently fail. The terms of the basic contract pursuant to FAR 52.246-6 remain in force.

4.0 DESCRIPTION OF SERVICES

4.1 Site Visit. A site visit not to exceed four days and using two contractor personnel will be performed. The Contractor will coordinate with the Project Manager at least ten (10) calendar days in advance of the site visit. The site visit team shall include the Contractor's Project Manager, and a Senior UXO Supervisor. The objective of the site visit is for the Contractor's team to gain familiarization with the site in general and to gather information required to assemble an acceptable and executable Work Plan. No UXO-related activities will be performed during the site visit. The Contractor shall prepare an Abbreviated Site Safety and Health Plan (ASSHP) and submit the plan to the Contracting Officer for review and approval prior to the visit. The ASSHP has a brief, fill-in-the-blank format, and may be obtained from the CEHNC OE Website. The Contractor shall ensure that the visit is fully coordinated and that all members of the site visit team maintain compliance with the ASSHP. The Contractor shall also coordinate with the local points of contact prior to the site visit. It is envisioned that only one site visit will be necessary for all sectors and delivery orders.

4.2 Prepare Work Plans The Contractor shall prepare a Work Plan and related sub-plans that describe the Contractor's proposed methodology of accomplishing the objective. The Work Plan and related sub-plans shall be prepared in accordance with the guidance provided in their respective Data Item Descriptions. All OE related procedures shall comply with EP 385-1-95a, Basic Safety Concepts and Considerations for Ordnance and Explosives Operations, 29 June 2001 The Contractor shall prepare the following documents describing the work necessary to respond to the requirements described in this SOW and Data Item Descriptions (DID), as follows:

4.2.1 Work Plan (DID OT-005-01)

4.2.2 Technical Management Plan (DID OE-005-02)

4.2.3 Explosives Management Plan (DID OE-005-03)

4.2.4 Explosives Siting Plan (DID OE-005-04)

4.2.5 Geophysical Investigation Plan (DID OE-005-05)4.2.6 Site Safety and Health Plan (DID OE-005-06)

4.2.7 Location Surveys and Mapping Plan (DID OE-005-07)

4.2.8 Work, Data and Cost Management Plan (DID OE-005-08)

4.2.9 Property Equipment Plan (DID OE-005-09)

4.2.10 Sampling and Analysis Plan (DID OE-005-10)

4.2.11 Quality Control Plan (DID OE-005-11)

4.2.12 Site-Specific Environmental Protection Plan, (DID OE-005-12)

4.2.13 Not Required

4.2.14 Not Required

4.2.15 Scrap Monitoring and Disposal Plan (DID OE-040)

4.2.16 Community Relations Plan (DID OE-045)

4.2.17 Personnel/ Work Standards (DID OE-025)

4.2.18 Conventional Explosives Safety Submission (DID OE-060). This document shall be bound as separate document and shall be submitted and approved prior to intrusive work.

4.2.19A site specific work plan will be completed for this phase of the project. If modifications are made to this delivery order, an addendum will be added to the workplan covering the new requirement.

4.3 Location Surveying and Mapping. The Contractor shall perform all location surveys and mapping required to establish boundaries of all areas specified in section 3.4 of this SOW and as required to support the project. During all fieldactivities, the survey crew shall be accompanied by a UXO Tech II who will perform a UXO survey in each area prior to the surveyors starting intrusive work such as driving stakes or inserting flags. Detection equipment shall be used to survey the location for the establishment of any monuments or markers. Based on site conditions it is possible that a UXO escort will not be required in all areas at all times after the initial site visit. However, such a decision will be made jointly by the Contractor's Site Safety and Health Officer (SSHO) and the USACE OE Safety Specialist who may rescind or modify it at any time. Grid corners shall be established using precision surveying methods. Each corner of each grid area shall be located by establishing the appropriate state plane grid system to the closest one (1) foot and shall be both tabulated and shown on maps of the site. Other coordinate systems and accuracy specifications are not acceptable and shall not be used. The Contractor shall mark and survey the corners of the designated grids with stakes or other visible temporary markers. Individual locations of recovered UXO only shall be tape measured or the "x" & and "y" distance estimated to obtain a horizontal accuracy of plus or minus one foot from the established grid corners. If subsurface UXO are encountered, their depth below ground surface shall also be measured. The location of ordnance scrap, ordnance fragments, shrapnel, small arms ammunition and metallic debris shall be recorded on a "per-grid" basis and not located by coordinates. The use of Total Station, GPS or other precision survey methods to locate individual UXOs, UXO scrap, or geophysical anomalies within a grid is not necessary

4.3.1 Items and data to be submitted as part of this task are as follows:

4.3.1.1 Control Points List. A tabulated list of all control points showing the adjusted coordinates established and/or used for this survey.

4.3.1.2 Grid Corners List. A tabulated list of all grid corners shall be provided.

4.3.1.2 Description Cards A "Report of Establishment of Survey Mark" (Description Card) on each control point established and/or used for surveying. The Description Cards shall be 5" X 8" (12.7mm X 20 3mm) with one description per card. In addition to the name or ID number of the control points, the cards should show the adjusted coordinates, a written description for locating the control points, and a sketch showing how to locate the control points. Installation of concrete monuments will not be required; existing monuments will be described and referenced on the survey drawing.

4.3.1.3 Drawings. All maps shall be drawn at a scale no smaller than 1 inch = 400 feet (1:2400), referenced to the North American Datum of 1983 (NAD83), and provided on both reproducible (Mylar) drawings and in a digital format. One original and two blue line prints of each final drawing shall be delivered to the Government. English units will be used

4.3 2 Schedule. All work and services under this task shall be completed and submitted no later than the submission of the final report for each delivery order.

4.4 Vegetation Removal and Restoration.

4.4.1 Removal. Brush and trees shall be trimmed only enough to allow access to the area needing clearance. Coordination shall be made with the LA District Ecologist, John Moeur, 213-452-3874 on required standards for which type of vegetation that can be trimmed.
4 4 2 Restoration. Upon conclusion of work at this site, the Contractor shall restore locations disturbed by operations. Excavated and trafficked areas shall be returned to natural grade and indigenous vegetation re-established by seeding or planting sprigs.

4.5 Perform Removal Action. This task shall be in accordance with the requirements of the Basic Contract and the approved Work Plan, SSHP, and Explosives Safety Submission for this site.

4 5.1. General. The following requirements will apply to all clearance activities covered under this SOW

4.5.1.1 The Contractor shall provide all necessary personnel and equipment to find and recover all [ferrous]/[metallic] UXO, OE and OE-Scrap to it's depth and all anomalies will be investigated within the area identified in Attachment 1 and 2. The roads will be cleared the width of the road plus 5 feet on each side of the roadway. The area to be cleared for trails will be 5 feet each side from the centerline of the trail

4.5.1.2. Only UXO personnel approved by the contracting officer shall perform OE-related tasks. See DID OE-0025

4.5.1.3. Geophysical instruments being used shall be field-tested daily to ensure they are operating properly. This shall be accomplished by using an established test plot located at the site or an approved alternate method. The instrument should be able to locate a ferrous object having the equivalent mass or signature of a 75mm projectile, buried at 3 ft. If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

4.5.1.4 If an excavation is required in an area of an endangered/ protected plant/animal, or known/suspected historical site, excavation shall proceed only after coordination through the CESPL Project Manager or the on-site OE safety specialist.

4.5.1 5 All access/excavation/detonation holes shall be back-filled. A before and after photo of the holes may be required by the USACE OE Safety Specialist or SPL Archeologist. The archeologist may also require examination of the detonation hole prior to back-filling. This will be coordinated in advance.

4.5.1.6. During seasonal environmental concerns, some areas may be off limits until such time as released by Fish & Wildlife or LA District Biologist.

4.5 1 7 Artifacts unrelated to OE material or operations will not be disturbed/removed by the Contractor

4.5.1.8 The Corps archeologist will clear the proposed locations for equipment staging and OE disposal except for Blow-in-Place items

4.6 Final Disposition of AEDA / Range Residue/ OE Scrap. The Contractor shall furnish all necessary personnel and equipment to make final disposition on all recovered AEDA/Range Residue/OE Scrap. The methodology to accomplish this task shall be proposed in the Work Plan. The Corps archeologist will examine the all scrap material prior to Final Disposition

4.6.1 The Contractor shall follow the provisions of DOD 4160.21-M when making final disposition of AEDA/Range Residue. The Contractor shall complete a DD Form 1348-1A In the event that DRMO does not accept scrap or is not locally available, the Contractor shall arrange in advance for local scrap contractor to accept the scrap. The DRMO or local scrap dealer shall be identified in the Work Plan. The contractor will also include in the Work Plan the written direction from DRMO if directed to a local scrap dealer and a written statement from the dealer that the scrap will be processed through a smelter or furnace prior to resale or release. These documents are required even if The AEDA/Range Residue/OE Scrap is conveyed to a local scrap dealer rather than DRMO.

4.6 2 Inspection/Certification of AEDA.

4 6.2.1 The UXO contractor shall ensure that this property is 100% properly inspected IAW the inspection procedures specified in the Work Plan. Qualified UXO personnel shall perform the inspection. UXO contractor personnel responsible for certifying AEDA/Range residue must meet the qualification requirements specified in DID 0E-025. *AEDA/Range residue certification will be entered on the DD 1348-1A as follows*

"This certifies that the AEDA residue, Range Residue, and/or Explosive Contaminated Property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

4.6.2 2 All certificates must clearly show the typed/printed name, organization, signature, and phone number of the person certifying the inspection

4.6.2.3 Material, which cannot be certified as above, shall be returned to the range and detonated and then re-inspected.

4.6.2.4 These procedures shall apply to AEDA/Range Residue turned into DRMO or a local scrap dealer. Once the inspection is completed, the contractor shall ensure the inspected AEDA/Range Residue is not mixed with other types of material. The contractor shall implement adequate controls to ensure that mixing does not occur.

4.6.2.5 Disposal documentation receipts shall be submitted as a component of the Removal Report.

4.7 Prepare and Submit Removal Report. At the conclusion of all field activities, the Contractor shall submit the Removal Report IAW DID OT-030 The report shall consist of the following:

4.7.1 Detailed accounting of all UXO and OE-related materials located and destroyed. This information will be provided from the Government maintained database.

4.7.2 A system of daily journals of all activities associated with this SOW. A daily journal for the site shall be opened upon first arrival for field operations and closed after contractor demobilization at the project site.

4.7.3 A recapitulation of exposure data. This shall include total number of man-hours worked on-site in OE related activities, total motor vehicle mileage, number of aircraft flights and total of man-hours flown to support the project.

4.7.4 QC documentation.

4.7.5 DRMO turn-in documentation.

4.7.6 The Contractor shall provide color digital pictures of sufficient quality to allow the Government to easily identify the item being photographed. The Contractor shall provide pictures of selected unexploded ordnance located during the clearance action, all demolition shots (before and after explosion) and any significant events during the course of the fieldwork. The digital pictures shall include the anomaly number in the file name for each picture. The pictures shall be imported into the text of the Removal Report. Further, a minimum of 45 minutes of narrated videotape depicting all major activities shall be provided in two copies.

4.7.7 A financial breakdown by area of all costs and labor hours used to perform this SOW

4.8 Deleted

4.9 Residual Soil Testing: The contractor will take before and after soil samples of each disposal operation The before samples will be taken as close as possible to the OE item that can safely be taken and the after samples will be taken in the destruct hole. Samples will be performed on three items of each type of OE discovered. The contractor may be required to

perform further sampling depending on results. A Sampling and Analysis Plan will be written detailing procedures IAW OE-05-10.

5 0 SUBMITTALS.

a. The Contractor shall furnish copies of the plans and reports to each addressee listed below in the quantities indicated. One copy of all contract submittals, review comments and review comment responses shall be sent to the Project Manager on CDROM in an acceptable format in addition to the number of hard copies identified below. The Contractor shall use express mail services for delivering these plans and reports. Following each submission, comments generated as a result of their review shall be incorporated.

b. The contractor will be required to provide extra copies of any or all submittals, in either CD-ROM or Hard Copy format, to outside entities as directed by the Contracting Officer, Project Manager or on-site representative.

5.1 Addressees:

* HC = Hard Copy * CD = CD-ROM Addressee	Draft WP	Final WP	Draft ESS	Final ESS	Draft Final Report	Approved Final Report	Other Submittals
Commander U S. Army Corps of Engineers, Los Angeles ATTN: CESPL-PM-M (Lloyd Godard) 911 Wilshire Blvd Los Angeles, CA 90017	4 - HC	1 - HC 3 - CD	1 - HC	1 - CD	4 - HC	1 - HC 3 - CD	IAW DIDs
Commander U S. Army Corps of Engineers, Los Angeles Environmental Construction Branch ATTN: Thad Fukushige 645 N. Durfee South El Monte, CA 91733	1 - HC	1 - CD	1 - HC	1 - CD	1 - HC	1 - CD	IAW DIDs
Commander U S. Army Corps of Engineers, Los Angeles San Diego Project Office ATTN: OE Safety (B J. Allen) 16885 W Bernardo Drive #300-B San Diego, CA 92127	1 - HC	1 - HC	1 - HC	1 - HC	1 - HC	1 - CD	IAW DIDs
Commander U S. Army Engineering and Support Center ATTN: CEHNC-OE-PM (Brad McCowan) 4820 University Square Huntsville, AL 35807-4301	2 - HC	1 - CD 1 - HC	4 - HC	4 - HC	1 - HC	1 - CD	IAW DIDs

5 2 Submittals and Due Dates

SUBMITTAL	DUE DATES
Draft Work Plan	30 days from completion of Site Visit
Final Work Plan	14 days after receipt of comments
Conventional Explosives Safety Submittal	7 days from completion of Revised Final Work Plan
Daily QC/Safety Inspection Report	IAW DID SPL OE-001
Accident/Incident Report	IAW DID SPL OE-002
Report/Minutes Record of Meeting	IAW DID OE-045
Telephone Conversation Correspondence	IAW DID OE-055
Weekly Status Report	IAW DID OE-085
Draft Removal Report	30 days from completion of removal action
Final Removal Report	30 days after receipt of comments

5 3 Computer Hardware and Software.

5.3 1 All final text files generated by the Contractor shall be Word 97, IBM PC compatible format The drawing and plot data shall be provided as coincident files in State Grid Plane Coordinates in MicroStation 95 CADD to run on typical properly configured Windows 95 and NT 4.0 PCs The individual CADD files shall be referenced to a master file that allows simultaneous viewing of all historical layers and figures. Discussions shall be held on all non-CADD data to insure that its use and viewing is compatible with the Government's GIS workstations. HNC GIS workstations are Intergraph TDZ-425 dual 266 Pentium II with 128 megabytes of memory. The workstations run under the Windows NT. 4.0 operating system with MicroStation 95 utilizing the MGE 6.0 complement of software and an Oracle 7.3 relational data base. Current other GIS project related software includes: IRAS B, IRAS C 5 04 and IRAS Engineer, DB Access, MGE Basic Nucleus, MGE Analysts, MGE Map Finisher, MGE Projection Manager, MGE Grid Analyst, MGE Modeler, Inroads, Base and Advanced Imager All data for formal submittals shall be on PC CD-ROM Combine all documents onto the smallest number of CD-ROMs Group files on the CD-ROM in directories labeled after the submittal names (i.e. Draft Work Plan, Draft Work Plan Comments ...). Three copies of each electronic submittal are required and are to be submitted in separate packages completely document and ready to run.

5.3.2 No digital data will be accepted until proven compatible with the Government's Graphics System. All revisions required to obtain compatibility with the Government's Graphics System shall be performed at Contractor's expense.

5.4 Mapping. All final mapping shall be created by Computer Aided Design and Drafting (CADD) and provided to the Government in MicroStation 95 two-dimensional digital design files on PC CD-ROM All characteristics such as file naming and relationships, level structures, colors, line styles, weights, etc. shall be in accordance with the surveying and mapping requirements of the Tri-Service Spatial Data Standards (TSSDS) of the current release and shall be compiled in the design files. Site maps plotted from these design files shall be provided on reproducible (Mylar) standard metric A-1 size drawings which are 841 millimeters (mm) by 594mm in size (33.1 inches by 23.4 inches). The location, identification, and coordinates of all the control points, and boundary corners shall be plotted on the reproducible maps. Each control point shall be identified on the map by its name or number and the final adjusted coordinates and elevations to the closest 0.01 ft. Each sheet shall include a standard border, revision block, title block, complete index sheet layout, bar scale, grid north, a true north, and magnetic north arrow with the differences between them shown in minutes and sections. Grid lines or tick marks in feet and at systematic intervals shall be shown with their grid values on the edges of the map. Also, a legend showing the standard National Geodetic
Standard (NGS) symbols used for the mapping, a map index showing the site in relationship to all other sites within the boundary lines of the project area shall be included on each sheet.

6.0 PUBLIC AFFAIRS. The Contractor shall not make available or publicly disclose any data generated or reviewed under this contract or any subcontract unless specifically authorized by the Contracting Officer, the U.S. Army Engineer District Los Angeles, PAO. When approached by any person or entity requesting information about the subject of this contract, the Contractor shall defer to the PAO for response Reports and data generated under this contract shall become the property of the Government and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer

7.0 **REFERENCES:**

7.1 DOD Manual 4160.21.M, Defense Utilization and Disposal Manual.

7.2 AR 200-1, Environmental Protection and Enhancement.

7.3 AR 385-40 with USACE Supplement.

7.4 AR 386-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat.

7.5 EM 385-1-1, CE Safety and Health Requirements Manual.

7.6 DA PAM 385-64, Ammunition and Explosive Safety Standards.

7.7 EP 385-1-95a, Basic Safety Concepts and Considerations for Ordnance and Explosives Operations, 29 June 2001.

7.8 DoD 6055.9 Std. DoD Ammunition and Explosive Safety Standards

7.9 TM 60A 1-1-31, Explosive Ordnance Disposal Procedures

7.10 National Contingency Plan, 40 CFR 300.

7.11 Federal Acquisition Regulation, F.A.R. Clause 52.236-13: Accident Prevention.

7.12 Deleted pending release of EP 385-1-95b.

7.13 Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910 and Construction Industry Standards, 29 CFR 1926; especially 196 120/29CFR1926.65-Hazardous Waste Site Operations and Emergency Response.

7 14 NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985 (DHHS (NIOSH) Publication No. 85-115).

7.15 CEHNC 1115-3-86, Ordnance and Explosives Cost-Estimating Risk Tool (OECert) Standing Operating Procedure (SOP), November 1996

7 16 DID OE-005-01 Removal Action Work Plan (Required for sampling operations)

7.17 DID OE-005-02 Technical Management Plan

7.18 DID OE-005-03 Explosives Management Plan

7.19 DID OE-005-04 Explosives Siting Plan

7.20 DID OE-005-05 Geophysical Investigation Plan

7.21 DID OE-005-06 Site Safety and Health Plan

7 22 DID OE-005-07 Location Surveys and Mapping Plan

7.23 DID OE-005-08 Work, Data, and Cost Management Plan

7.24 DID OE-005-09 Property Management Plan (Government furnished equipment)

7 25 DID OE-005-10 Sampling and Analysis Plan

7.26 DID OE-005-11 Quality Control Plan

7.27 DID OE-005-12 Environmental Protection Plan

7 28 DID SPL OE-002 Accident/Incident Reports

7 29 DID OE-025 Personnel and Work Standards

7.30 DID OE-030 Site Specific Removal Report (Needed for sampling operations)

7.31 DID OE-040 Disposal Feasibility Letter Report

7.32 DID OE-045 Report/Minutes, Record of Meeting

7.33 DID OE-055 Telephone Conversations

7.34 DID OE-060 Conventional Safety Submissions

7.35 DID OE-085 Weekly Status Report

7.36 DID SPL OE 001 Daily QC/Safety Inspection Report

8.0 GOVERNMENT FURNISHED.

8.1 Access Agreements.

8.2 Engineering Evaluation/Cost Analysis, dated.

8.3 Action Memorandum, dated.

8.4 Pertinent UXO Technical publications/information as required.

8.6 Maps showing sectors.

8.7 Schonstedts (72-C)

8.8 Radios HT-600 & Base Station

9.0 SPECIAL INSTRUCTIONS.

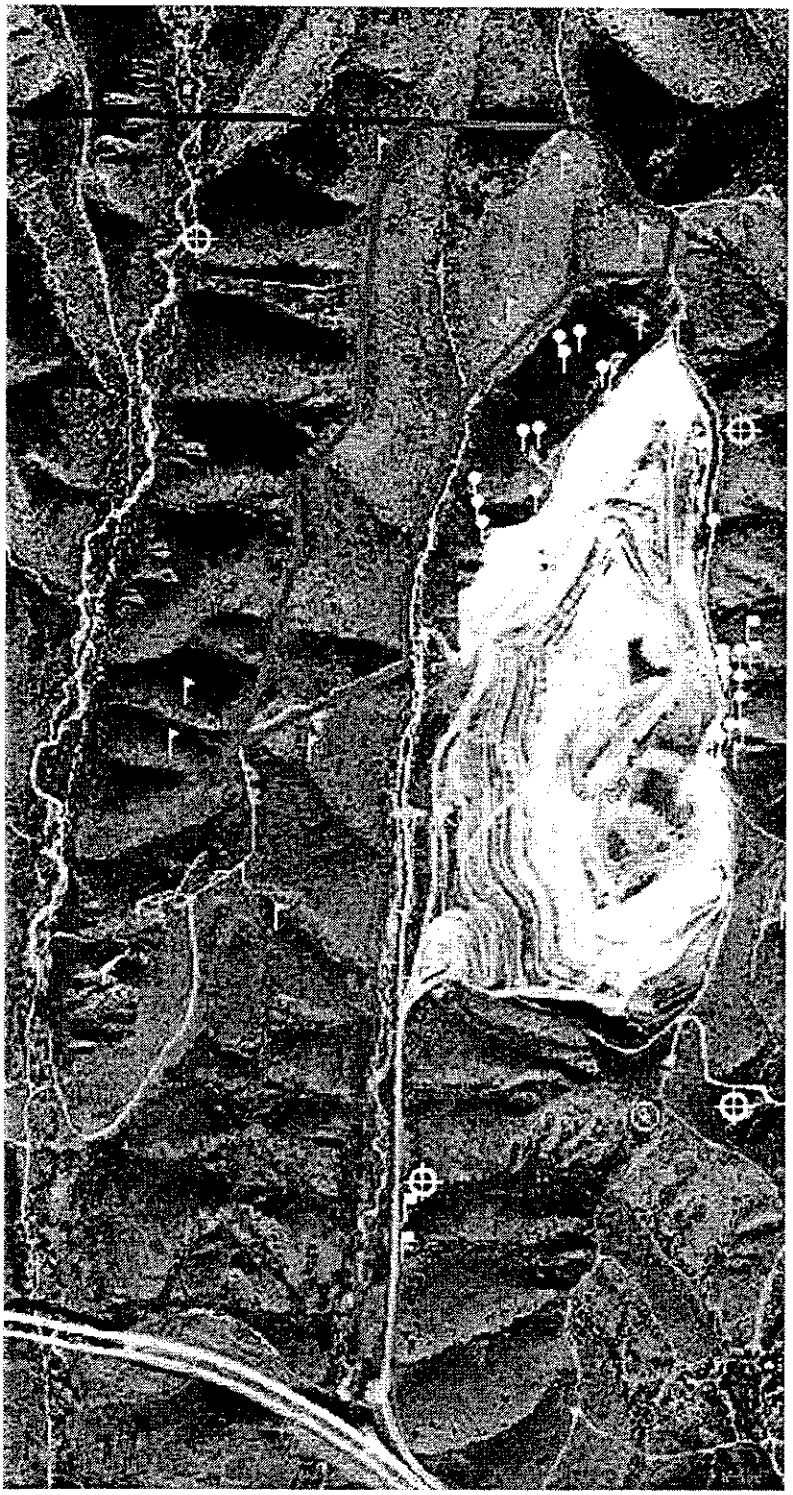
9.1 29 CFR 1926.100(a) requires personnel to wear protective helmets in areas where there is a possible danger of head injury from impact, from falling/flying objects, or from electrical shock and/or burns. During field activities on ordnance projects, hard hats need not be worn unless a head injury threat is present.

9.2 If an UXO is located within a grid during the final OE QA search, the contractor will be required to search the entire grid again.

9.3 If the UXO personnel are on the CEHNC database, there is no requirement for the contractor to submit their resumes in the work plans. However, their name and UXO number must be listed and identified in the Work Plans.

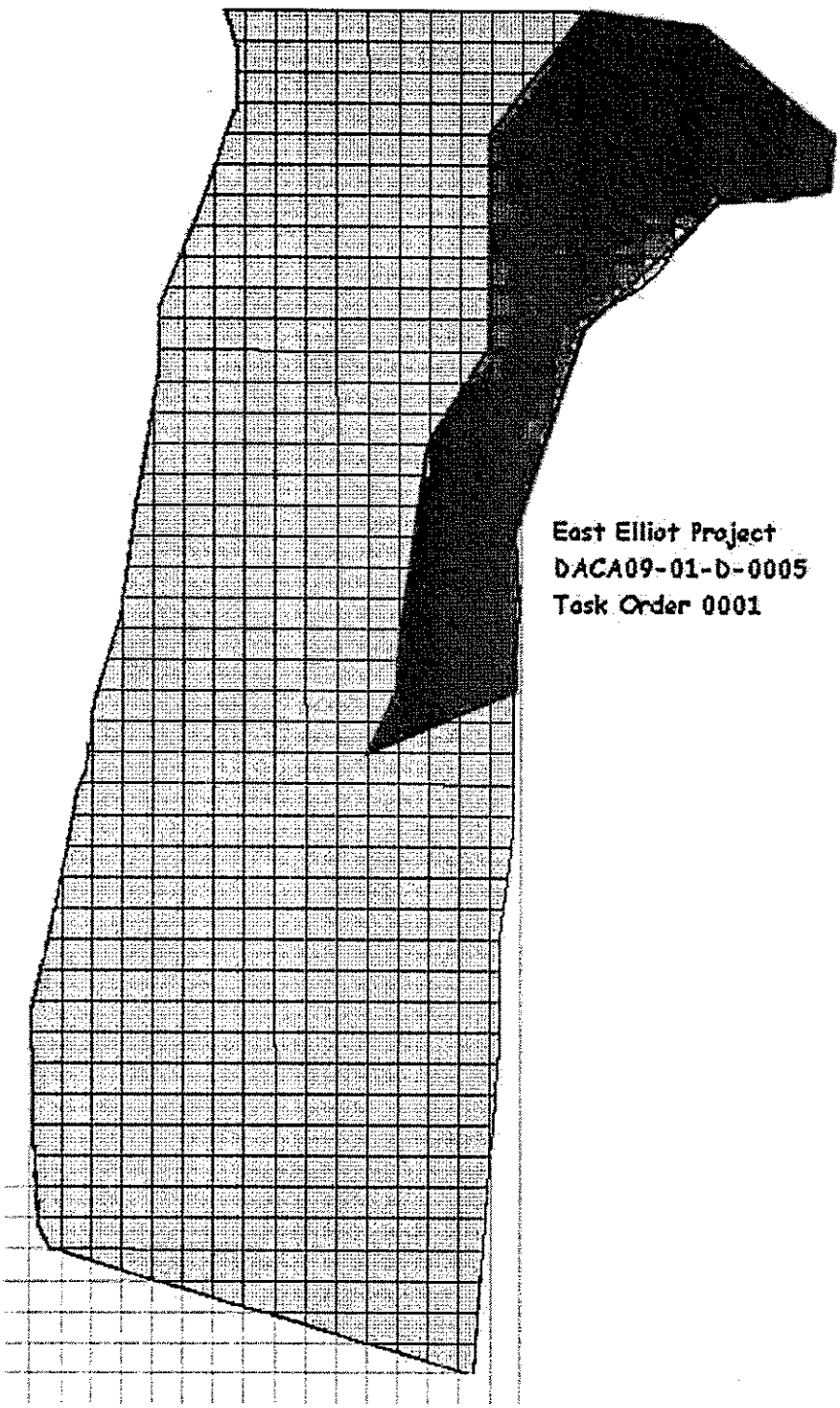
9.4 Coordination with the SPL Ecologist, John Moeur (213-452-3874) and the SPL Archeologist, Rod McLean (213-452-3865) should be done during the development of the work plans. This will aid in meeting the State of California's Environmental and Historic Protection regulations.

Attachment 1



Attachment 2

Estimate of Grid locations



STATEMENT OF WORK - Task Order 0001
DACA09-01-D-0005
East Elliott Project
San Diego, CA
21 Dec 2000

1.0 OBJECTIVE.

The objectives of this Statement of Work are for the Contractor to safely and efficiently locate and remove surface conventional unexploded ordnance (UXO) from approximately 650 acres at the former Camp Elliott, East Elliot site San Diego, California.

2.0 STATEMENT OF WORK.

2.1 GENERAL

2.1.1 The work required under this Statement Work (SOW) falls under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS). Ordnance and Explosives (OE) exists on this property formerly owned or controlled by the Department of Defense and currently owned by the Cities of San Diego and Santee, the County of San Diego and various individuals. The work described in the SOW will be performed in a manner that is consistent with the National Contingency Plan (NCP) and the Comprehensive Environment Response, Compensation, and Liability Act (CERCLA). The applicable provisions of 29 CFR 1910.120 shall apply to all actions taken at this site.

2.1.2 Due to the inherent risk in this type of operation, the Contractor shall be limited to a 40-hour work week (either five 8-hour days or four 10-hour days). Unexploded Ordnance (UXO) personnel shall not perform OE-related tasks for more than 10 hours per day.

2.1.3 Chemical Warfare Materials. This site is not a suspected Chemical Warfare Material (CWM) site. However, if the Contractor or subcontractors encounter suspected CWM during any phase of work, they shall immediately withdraw upwind from the work area and notify the SPL on-site OE Safety Specialist, COR or COTR, who will notify the Project Manager and CEHNC OE Safety Group. The CEHNC OE Safety Group will notify the Technical Escort Unit (TEU). This notification sequence shall be specified in the Work Plan.

2.2 Ordering Provisions

2.2.1 This Task Order is issued as a unilateral Time and Materials Order with a Not- to-Exceed Ceiling Price subject to the provisions of the basic contract Section H.13. Pricing shall be in accordance with the attached Pricing Schedule. The Government intends to convert this order to a firm-fixed priced order at the earliest practicable time following the completion of the Site Visit and approval of the Work Plan. The Contractor shall prepare a firm-fixed priced Ordering Estimate for all remaining work to be performed

under this Task Order upon the request of the Contracting Officer or ACO. Conversion to a firm- fixed priced order shall be accomplished pursuant to the Changes Clause of this contract.

2.2.2 Contract Line Item Pricing (CLIN). Extended pricing on individual line items may be changed between line items. If it becomes necessary to vary the quantities originally ordered, this may be accomplished as long as the total price of the order is not affected. For example, a labor CLIN may be reduced to provide for materials increase if directed by the COR.

2.3 Phasing Provisions and Performance Period

Work to be performed under this order shall be phased as follows:

Phase 1. Site Visit and Work Plan, including Explosive Safety submission, as per paragraph 4.1 and 4.2, to commence with the issuance of this order. The site visit shall be scheduled to be completed by 29 January 2001

Phase 2. Remediation/Execution. Authorization to proceed with this Phase will be upon the written direction of the Contracting Officer or ACO.

The total project duration for this Task Order shall be 365 Calendar Days

3.0 SITE DESCRIPTION.

3.1 Site Location: The former Camp Elliott, East Elliott site lies within the City of San Diego and is bordered by the following features:

- Oak Canyon to the west
- Marine Corps Air Station (MCAS) Miramar to the north and west
- Sycamore Canyon to the east
- The City of Santee to the east and south
- State Highway 52 and Mission Trails Regional Park to the southwest

The site is mostly undeveloped. Narrow ridges and canyons trend north to south through the site. Intermittent streams flow southward toward the San Diego River, which is approximately 0.4 miles south of East Elliott. Topography is typified by moderate to steep slopes that are predominantly vegetated with native grassland, coastal sage or black sage habitat, or chaparral. Deciduous trees and other riparian vegetation are locally abundant in the two largest canyons in East Elliott, Oak Canyon and Spring Canyon. Several dirt roads and trails are located within East Elliott, particularly along ridges and within canyons. Many of these roads are accessible only by 4-wheel-drive vehicles. Most access to the site is provided by roads and trails that enter East Elliott from the south and east.

3.2 Site Owners: Property within the former Camp Elliott, East Elliott site is currently owned by the Cities of San Diego and Santee, the County of San Diego and various individuals. Rights of Entry will be obtained from U.S. Army corps of Engineers, Los Angeles District

3 3 Site History: The area encompassing Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following four general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, post-World War II (1945 to 1960); and
- Camp Elliott closure (1960 to August 1999).

3.4 Project Location: Currently the project is divided into 4 different sectors. The location of sectors referenced below may be accessed at the Huntsville OE website through the Project Webs:
http://www.hnd.usace.army.mil/oew/projwebs/Projects/elliott/EECA/chap2.pdf.
This Task Order will encompasses those areas of Sectors 2 and 3 as detailed below:

3.4.1 Sector 2, North Central section of the project. It is bordered on the west by sector 1, the east by sector 4 and the south by sector 3. This sector surrounds the Sycamore Landfill and is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous clearances and evaluations encountered 37 mm and 75 mm projectiles and other related scrap in this 650-acre area. Of the approximate 650 acres, 170 acres is occupied by the current landfill and an additional 53.3 acres was cleared in 1996, leaving about 423 acres to be cleared. Portions of this sector are being absorbed into the Mission Trails Regional Park. For this Task Order, only the portions that lie between Spring Canyon to the west, Little Sycamore Canyon to the east, Miramar MCAS to the north and Sector 3 to the south will be cleared.

3.4.2 Sector 3, Southwest section of the project. Oak Canyon and MCAS Miramar form the west, sectors 1 and 2 to the north, sector 4 and the Sycamore Landfill Road to the east and Highway 52 and the Mission Trails Regional Park to the south. It is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous evaluations of these 750 acres found no evidence of live OE, two 37 mm APT projectiles were found. Portions of this sector are being absorbed into the Mission Trails Regional Park. For this Task Order, only the portions that lie between Spring Canyon to the west, Little Sycamore Canyon to the east, Sector 2 to the north and Hwy 52 to the south will be cleared, approximately 227 acres.

3.6 Corrective Actions If the Government, through its Quality Assurance (QA) process, encounters any UXO, OE, or hazardous OE Scrap in any grid, then that grid will not be accepted by the Government. The Contractor shall perform corrective actions, as the Government deems necessary, to achieve performance standard. If more than 5% of the project grids fail initial Government QA checks, the Contractor will not be paid "fee" (profit) for corrective action activities on grids that subsequently fail. The terms of the basic contract pursuant to FAR 52.246-6 remain in force.

4.0 DESCRIPTION OF SERVICES

4.1 Site Visit. A site visit not to exceed four days and using two contractor personnel will be performed. The Contractor will coordinate with the Project Manager at least ten (10) calendar days in advance of the site visit. The site visit team shall include the Contractor's Project Manager, and a Senior UXO Supervisor. The objective of the site visit is for the Contractor's team to gain familiarization with the site in general and to gather information required to assemble an acceptable and executable Work Plan. No UXO-related activities will be performed during the site visit. The Contractor shall prepare an Abbreviated Site Safety and Health Plan (ASSHP) and submit the plan to the Contracting Officer for review and approval prior to the visit. The ASSHP has a brief, fill-in-the-blank format, and may be obtained from the CEHNC OE Website. The Contractor shall ensure that the visit is fully coordinated and that all members of the site visit team maintain compliance with the ASSHP. The Contractor shall also coordinate with the local points of contact prior to the site visit. It is envisioned that only one site visit will be necessary for all sectors and delivery orders.

4.2 Prepare Work Plans. The Contractor shall prepare a Work Plan and related sub-plans that describe the Contractor's proposed methodology of accomplishing the objective. The Work Plan and related sub-plans shall be prepared in accordance with the guidance provided in their respective Data Item Descriptions. All OE related procedures shall comply with *CEHNC Safety Concepts and Basic Considerations for UXO, 7 Mar 2000* The Contractor shall prepare the following documents describing the work necessary to respond to the requirements described in this SOW and Data Item Descriptions (DID), as follows:

4.2.1 Work Plan (DID OT-005-01)

4.2.2 Technical Management Plan (DID OE-005-02)

4.2.3 Explosives Management Plan (DID OE-005-03)

4.2.4 Explosives Siting Plan (DID OE-005-04)

4.2.5 Not Required

4.2.6 Site Safety and Health Plan (DID OE-005-06)

4.2.7 Location Surveys and Mapping Plan (DID OE-005-07)

4.2.8 Work, Data and Cost Management Plan (DID OE-005-08)

4.2.9 Property Equipment Plan (DID OE-005-09)

4.2.10 Not Required

4.2.11 Quality Control Plan (DID OE-005-11)

4.2 12 Site-Specific Environmental Protection Plan, (DID OE-005-12)

4.2.13 Not Required

4.2.14 Not Required

4.2.15 Scrap Monitoring and Disposal Plan (DID OE-040)

4.2.16 Community Relations Plan (DID OE-045)

4.2.17 Personnel/ Work Standards (DID OE-025)

4.2.18 Conventional Explosives Safety Submission (DID OE-060). This document shall be bound as separate document and shall be submitted and approved prior to intrusive work.

4.2.19 One Work Plan needs to be completed for the first clearance delivery order with a supplement(s) added detailing any changes or deviations used on further delivery orders within this SOW. It is envisioned, but not required, that the WP will address most objectives to reduce additional delays when new delivery orders are issued.

4.3 Location Surveying and Mapping. The Contractor shall perform all location surveys and mapping required to establish boundaries of all areas specified in section 3.4 of this SOW and as required to support the project. During all field and intrusive activities, the survey crew shall be accompanied by a UXO Tech II who will perform a UXO survey in each area prior to the surveyors starting work. Detection equipment shall be used to survey the location for the establishment of any monuments or markers. Based on site conditions it is possible that a UXO escort will not be required in all areas at all times after the initial site visit. However, such a decision will be made jointly by the Contractor's Site Safety and Health Officer (SSHO) and the USACE OE Safety Specialist who may rescind or modify it at any time. Grid corners shall be established using precision surveying methods. Each corner of each grid area shall be located by establishing the appropriate state plane grid system to the closest one (1) foot and shall be both tabulated and shown on maps of the site. Other coordinate systems and accuracy specifications are not acceptable and shall not be used. The Contractor shall mark and survey the corners of the designated grids with stakes or other visible temporary markers. Individual locations of recovered UXO only shall be tape measured or the "x" & and "y" distance estimated to obtain a horizontal accuracy of plus or minus one foot from the established grid corners. If subsurface UXO are encountered, their depth below ground surface shall also be measured. The location of ordnance scrap, ordnance fragments, shrapnel, small arms ammunition and metallic debris shall be recorded on a "per-grid" basis and not located by coordinates. The use of Total Station, GPS or other precision survey methods to locate individuals UXO, UXO scrap, or geophysical anomalies within a grid is not necessary

4.3.1 Items and data to be submitted as part of this task are as follows:

4.3.1.1 Control Points List. A tabulated list of all control points showing the adjusted coordinates established and/or used for this survey.

4.3.1.2 Grid Corners List. A tabulated list of all grid corners shall be provided.

4.3.1.2 Description Cards. A "Report of Establishment of Survey Mark" (Description Card) on each control point established and/or used for surveying. The Description Cards shall be 5" X 8" (12.7mm X 20.3mm) with one description per card. In addition to the name or ID number of the control points, the cards should show the adjusted coordinates, a written description for locating the control points, and a sketch showing how to locate the control points. Installation of concrete monuments will not be required; existing monuments will be described and referenced on the survey drawing.

4.3.1.3 Drawings. All maps shall be drawn at a scale no smaller than 1 inch = 400 feet (1:2400), referenced to the North American Datum of 1983 (NAD83), and provided on both reproducible (Mylar) drawings and in a digital format. One original and two blue line prints of each final drawing shall be delivered to the Government. English units will be used.

4.3.2 Schedule. All work and services under this task shall be completed and submitted no later than the submission of the final report for each delivery order.

4.4 Vegetation Removal and Restoration.

4.4.1 Removal. Deleted

4.4.2 Restoration. Upon conclusion of work at this site, the Contractor shall restore locations disturbed by operations. Excavated and trafficked areas shall be returned to natural grade and indigenous vegetation re-established by seeding or planting sprigs.

4.5 Perform Removal Action. This task shall be in accordance with the requirements of the Basic Contract and the approved Work Plan, SSHP, and Explosives Safety Submission for this site.

4.5.1 General. The following requirements will apply to all clearance activities covered under this SOW.

4.5.1.1 The Contractor shall provide all necessary personnel and equipment to perform a clearance of all surface and OE Scrap as required by delivery order.

4.5.1.2. Only UXO personnel approved by the contracting officer shall perform OE-related tasks. See DID OE-0025.

4.5.1.3. Geophysical instruments may be used during surface sweeps in areas of limited ground visibility due to vegetation. Geophysical instruments being used shall be field-tested daily to ensure they are operating properly. This shall be accomplished by using an established test plot located at the site or an approved alternate method. The instrument should be able to locate a ferrous object having the equivalent mass or signature of a partially buried 20mm projectile. If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

4.5.1.4 If an excavation is required in an area of an endangered/ protected plant/animal, or known/suspected historical site, excavation shall proceed only after coordination through the Project Manager or the on-site OE safety specialist.

4.5.1.5 All access/excavation/detonation holes shall be back-filled. A before and after photo of the holes may be required by the USACE OE Safety Specialist or SPL Archeologist.

4.5.1.6 The Contractor shall surface clear only the areas in which access is available without cutting, breaking or destroying brush or trees. During seasonal environmental concerns, some areas may be off limits until such time as released by Fish & Wildlife or LA District Biologist.

4.6 Final Disposition of AEDA / Range Residue. The Contractor shall furnish all necessary personnel and equipment to make final disposition on all recovered AEDA/Range Residue/OE Scrap. The methodology to accomplish this task shall be proposed in the Work Plan.

4.6.1 The Contractor shall follow the provisions of DOD 4160.21-M when making final disposition of AEDA/Range Residue. The Contractor shall complete a DD Form 1348-1A. In the event that DRMO does not accept scrap or is not locally available, the Contractor shall arrange in advance for local scrap contractor to remove the scrap. The DRMO or local scrap dealer shall be identified in the Work Plan. The contractor will also include in the Work Plan the written direction from DRMO if directed to a local scrap dealer and a written statement from the dealer that the scrap will be processed through a smelter or furnace prior to resale or release. In the event that DRMO is not available, an approved local scrap dealer may be used. These documents are required even if The AEDA/Range Residue/OE Scrap is conveyed to a local scrap dealer rather than DRMO.

4.6.2 Inspection/Certification of AEDA.

4.6.2.1 The UXO contractor shall ensure that this property is 100% properly inspected IAW the inspection procedures specified in the Work Plan. Qualified UXO personnel shall perform the inspection. UXO contractor personnel responsible for certifying AEDA/Range residue must meet the qualification requirements specified in DID 0E-025 *AEDA/Range residue certification will be entered on the DD 1348-1A as follows:*

"This certifies that the AEDA residue, Range Residue, and/or Explosive Contaminated

Property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

4.6.2.2 All certificates must clearly show the typed/printed name, organization, signature, and phone number of the person certifying the inspection

4.6.2.3 Material, which cannot be certified as above, shall be returned to the range and detonated and then re-inspected.

4.6.2.4 These procedures shall apply to AEDA/Range Residue turned into DRMO or a local scrap dealer. Once the inspection is completed, the contractor shall ensure the inspected AEDA/Range Residue is not mixed with other types of material. The contractor shall implement adequate controls to ensure that mixing does not occur.

4.6.2.5 Disposal documentation receipts shall be submitted as a component of the Removal Report.

4.7 Prepare and Submit Removal Report. At the conclusion of all field activities, the Contractor shall submit the Removal Report IAW DID OT-030. The report shall consist of the following:

4.7.1 Detailed accounting of all UXO and OE-related materials located and destroyed. This information will be provided from the Government maintained database.

4.7.2 A system of daily journals of all activities associated with this SOW. A daily journal for the site shall be opened upon first arrival for field operations and closed after contractor demobilization at the project site.

4.7.3 A recapitulation of exposure data. This shall include total number of man-hours worked on-site in OE related activities, total motor vehicle mileage, number of aircraft flights and total of man-hours flown to support the project.

4.7.4 QC documentation.

4.7.5 DRMO turn-in documentation.

4.7.6 The Contractor shall provide color digital pictures of sufficient quality to allow the Government to easily identify the item being photographed. The Contractor shall provide pictures of selected unexploded ordnance located during the clearance action, all demolition shots (before and after explosion) and any significant events during the course of the fieldwork. The digital pictures shall include the anomaly number in the file name for each picture. The pictures shall be imported into the text of the Removal Report. Further, a minimum of 45 minutes of narrated videotape depicting all major activities shall be provided in two copies.

4.7.7 A financial breakdown by area of all costs and labor hours used to perform this

SOW.

4.8 Web Site. Contractor will setup and maintain a project website that will be linked to CEHNC OE section and LA District. The site should include an on-going detail of work being completed to include a map. There should be a restricted section for "Authorized Officials" to download or gain access to FOUO information pertinent to this contract. Only releasable information will be posted for general viewing.

5.0 SUBMITTALS. The Contractor shall furnish copies of the plans and reports to each addressee listed below in the quantities indicated. One copy of the final work plan and the final report shall be sent to the Project Manager on 3.5 inch computer disk or CD ROM in an acceptable format in addition to the number of hard copies identified below. The Contractor shall use express mail services for delivering these plans and reports. Following each submission, comments generated as a result of their review shall be incorporated.

5.1 Addressees:

Addressee	**Copies**
Commander US Army Corps of Engineers, Los Angeles District ATTN: CESPL-PM-M (Debra Castens) 911 Wilshire Blvd Los Angeles, CA 90017	4
Commander US Army Corps of Engineers, Los Angeles District San Diego Project Office ATTN: OE Safety (BJ Allen) 16885 W. Bernardo Drive #300-B San Diego, CA 92127	2
Commander US Army Engineering and Support Center, Huntsville ATTN: CEHNC-OE-CX (Brad McGowan) 4820 University Square Huntsville, AL, 35807-4301	1
California Environmental Protection Agency Department of Toxic substances Control Office of Military Facilities Southern California Region ATTN: Katherine Leibel 5796 Corporate Avenue Cypress, CA 90630	2

5 2 Submittals and Due Dates

SUBMITTAL	DUE DATES
Draft Work Plan	30 days from completion of Site Visit
Final Work Plan	14 days after receipt of comments
Conventional Explosives Safety Submittal	30 days from completion of the Site Visit
Daily QC/Safety Inspection Report	IAW DID SPL OE-001
Accident/Incident Report	IAW DID SPL OE-002
Report/Minutes Record of Meeting	IAW DID OE-045
Telephone Conversation Correspondence	IAW DID OE-055
Weekly Status Report	IAW DID OE-085
Draft Removal Report	30 days from completion of removal action
Final Removal Report	30 days after receipt of comments

5.3 Computer Hardware and Software

5.3 1 All final text files generated by the Contractor shall be Word 97, IBM PC compatible format. The drawing and plot data shall be provided as coincident files in State Grid Plane Coordinates in MicroStation 95 CADD to run on typical properly configured Windows 95 and NT 4.0 PCs. The individual CADD files shall be referenced to a master file that allows simultaneous viewing of all historical layers and figures. Discussions shall be held on all non-CADD data to insure that its use and viewing is compatible with the Government's GIS workstations. HNC GIS workstations are Intergraph TDZ-425 dual 266 Pentium II with 128 megabytes of memory. The workstations run under the Windows NT. 4.0 operating system with MicroStation 95 utilizing the MGE 6.0 complement of software and an Oracle 7.3 relational data base. Current other GIS project related software includes: IRAS B, IRAS C 5.04 and IRAS Engineer, DB Access, MGE Basic Nucleus, MGE Analysts, MGE Map Finisher, MGE Projection Manager, MGE Grid Analyst, MGE Modeler, Inroads, Base and Advanced Imager. All data for formal submittals shall be on either PC 3.5" floppies or PC CD-ROM. CD-ROM is the preferred format is required for data submission sizes from 5 to

600 MB. Three copies of each electronic submittal are required and are to be submitted in separate packages completely document and ready to run.

5.3.2 No digital data will be accepted until proven compatible with the Government's Graphics System. All revisions required to obtain compatibility with the Government's Graphics System shall be performed at Contractor's expense.

5.4 Mapping. All final mapping shall be created by Computer Aided Design and Drafting (CADD) and provided to the Government in MicroStation 95 two-dimensional digital design files on PC CD-ROM. All characteristics such as file naming and relationships, level structures, colors, line styles, weights, etc. shall be in accordance with the surveying and mapping requirements of the Tri-Service Spatial Data Standards (TSSDS) of the current release and shall be compiled in the design files. Site maps plotted from these design files shall be provided on reproducible (Mylar) standard metric A-1 size drawings which are 841 millimeters (mm) by 594mm in size (33.1 inches by 23.4 inches). The location, identification, and coordinates of all the control points, and boundary corners shall be plotted on the reproducible maps Each control point shall be identified on the map by its name or number and the final adjusted coordinates and elevations to the closest 0.01 ft. Each sheet shall include a standard border, revision block, title block, complete index sheet layout, bar scale, grid north, a true north, and magnetic north arrow with the differences between them shown in minutes and sections. Grid lines or tick marks in feet and at systematic intervals shall be shown with their grid values on the edges of the map. Also, a legend showing the standard National Geodetic Standard (NGS) symbols used for the mapping, a map index showing the site in relationship to all other sites within the boundary lines of the project area shall be included on each sheet.

6.0 PUBLIC AFFAIRS. The Contractor shall not make available or publicly disclose any data generated or reviewed under this contract or any subcontract unless specifically authorized by the Contracting Officer, the U.S. Army Engineer District Los Angeles, PAO. When approached by any person or entity requesting information about the subject of this contract, the Contractor shall defer to the PAO for response. Reports and data generated under this contract shall become the property of the Government and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.

7.0 **REFERENCES:**

7.1 DOD Manual 4160.21.M, Defense Utilization and Disposal Manual.

7.2 AR 200-1, Environmental Protection and Enhancement.

7.3 AR 385-40 with USACE Supplement.

7.4 AR 386-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat.

7.5 EM 385-1-1, CE Safety and Health Requirements Manual.

7.6 DA PAM 385-64, Ammunition and Explosive Safety Standards.

7.7 CEHND Safety Concepts and Basic Considerations for UXO.

7.8 DoD 6055.9 Std. DoD Ammunition and Explosive Safety Standards

7.9 TM 60A 1-1-31, Explosive Ordnance Disposal Procedures

7.10 National Contingency Plan, 40 CFR 300.

7.11 Federal Acquisition Regulation, F.A.R. Clause 52.236-13: Accident Prevention.

7.12 Army Corps of Engineers, ER-385-1-92, Appendix B, Safety and Occupational Health Document Requirements for Hazardous Toxic and Radioactive Waste (HTRW) and Ordnance and Explosive Waste (OE) Activities, 18 March 1994

7.13 Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910 and Construction Industry Standards, 29 CFR 1926; especially 196 120/29CFR1926.65-Hazardous Waste Site Operations and Emergency Response.

7.14 NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985. (DHHS (NIOSH) Publication No. 85-115).

7.15 CEHNC 1115-3-86, Ordnance and Explosives Cost-Estimating Risk Tool (OECert) Standing Operating Procedure (SOP), November 1996.

7.16 DID OE-005-01 Removal Action Work Plan (Required for sampling operations)

7.17 DID OE-005-02 Technical Management Plan

7.18 DID OE-005-03 Explosives Management Plan

7.19 DID OE-005-04 Explosives Siting Plan

7.20 DID OE-005-05 Geophysical Investigation Plan

7.21 DID OE-005-06 Site Safety and Health Plan

7.22 DID OE-005-07 Location Surveys and Mapping Plan

7.23 DID OE-005-08 Work, Data, and Cost Management Plan

7 24 DID OE-005-09 Property Management Plan (Government furnished equipment)

7 25 DID OE-005-10 Sampling and Analysis Plan (NOT REQUIRED FOR THIS SOW)

7 26 DID OE-005-11 Quality Control Plan

7.27 DID OE-005-12 Environmental Protection Plan

7.28 DID SPL OE-002 Accident/Incident Reports

7.29 DID OE-025 Personnel and Work Standards

7.30 DID OE-030 Site Specific Removal Report (Needed for sampling operations)

7.31 DID OE-040 Disposal Feasibility Letter Report

7.32 DID OE-045 Report/Minutes, Record of Meeting

7.33 DID OE-055 Telephone Conversations

7.34 DID OE-060 Conventional Safety Submissions

7.35 DID OE-085 Weekly Status Report

7.36 DID SPL OE 001 Daily QC/Safety Inspection Report

8.0 GOVERNMENT FURNISHED.

8.1 Access Agreements.

8.2 Engineering Evaluation/Cost Analysis, dated.

8.3 Action Memorandum, dated.

8.4 Pertinent UXO Technical publications/information as required.

8.6 Maps showing sectors.

8.7 Schonstedts (72-C)

8 8 Radios HT-600 & Base Station

9.0 SPECIAL INSTRUCTIONS.

9 1 29 CFR 1926 100(a) requires personnel to wear protective helmets in areas where there is a possible danger of head injury from impact, from falling/flying objects, or from

electrical shock and/or burns. During field activities on ordnance projects, hard hats need not be worn unless a head injury threat is present.

9.2 If an UXO is located within a grid during the final OE QA search, the contractor will be required to search the entire grid again.

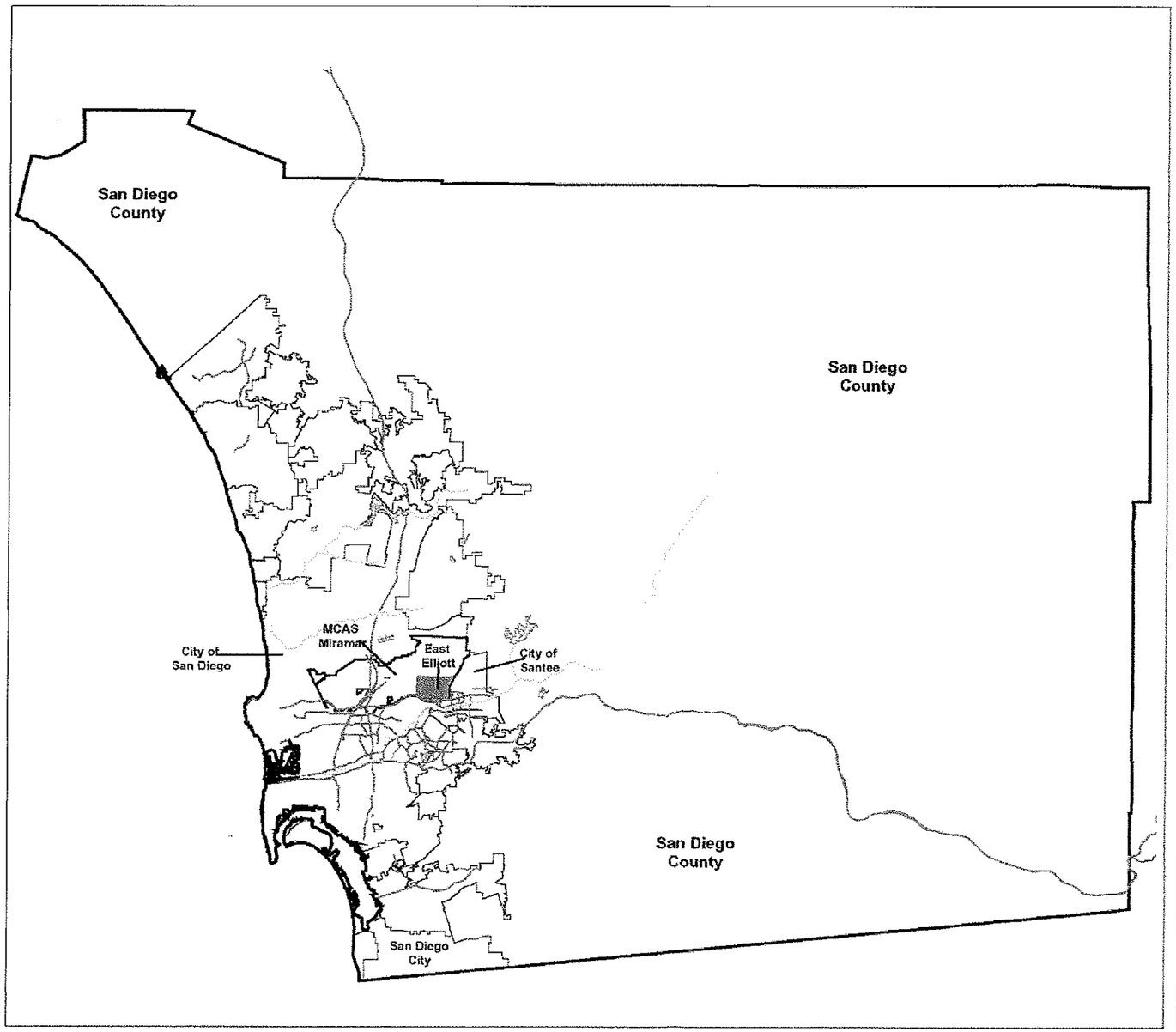
9.3 If the UXO personnel are on the CEHNC database, there is no requirement for the contractor to submit their resumes in the work plans. However, their name and UXO number must be listed and identified in the Work Plans.

9.4 Coordination with the SPL Ecologist, John Moeur (213-452-3874) and the SPL Archeologist, Rod McLean (213-452-3865) should be done during the development of the work plans. This will aid in meeting the State of California's Environmental and Historic Protection regulations

Red Perimeter East Elliott Boundary
Green Perimeter Clearance Area

NAeVA GEOPHYSICS INC.
Subsurface Geophysical Surveys

Vicinity Map



Legend

- San Diego County Boundary
- City Boundaries
- Major Roads
- Streams
- Lakes
- East Elliott

B-1

N

0 5 10 15 Miles

East Elliott Project
Sycamore Canyon Landfill Phase
San Diego CA

Map Prepared for: SCI UXO/OE Services

Map Created: April 26, 2004

NAEVA GEOPHYSICS INC.

Location Map

Legend

- Boundary of East Elliott
- Area of Investigation
- Sycamore Canyon Landfill
- Highway 52

B-2

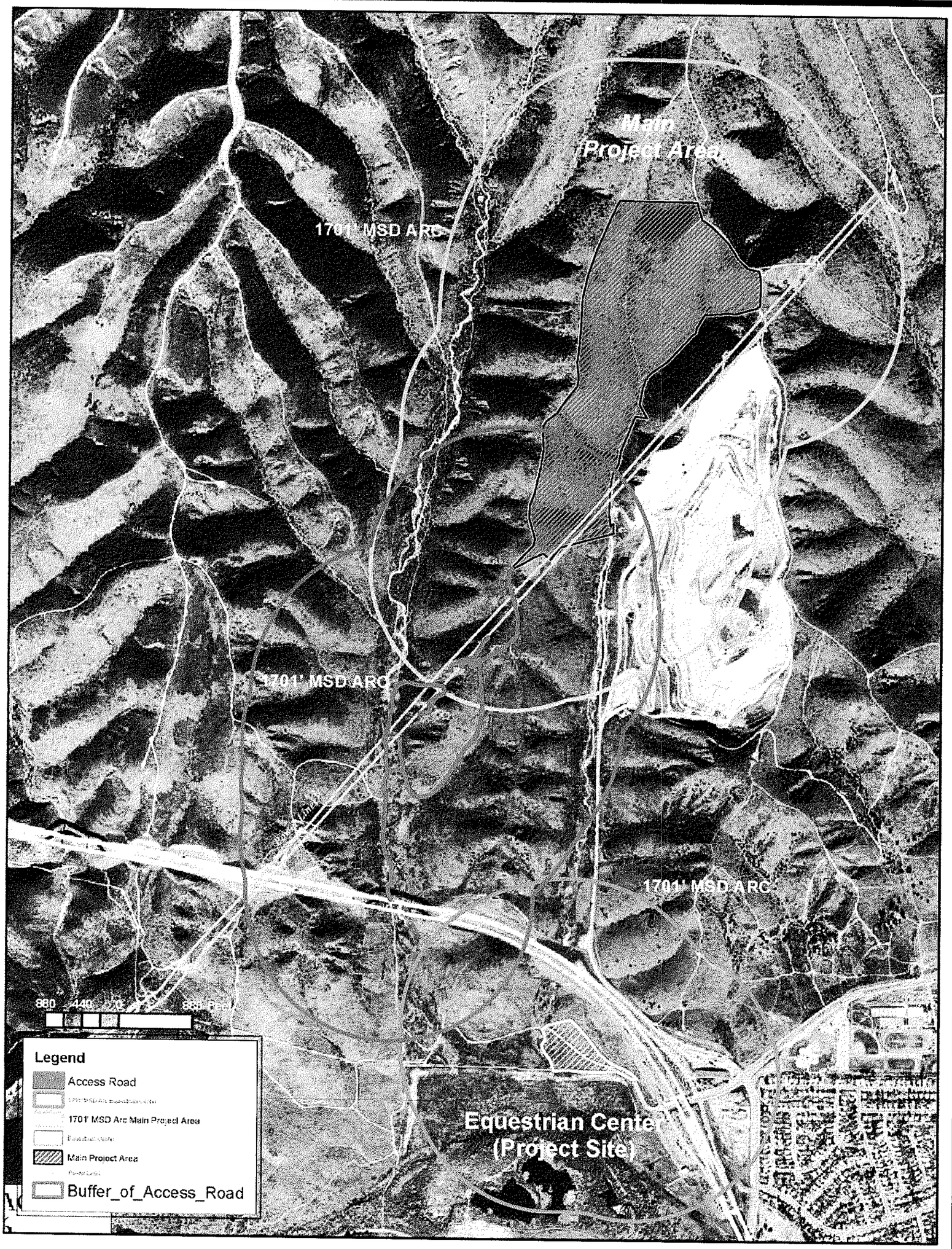
N

0 1,000 2,000 3,000 Feet

East Elliott Project
Sycamore Canyon Landfill Phase
San Diego, CA

Map Prepared for: SCI UXO/OE Services

Map Created: April 26, 2004



Sheet Reference Number: Work Plan Map Draft for Review	UXO Support Mission Trails Equestrian Center Proj. J09CA006703	Designed By: GMS Inc.	Date: 7/29/02			B-3		USACE Los Angeles District
		Drawn By: CM	Checked By: MG					
		Reviewed By: JMW	Drawing Code: WP					
		Submitted By: GMS Inc.						

East Elliott MSD Map

NAEVA GEOPHYSICS INC.
Subsurface Geophysical Surveys

Legend

- Boundary of East Elliott
- East Elliott Sub-Sectors
- 1701 Foot MSD

B-4

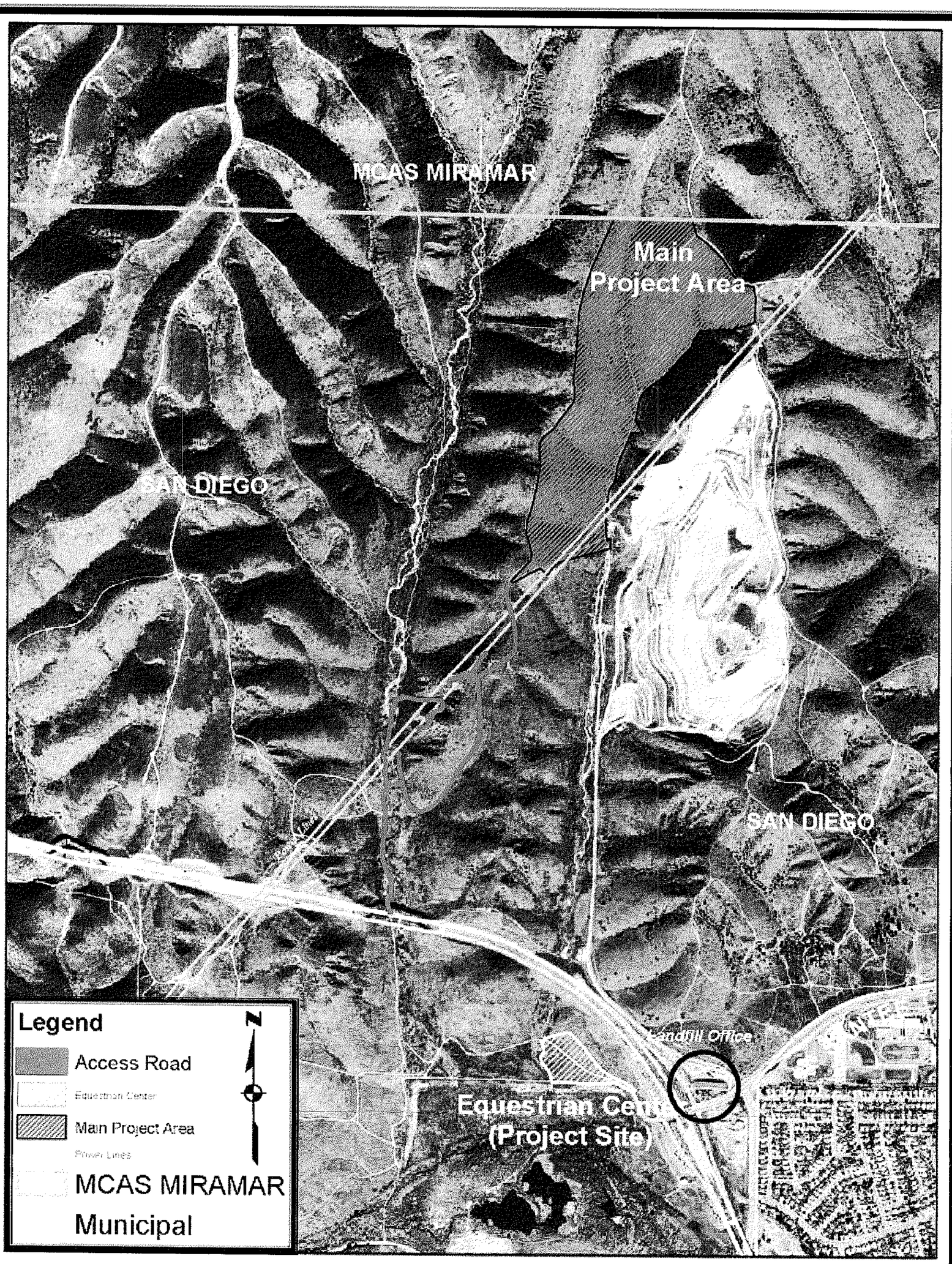
N

0 3,000 6,000 9,000 Feet

East Elliott Project
Sycamore Canyon Landfill Phase
San Diego, CA

Map Prepared for: SCI UXO/OE Services

Map Created: April 26, 2004



Sheet Reference Number
MUNICIPAL PROXIMITY MAP

UXO Support Mission
Trails Equestrian Center
Proj. J09CA006703

Designed by: GMS Inc.	Date: 12/17/02	
Drawn by: GM	Checked by: MC	Drawing Number:
Reviewed by: JMW	Drawing Scale: WP	
Submitted by: GMS Inc.		

B-5

USACE
Los Angeles District

POINTS OF CONTACT

AGENCY	POINT OF CONTACT	TELEPHONE NUMBER
LOS ANGELES DISTRICT, USACE	BJ ALLEN KEVIN THOMAS	858-674-6766
FIRST RESPONDER SANTEE FIRE DEPARTMENT		911
CITY OF SANTEE FIRE DEPARTMENT	CHIEF PFOHL DIVISION CHIEF RAYON	619-258-4100 X200 619-258-4100 X202
CITY OF SAN DIEGO FIRE DEPARTMENT	DEPUTY CHIEF CLARKE	619-533-4409
SAN DIEGO COUNTY SHERIFF'S DEPARTMENT ARSON & BOMB SQUAD	SGT GRAYSON DET KILPATRICK	619-467-4579/4980/4660
SAN DIEGO FIRE DEPARTMENT ARSON & BOMB SQUAD (MAST)	CAPT CARLE JOE VIA	619-236-6815 619-236-6203
USMC EOD	CWO4 KALABENES	619-917-4838
MISSION TRAILS REGIONAL PARK	Senior Ranger Kilburg	619-668-3276
SYCAMORE LANDFILL, INC.	GABE GONZALES	619-596-0415
BAXTER BLASTING, INC.	JEFF BRUST	619-443-7800
GROSSMONT HOSPITAL		619-465-0711 (911)
DIG-ALERT		800-227-2600

DAILY ACTIVITIES REPORT SCI UXO/OE SERVICES	DATE:
CONTRACT DACA09-01-D-0005, TASK ORDER 1	PROJECT NAME: EAST ELLIOTT
USACE PROJECT NO: J09CA006703	SCI PROJECT 2044

PERSONNEL HOURS (includes subcontractors)

Name	Position	Hours On-Site	Hours Absent	Misc.
Stanley Adams	Senior UXO Supervisor			
George Mackanin	UXO Safety Officer			
John K. C. Andrews	UXO QC Specialist			
Joseph Pontisso	UXO Technician III			
Archie Givens	UXO Technician III			
Bruce Tincknell	UXO Technician II			
	UXO Technician II			
	UXO Technician II			
	UXO Technician II			
	UXO Technician II/I			
	UXO Technician II/I			
	UXO Technician II/I			
	UXO Technician II/I			
	Totals	0	0	

SCI/GFE EQUIPMENT UTILIZED

ITEM	SCI/GFE	NUMBER	DOWN-TIME (HOURS)	REASON

EXPOSURE DATA(includes subcontractors)	TOTAL FOR THIS DATE	TOTAL TO DATE FROM START OF PROJECT
Manhours worked onsite (including mob/demob)	0	0
Vehicle mileage (to include POV for mob/demob)	0	0
Lost-time due to on-the-job accidents	0	0

IMPORTANT TELEPHONE CONVERSATIONS	
PERSON CALLING	TOPIC OF DISCUSSION

SITE VISITORS		
NAME	ORGANIZATION	PURPOSE

WEATHER CONDITIONS		
PRECIPITATION WITHIN LAST 24 HOURS:	TEMPERATURE RANGE:	WEATHER CONDITIONS:
CUMULATIVE HOURS - DAYS LOST TO WEATHER:		

VERBAL COMMUNICATIONS FROM CLIENT
CESPL Representative(s) Onsite Today: Mr. BJ ALLEN

EXPLOSIVE ORDNANCE-RELATED MATERIAL RECORD (to include donor materials)			
NOMENCLATURE & CONDITION	LOCATION	DISPOSITION	COMMENTS

PRODUCTION DATA	
NUMBER OF GRIDS CLEARED TODAY:	ID OF GRIDS CLEARED TODAY:
NUMBER OF GRIDS CLEARED TO DATE:	
TOTAL NUMBER OF GRIDS IN PROJECT:	
NUMBER OF GRIDS CLEARED TO DATE:	PERCENT COMPLETE:
NUMBER OF GRIDS QC'D TODAY:	NUMBER OF GRIDS QC'D TO DATE:
IDENTITY OF GRIDS QC'D TODAY:	
NUMBER OF GRIDS FAILED QC TODAY:	NUMBER OF GRIDS FAILED QC TO DATE:
IDENTITY OF GRIDS WHICH FAILED QC TODAY:	
NUMBER OF GRIDS PASS QA TODAY:	NUMBER OF GRIDS PASS QA TO DATE:
IDENTITY OF GRIDS WHICH PASS QA TODAY:	
NUMBER OF GRIDS FAILED QA TODAY:	NUMBER OF GRIDS FAILED QA TO DATE:
IDENTITY OF GRIDS WHICH FAILED QA TODAY:	
MANHOURS SPENT REWORKING GRIDS:	
NUMBER OF DIGS TODAY:	NUMBER OF DIGS TO DATE:
NUMBER OF LIVE OE ITEMS TODAY:	NUMBER OF LIVE OE ITEMS TO DATE:
NUMBER OF INERT OE ITEMS TODAY:	NUMBER OF INERT OE ITEMS TO DATE:
NUMBER OF SMALL-ARMS TODAY:	NUMBER OF SMALL-ARMS TO DATE:
POUNDS OF SCRAP TODAY:	POUNDS OF SCRAP TO DATE:

QUALITY CONTROL AUDITS: See attached SCI Form(s) P-114

The following grids are ready for Government Acceptance Inspection:

The following grids were accepted today by the Government:

SAFETY MEETINGS/INSPECTIONS: See attached SCI Form(s) P-101, P-102, P-125 as applicable

CERTIFICATION

On behalf of SCI UXO/OE Services, I certify that this report is complete and correct and to the best of my knowledge, all equipment and material used and work performed during this reporting period are in compliance with the contract plans and specifications excepted as noted above

(Signature) _____ Date: _____

(Typed Name)

Senior UXO Supervisor

MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

(Read Instructions before completing this form.)

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1 GOVERNMENT BILL OF LADING/TRANSPORTATION CONTROL NUMBER

SECTION 1 - DOCUMENTATION	ORIGIN a.	DESTINATION b.
2 CARRIER/GOVERNMENT ORGANIZATION		
3 DATE/TIME OF INSPECTION		
4 LOCATION OF INSPECTION		
5 OPERATOR(S) NAME(S)		
6 OPERATOR(S) LICENSE NUMBER(S)		
7 MEDICAL EXAMINER'S CERTIFICATE*		

8. (X if satisfactory at origin)

a. MILITARY HAZMAT ENDORSEMENT		d. ERG OR EQUIVALENT COMMERCIAL:	YES		NO		
b. VALID LEASE*		e. DRIVER'S VEHICLE INSPECTION REPORT*					
c. ROUTE PLAN		f. COPY OF 49 CFR PART 397					

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

	YES	NO
a. TRUCK/TRACTOR		
b. TRAILER		

SECTION 11 - MECHANICAL INSPECTION

All items shag be checked on empty equipment prior to loading. Items with an asterisk shag be checked on all incoming loaded equipment.

10 TYPE OF VEHICLE(S)	11 VEHICLE NUMBER(S)

12 PART INSPECTED *(X as applicable)*	ORIGIN (1) SAT	ORIGIN (1) UNSAT	DESTINATION (2) SAT	DESTINATION (2) UNSAT		ORIGIN (1) SAT	ORIGIN (1) UNSAT	DESTINATION (2) SAT	DESTINATION (2) UNSAT	COMMENTS (3)
a. SPARE ELECTRICAL FUSES					k EXHAUST SYSTEM					
b. HORN OPERATIVE					1. BRAKE SYSTEM *					
c STEERING SYSTEM					m. SUSPENSION					
d. WINDSHIELD/WIPERS					n. COUPLING DEVICES					
e. MIRRORS					o CARGO SPACE					
f. WARNING EQUIPMENT					p. LANDING GEAR*					
g. FIRE EXTINGUISHER*					q TIRES, WHEELS, RIMS					
h. ELECTRICAL WIRING					r. TAILGATE/DOORS*					
i LIGHTS AND REFLECTORS					s TARPAULIN*					
j. FUEL SYSTEM*					t. OTHER (Specify)					

13 INSPECTION RESULTS (X one) ACCEPTED [ ] REJECTED [ ]

(If rejected give reason under "Remarks ". Equipment will be approved if deficiencies are corrected prior to loading.)

14 SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED [ ] REJECTED [ ]

15. REMARKS

16 INSPECTOR SIGNATURE *(Origin)*	17 INSPECTOR SIGNATURE *(Destination)*

SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Govern ment/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

	ORIGIN (1) SAT	ORIGIN (1) UNSAT	DESTINATION (2) SAT	DESTINATION (2) UNSAT	COMMENTS (3)
18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CIFIR					
19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT					
20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT					
21. PROPER PLACARDS APPLIED					
22. SHIPPING PAPERS/DD FORM 836FOR GOVERNMENT VEHICLE SHIPMENTS					
23. COPY OF DID FORM 626 FOR DRIVER					
24. SHIPPED UNDER DOT EXEMPTION 868					

25. INSPECTOR SIGNATURE *(Origin)*	26 DRIVER(S) SIGNATURE *(Origin)*
27 INSPECTOR SIGNATURE *(Destination)*	28 DRIVER(S) SIGNATURE *(Destination)*

INSTRUCTIONS

SECTION I - DOCUMENTATION

General Instructions.

All items (2 through 9) will be checked at origin prior to loading. Items with an asterisk (*) apply to commercial operators or equipment only. Only Items 2 through 7 are required to be checked at destination.

Items 1 through 5 Self explanatory.

Item 6. Enter operator's Commercial Driver's License (CDL) number or Military OF-346 License Number CDL and OF-346 must have the HAZMAT and other appropriate endorsements IAW Part 383

Item 7. *Enter the expiration date listed on the Medical Examiner's Certificate.

Item 8 a. APPLIES TO MILITARY OPERATORS ONLY Military Hazardous Materials Certification In accordance with applicable service regulations ensure operator has been certified to transport hazardous materials

b *Valid Lease Shipper will ensure a copy of the appropriate contract of lease is carried in all leased vehicles and is available for inspection (Defense Transportation Regulation (DTR) requirement)

c. Route Plan. Prior to loading any Hazard Class/Division 1 1 , 1 2 or 1 3 (Explosives) for shipment, ensure that the operator possesses a written route plan in accordance with 49 CFR Part 397 Route Plan requirements for Hazard Class 7 (Radioactive) materials are found in 49 CFR 397 1 0 1

d Emergency Response Guidebook (ERG) or Equivalent. Commercial operators must be in possession of an ERG or equivalent document Shipper will provide applicable ERG page(s) to military operators

e. *Driver's Vehicle Inspection Report. Review the operator's Vehicle Inspection Report Ensure that there are no defects listed on the report that would affect the safe operation of the vehicle

f Copy of 49 CFR Part 397 Operators are required by regulation to have in their possession a copy of 49 CFR Part 397 (Hazardous Materials Driving and Parking Rules) If military operators do not possess this document, shipper may provide a copy to operator.

Item 9. *Commercial Vehicle Safety Alliance (CVSA) Decal. Check to see if equipment has a current CVSA decal and mark applicable box. Vehicles without CVSA check documentation of the last vehicle periodic inspection.

SECTION 11 - MECHANICAL INSPECTION

General Instructions.

All items (12 a through 12 t.) will be checked on all incoming empty equipment prior to loading All UNSATISFACTORY conditions must be corrected prior to loading Items with an asterisk (*) shall be checked on all incoming loaded equipment Unsatisfactory conditions that would affect the safe off-loading of the equipment must be corrected prior to unloading.

SECTION 11 *(Continued)*

Item 12 a. Spare Electrical Fuses Check to ensure that at least one spare fuse for each type of installed fuse is carried on the vehicle as a spare or vehicle is equipped with an overload protection device (circuit breaker). (49 CFR 393 95)

b Horn Operative. Ensure that horn is securely mounted and of sufficient volume to serve purpose (49 CFR 393 8 1)

c. Steering System The steering wheel shall be secure and must not have any spokes cracked through or missing. The steering column must be securely fastened. Universal joints shall not be worn faulty or repaired by welding The steering gear box shall not have loose or missing mounting bolts or cracks in the gear box mounting brackets The pitman arm on the steering gear output shaft shall not be loose Steering wheel shall turn freely through the limit of travel in both directions All components of a power steering system must be in operating condition No parts shall be loose or broken. Belts shall not be frayed, cracked or slipping The power steering system shall not be leaking (49 CFR 396 Appendix G)

d. Windshield/Wipers Inspect to ensure that windshield is free from breaks, cracks or defects that would make operation of the vehicle unsafe; that the view of the driver is not obscured and that the windshield wipers are operational and wiper blades are in serviceable condition. Defroster must be operative when conditions require (49 CFR 393 60 393 78 and 393.79)

e. Mirrors. Every vehicle must be equipped with two rear vision mirrors located so as to reflect to the driver a view of the highway to the rear along both sides of the vehicle. Mirrors shall not be cracked or dirty (49 CFR 393 80)

f Warning Equipment Equipment must include three bidirectional emergency reflective triangles that conform to the requirements of FMVSS No 125 FLAME PRODUCING DEVICES ARE PROHIBITED (49 CFR 393 95)

g Fire Extinguisher Military vehicles must be equipped with two serviceable fire extinguishers with an Underwriters Laboratories rating of 10 BC or more (Commercial motor vehicles must be equipped with one serviceable 10 BC Fire Extinguisher) Fire extinguisher(s) must be located so that it is readily accessible for use and securely mounted on the vehicle The fire extinguisher must be designed, constructed and maintained to permit visual determination of whether it is fully charged (49 CFR 393 95)

h. Electrical Wiring: Electrical wiring must be clean and properly secured. Insulation must not be frayed cracked or otherwise in poor condition There shall be no uninsulated wires improper splices or connections Wires and electrical fixtures inside the cargo area must be protected from the lading (49 CFR 393.28 393 32 393 33)

INSTRUCTIONS

SECTION 11 *(Continued)*

i Lights/Reflectors. (Head. tail, turn signal, brake, clearance, marker and identification lights, Emergency Flashers) Inspect to see that all lighting devices and reflectors required are operable, of proper color and properly mounted Ensure that lights and reflectors are not obscured by dirt or grease or have broken lenses High/Low beam switch must be operative Emergency Flashers must be operative on both the front and rear of vehicle (49 CFR 393)

j Fuel System. Inspect fuel tank and lines to ensure that they are in serviceable condition, free from leaks, or evidence of leakage and securely mounted Ensure that fuel tank filler cap is not missing. Examine cap for defective gasket or plugged vent. Inspect filler necks to see that they are in completely serviceable condition and not leaking at joints (49 CFR 393 83 and 396 Appendix G)

k Exhaust System. Exhaust system shall discharge to the atmosphere at a location to the rear of the cab or if the exhaust projects above the cab, at a location near the rear of the cab Exhaust system shall not be leaking at a point forward of or directly below the driver compartment No part of the exhaust system shall be located where it will burn, char or damage electrical wiring, fuel system or any other part of the vehicle No part of the exhaust system shall be temporarily repaired with wrap or patches. (49 CFR 393 83 and 396 Appendix G)

1 Brake System (to include hand brakes, parking brakes and Low Air Warning devices). Check to ensure that brakes are operational and properly adjusted. Check for audible air leaks around air brake components and air lines Check for fluid leaks, cracked or damaged lines in hydraulic brake systems. Ensure that parking brake is operational and properly adjusted Low Air Warning devices must be operative. (49 CFR 396 Appendix G)

m Suspension. Inspect for indications of misaligned, shifted or cracked springs, loosened shackles, missing bolts, spring hangers unsecured at frame and cracked or loose U-bolts Inspect for any unsecured axle positioning parts, and sign of axle misalignment, broken torsion bar springs (if so equipped). (49 CFR 396 Appendix G)

n Coupling Devices (Inspect without uncoupling). Fifth Wheels: Inspect for unsecured mounting to frame or any missing or damaged parts. Inspect for any visible space between upper and lower fifth wheel plates Ensure that the locking jaws are around the shank and not the head of the kingpin. Ensure that the release lever is seated properly and safety latch is engaged. Pintle Hook, Drawbar, Towbar Eye and Tongue and Safety Devices: Inspect for unsecured mounting, cracks, missing or ineffective fasteners (welded repairs to pintle hook is prohibited). Ensure safety devices (chains, hooks, cables) are in serviceable condition and properly attached. (49 CFT 396 Appendix G)

o Cargo Space. Inspect to ensure that cargo space is clean and free from exposed bolts, nuts, screws, nails or inwardly projecting parts that could damage the lading. Check floor to ensure it is tight and free from holes. Floor shall not be permeated with oil or other substances (49 CFR 177 815(e)(1) and 398.94)

p. Landing Gear. Inspect to ensure that landing gear and assembly are in serviceable condition, correctly assembled, adequately lubricated and properly mounted

SECTION 11 *(Continued)*

q Tires, Wheels and Rims: Inspect to ensure that tires are properly inflated Flat or leaking tires are unacceptable. Inspect tires for cuts, bruises, breaks and blisters. Tires with cuts that extend into the cord body are unacceptable Thread depth shall not be less than: 4/32 inches for tires on a steering axle of a power unit, and 2/32 inches for all other tires. Mixing bias and radial on the steering axle is prohibited Inspect wheels and rims for cracks, unseated locking rings broken, loose damaged or missing lug nuts or elongated stud holes (49 CFR 396Appendix G)

r Tailgate/Doors Inspect to see that all hinges are tight in body Check for broken latches and safety chains. Doors must close securely (49 CFR 177 835(h))

s. Tarpaulin. If shipment is made on open equipment ensure that lading is properly covered with fire and water resistant tarpaulin (49 CFR 177 835(h))

t. Other Unsatisfactory Condition. Note any other condition which would prohibit the vehicle from being loaded with hazardous materials

Item 14. For AA&E and other shipments requiring satellite surveillance ensure that the Satellite Motor Surveillance System is operable Shipper will instruct the driver to send a "test" emergency message to DTTS by having the driver activate the "emergency (panic) button" Shipper will contact DTTS at 1-800-826-0794 to verify that test message was received Message must be received by DTTS for system to be considered operational

SECTION III - POST LOADING INSPECTION

General Instructions.

All items will be checked prior to the release of loaded equipment Shipment will not be released until deficiencies are corrected. All items will be checked on incoming loaded equipment. Deficiencies will be reported in accordance with applicable service regulations

Item 18 Check to ensure shipment is loaded in accordance with 49 CFR Part 177 848 and the applicable Segregation or Compatibility Table of 49 CFR 177.848.

Item 19 Check to ensure the load is secured from movement in accordance with applicable service outload drawings.

Item 20. Check to ensure seal(s) have been applied to closed equipment; fire and water resistant tarpaulin applied on open equipment.

Item 2 1. Check to ensure each transport vehicle has been properly placarded in accordance with 49 CFR Part 172 Subpart F

Item 22. Check to ensure operator has been provided shipping papers that comply with 49 CFR Part 172 Subpart C For shipments transported by Government vehicle, shipping paper will be DD Form 836.

Item 23 Ensure operator(s) sign DD Form 626, are given a copy and understand the hazards associated with the shipment.

Item 24. Applies to Commercial Shipments Only. If shipment is made under DOT Exemption 868, ensure that shipping papers are properly annotated and copy of Exemption 868 is with shipping papers

INSTRUCTIONS FOR COMPLETING DD FORM 836, DANGEROUS GOODS SHIPPING PAPER/DECLARATION AND EMERGENCY RESPONSE INFORMATION FOR HAZARDOUS MATERIALS TRANSPORTED BY GOVERNMENT VEHICLES/CONTAINERS OR VESSEL

GENERAL

DD Form 836 shall be completed by a **qualified*** individual from a transportation office, unit or other organization offering hazardous material (HAZMAT) for transportation in areas accessible to the general public

*An individual is considered qualified to complete and sign (certify) DD Form 836. only after having satisfactorily completed either a DoD authorized HAZMAT Course from one of the DoD-approved schools listed in the Defense Transportation Regulation (DTR) or technical specialist training in accordance with DTR. Part II Chapter 204. Para (e). This person shall be appointed in writing by the activity or unit commander. to include scope of authority.

Item 1. Fill in the nomenclature, model number. TCN. and bumper number/serial number. of the vehicle/container For containers carrying sensitive or classified items. the container security seal is required

Item 2. Enter the shipper's address and telephone number of the HAZMAT origination. Telephone number is for **NOTIFICATION PURPOSES ONLY.** Emergency assistance shall be obtained from the appropriate **24 HOUR EMERGENCY ASSISTANCE TELEPHONE NUMBER(S)** in Item 11c on the first page of this form

Item 3 Enter the place/date the HAZMAT was certified (e.g . C. Company 66 Armor Motor Pool. Fort Myer. VA 1 Sep 2000).

Item 4. Enter the date the HAZMAT will move

Item 5. Enter the page number and total number of pages of this form for the vehicle/container carrying the HAZMAT Example: "Page 1 of 4 Pages" If there are no continuation sheets annotate 'Page 1 of 1".

Item 6a. Enter the proper shipping name of the HAZMAT and if applicable include the technical name (Enter additional information as required by 49 CFR, 172 203 - Example: RQ. Inhalation Hazard or by the IMDG Code General Introduction 9 3 - Example: Flashpoint)

Item 6b. Enter the Hazard class/division and. if applicable the Compatibility Group

Item 6c Enter the identification numbers (e g . NA, UN). The letters "UN" or 'NA" must be noted "NA" may not be used for OCONUS

Item 6d Enter the packing group (e g I. II. or III) of the HAZMAT

Item 6e Enter the total number of packages/items

Item 6f Enter the type of packaging (e g . container. box. drum, pallet). the HAZMAT is packed in

Item 6g Enter the total net quantity for non-explosive material in metric measure. U.S measure may be added in parentheses underneath the metric measure For vessel shipments. add the total gross mass in metric measure

Item 6h. Enter total Net Explosive Weight (NEW) in kilograms for ammunition/ explosive (Class 1 items) NEW information is found in the Joint Hazard Classification System (JHCS) in the entry for the NEW (Transportation Quantity). Example: 27.231 kg NEW

Item 7. To be completed by Port Personnel Enter the name of Port the HAZMAT is being discharged (e.g.. Port of Damman. Saudi Arabia) for OCONUS only

Item 8 To be completed by Port Personnel Enter the name of the ship used (e g . USS Watson) and Voyage number for OCONUS only

Item 9. Enter the six digit Department of Defense Activity Address Codes (DODAAC) and/or the clear geographical location of the ultimate receiver or consignee of the HAZMAT shipment If this is a unit move the unit name will be the same as that for Item 2) Additional information if needed can be annotated in Item 10 or the continuation of Item 10

Item 10. Additional handling instructions/information

Item 11.. Self explanatory
NOTE: For Radioactive Material Shipments only: Cross out the non-applicable numbers (e g Army shipments - cross out all but Army's radioactive response number)

Item 12. To be completed by person responsible for packing the vehicle or container Certifying person must type or print name legibly in 12a. and must sign in writing (longhand) in 12b

Item 13. Certifying person must type or print name legibly in 13a. and must sign in writing (longhand) in 13b. 13c - Self explanatory

Item 14. For CONUS movements: (X) 49 CFR
For OCONUS movements: (X) 49 CFR and (X) IMDG

NOTES:
1 Units returning from firing range must have a certified or qualified person to ensure that all HAZMAT is properly repackaged and secured (i e braced blocked. and tied down) prior to being transported back to base **See exception below**.

2 Completion of a new DD Form 836 is not required Original DD Form 836 may be used provided that:

a Change Item 3 (Date Prepared) and Item 4 (Date of Travel) as needed.

b Change Item 6 (Cargo):
(i) HAZMAT used shall be deleted from form by crossing out or lining through
(ii) HAZMAT which remains, but is in different quantities shall have the correct amounts entered in the appropriate section(s)

EXCEPTION:
c Change Item 13b.:
(i) A qualified individual (if available) shall sign in writing (longhand). If a qualified individual is not available. then the Officer-In-Charge (OIC) or Non-Commissioned Officer-In-Charge (NCOIC) shall sign in writing (longhand) to verify that the above procedures have been performed for the return trip to base
(ii) Cross out original signature if different certifier will be used

1.a. NOMENCLATURE:	c. CONTAINER SEAL NO.:	e. TCN NUMBER:
b. MODEL NO.:	d. SERIAL NO.:	f. BUMPER NO.

DANGEROUS GOODS SHIPPING PAPER/DECLARATION AND EMERGENCY RESPONSE INFORMATION FOR HAZARDOUS MATERIALS TRANSPORTED BY GOVERNMENT VEHICLES/CONTAINERS OR VESSEL

2. SHIPPER/ADDRESS/TELEPHONE NO.	3. LOCATION AND DATE SHIPMENT PREPARED	4. DATE OF TRAVEL	5. PAGE 1 OF ____ PAGES

6. CARGO *(To be completed by the unit or shipper Transportation Office (T.O.))*

PROPER SHIPPING NAME *(Include RQ, Technical Names, Additional Information per 49 CFR172.203, as required)* a.	HAZARD CLASS/ DIVISION b.	UN/ID NUMBER c.	PACKING GROUP d.	PACKAGES NUMBER e.	PACKAGES KIND f.	NET TOTAL QUANTITY & GROSS WT *(kg)* g	TOTAL AMMO (NEW) h.

(Port personnel complete Items 7 and 8.)

7. PORT OF EMBARKATION *(OCONUS only)*	8a. SHIP NAME *(OCONUS only)*	b. VOYAGE NUMBER

9. CONSIGNEE

10. REMARKS

11a. COPY OF EMERGENCY GUIDE NUMBER(S) _____ ATTACHED *(See back of this form)*

b. EMERGENCY NOTIFICATION. In all cases of accident, breakdown or fire, prompt notification must be given to shipper as noted in Item 2.

c. 24-HOUR EMERGENCY ASSISTANCE TELEPHONE NUMBERS:

DOD NON-EXPLOSIVE HAZMAT:	DOD HAZ CLASS 1 (EXPLOSIVES) ONLY:	SAFE HAVEN: 1-800-524-0331	DOD RADIOACTIVE MATERIALS:
1-800-851-8061	703-697-0218/0219	NATIONAL RESPONSE CENTER (NRC): 1-800-424-8802	ARMY: (703) 697-0218 (COLLECT)
AT SEA: 804-279-3131 (COLLECT)	(COLLECT) (WATCH OFFICER)	AT SEA: 202-267-2675 (COLLECT)	USAF: (202) 767-4011
			USN/MC: (757) 887-4692/ 1-888/528-0148
			DLA: (717) 770-5283

12. CONTAINER PACKING CERTIFICATE OR VEHICLE PACKING DECLARATION

It is hereby declared that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with applicable provisions *(Must be completed and signed for all container/vehicle loads by person responsible for packing/loading)*

☐ CONTAINER NO. _____ ☐ VEHICLE NO. _____

a. TYPE OR PRINT NAME	b. SIGNATURE	c. DATE *(YYYYMMDD)*

13. SHIPPER'S CERTIFICATION

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, international and national governmental regulations.

a. TYPE OR PRINT NAME OF SHIPPER CERTIFIER	c. SIGNATURE(S) OF VEHICLE OPERATOR(S)
b. SIGNATURE OF SHIPPER CERTIFIER	

14. *(X as appropriate)* PREPARED IN ACCORDANCE WITH:		49 CFR		IMDGC

DD FORM 836, JAN 2001 PREVIOUS EDITION IS OBSOLETE

This form meets the requirements of SOLAS 74 Chapter VII Regulation 5; MARPOL 73/78 Annex III Regulation 4 and IMDG Code, General Introduction, Section 9

HAZMAT EMERGENCY RESPONSE INFO

EMERGENCY RESPONSE INFORMATION

Guide Numbers 112 and 114 from the U S Department of Transportation North American Emergency Response Guide Book (RSPA P 5800.7) are reproduced hereon These guides are applicable to Hazard Class 1 Materials (Explosives)
Mark an X in the appropriate box:

☐ USE GUIDE 112 FOR EXPLOSIVES: (1.1), (1.2), (1.3), (1.5) or (1.6) Class A or B

☐ USE GUIDE 114 FOR EXPLOSIVES: (1.4) Class C

For all other hazardous materials or substances, annotate appropriate Emergency Response Guide Book Guide Number in the block below, and attach a copy of the guide number page or pages.

GUIDE 112

POTENTIAL HAZARDS
FIRE OR EXPLOSION:
MAY EXPLODE AND THROW FRAGMENTS 1600 METERS (1 MILE) OR MORE IF FIRE REACHES CARGO.

HEALTH HAZARDS:
- Fire may produce irritating, corrosive and/or toxic gases

PUBLIC SAFETY:
CALL CHEMTREC AT 1-800-424-9300.
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. Move people out of line of sight of the scene and away from windows
- Keep unauthorized personnel away and stay upwind
- Ventilate closed spaces before entering

PROTECTIVE CLOTHING:
- Wear positive pressure self-contained breathing apparatus (SCBA) Structural firefighters' protective clothing will only provide limited protection

EVACUATION:
LARGE SPILL
- Consider initial evacuation for 800 meters (1/2 mile) in all directions

FIRE
- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are involved, evacuate the area for 800 meters (1/2 mile) in all directions

EMERGENCY RESPONSE:
FIRE:
CARGO Fires: DO NOT FIGHT FIRE WHEN IT REACHES CARGO! CARGO MAY EXPLODE!
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn Do not move cargo or vehicle if cargo has been exposed to heat

TIRE or VEHICLE Fires:
- **Use plenty of water - FLOOD it!** If water is not available, useCO_2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur Stand by with extinguisher ready

SPILL OR LEAK:
- ELIMINATE all ignition sources (no smoking flares sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
  Do not touch or walk through spilled material.
- **DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 METERS (330 feet) OF ELECTRIC DETONATORS.**
- **DO NOT CLEAN UP OR DISPOSE OF. EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

FIRST AID:
- SEE GUIDE 114 FOR INSTRUCTIONS

GUIDE 114

POTENTIAL HAZARDS
FIRE OR EXPLOSION:
MAY EXPLODE AND THROW FRAGMENTS 500 METERS (1/3 MILE) OR MORE IF FIRE REACHES CARGO.

HEALTH HAZARDS:
- Fire may produce irritating corrosive and/or toxic gases

PUBLIC SAFETY:
CALL Emergency Response Telephone Number on Shipping Paper first
If Shipping Paper not available or no answer.
CALL CHEMTREC AT 1-800-424-9300.
- Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away and stay upwind
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING:
- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

EVACUATION:
LARGE SPILL
- Consider initial evacuation for 250 meters (800 feet) in all directions

FIRE
- If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate evacuation including emergency responders for 500 meters (1/3 mile) in all directions

CARGO Fires: DO NOT FIGHT FIRE WHEN IT REACHES CARGO! CARGO MAY EXPLODE!
- Stop all traffic and clear the area for at least 500 meters (1/3 mile) in all directions and let burn Do not move cargo or vehicle if cargo has been exposed to heat

TIRE or VEHICLE Fires:
- **Use plenty of water - FLOOD it!** If water is not available, use CO_2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready

SPILL OR LEAK:
- ELIMINATE all ignition sources (no smoking, flares sparks or flames in immediate area).
- All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
- **DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 METERS (330 feet) OF ELECTRIC DETONATORS.**
- **DO NOT CLEAN UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

FIRST AID:
- Move victim to fresh air. Call emergency medical care
- Apply CPR if victim is not breathing.
- Administer oxygen if necessary.
- Remove and isolate contaminated clothing and shoes.
- Flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the materials involved. and take precautions to protect themselves

SUPPLEMENTAL INFORMATION:
Packages bearing the 1.4S label contain explosive substances or articles that are designed or packaged in such a manner that when involved in a fire may burn vigorously with localized detonations and projection of fragments Effects are usually confined to immediate vicinity of packages.
If fire threatens cargo area containing packages bearing the 1.4S label, consider initial isolation of at least 15 meters (50 feet) in all directions. Fight fire with normal precaution from a distance.

HAZMAT EMERGENCY RESPONSE INFO

GRID INFORMATION FORM

Team:	Project: Mission Trails Equestrian Center
Grid No.:	Date/Time started:
Total man/hours:	Date/Time completed:

Total Digs	Total OE Live	BIP	Total OE Scrap	Total Non-OE Scrap	HAZMAT Found

Comments:

UXOS Signature:

QC INSPECTION

QCS:	Date:
SAT **UNSAT**	Date released for USACE QA:

Comments:

QCS Signature:

100																				
95																				
90																				
85																				
80																				
75																				
70																				
65																				
60																				
55																				
50																				
45																				
40																				
35																				
30																				
25																				
20																				
15																				
10																				
5																				
S W	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

UXO 1: _____ Depth: _____ Condition: _____ Photo: **Y** **N**

UXO 2: _____ Depth: _____ Condition: _____ Photo: **Y** **N**

UXO 3: _____ Depth: _____ Condition: _____ Photo: **Y** **N**

UXO 4: _____ Depth: _____ Condition: _____ Photo: **Y** **N**

UXO 5: _____ Depth: _____ Condition: _____ Photo: **Y** **N**

Small Arms (total/cal): _____/_____

Small Arms (total/cal): _____/_____

Small Arms (total/cal): _____/_____

SCI UXO/OE Services
DOCUMENTATION OF TRAINING

Training Course Name: _____

Presented By: _____ **Date:** _____

TOPICS DISCUSSED

Work Plan/SSHP/APP: _____

UXO/OE Hazards: _____

Chemical Hazards: _____

Physical Hazards: _____

Emergency Procedures: _____

Other: _____

ATTENDEES

Printed Name	Signature

Trainer: _____ **Date:** _____

SCI UXO/OE SERVICES
DAILY TAILGATE SAFETY BRIEFING

DATE:	PROJECT SITE:
BRIEFER:	
(NAME)	(SIGNATURE)

TOPICS DISCUSSED:

WORK PLAN - CHANGES:

UXO/OE ENCOUNTERED/HAZARDS:

CHEMICAL HAZARDS:

PHYSICAL HAZARDS:

EMERGENCY PROCEDURES:

OTHER TOPICS:

ATTENDEES

Printed Name	Signature

SCI UXO/OE SERVICES

SAFETY INSPECTION RECORD

PROJECT: _____

DATE: _____

UXO SAFETY OFFICER: _____

AREA INSPECTED	OBSERVATIONS

CLIENT ACTION REQUEST (CAR) RECORD

See Reverse for Completion Instructions

DATE: _____ PROJECT: _____

CLIENT: _____

ACTION REQUESTED: _____

REQUEST RECEIVED VERBALLY: YES ( ) NO ( )

IF YES, HAVE THE CLIENT READ THE ABOVE 'ACTION REQUESTED' AND INITIAL TO CONFIRM WHAT HAS BEEN WRITTEN, IS IN FACT, WHAT IS DESIRED.

IF NO, ATTACHED WRITTEN DOCUMENT TO THIS CAR.

DETERMINE VALIDITY OF THE REQUESTED ACTION:

REQUESTED ACTION WILL CORRECT A CLIENT OBSERVED NONCONFORMANCE:

YES ( ) NO ( )

REQUESTED ACTION IS WITHIN THE SCOPE OF WORK:

YES ( ) NO ( )

DISCUSS REQUESTED ACTION: _____

DETAIL CORRECTIVE ACTION TO BE APPLIED: _____

FOLLOW-UP TO BE CONDUCTED BY THE UXO QC SPECIALIST:

DATE: _____ CLIENT REPRESENTATIVE: _____

CORRECTIVE ACTION HAS BEEN APPLIED: YES ( ) NO ( )

IF YES, IS THE CLIENT SATISFIED WITH THE CORRECTIVE ACTION THAT HAS BEEN APPLIED: YES ( ) NO ( )

IF NO, DETERMINE WHY CORRECTIVE ACTION HAS NOT BEEN APPLIED AND DOCUMENT REASONS: _____

Instructions for Completion

A CAR will be completed, by the project's senior person on-site, every time a Client expresses dissatisfaction with on-site activities.

Date: Enter the date the client's request was received.

Project Site: Enter the project site's name

Client: Enter the organization and individual's name making the request

Action Requested: Enter specific, detailed remarks about the requested action.

Request Received Verbally: Check appropriate ( )

Determine Validity: Check appropriate ( )

Discuss Requested Action: Enter the background relative to the request If this is in response to an observed nonconformance, detail why the nonconformance occurred. A root cause analysis will be conducted. If the space provided here is insufficient, attach plain bond paper and number pages consequentially.

Detail Corrective Action to be Applied: Enter the results of the root cause analysis and corrective action that will prevent the nonconformance from reoccurring.

Follow-up by the UXO QC Specialist:
Date: Enter date follow-up conducted
Client Representative: Enter Individual's name.
Corrective Action Applied: Mark appropriate ( ). If the response is "NO", document on plain bond paper and attach to this report

Distribution of completed form:
1 - Project Manager
1 - Quality Manager
1 - On-site Contract file
1 - QC Specialist (active QC file)

PROPERTY ACCOUNTABILITY RECORD				
NOMENCLATURE TO INCLUDE SERIAL NUMBER	DATE RECEIVED	ISSUED TO	DATED ISSUED	SIGNATURE

Remarks (condition, etc) _____

_____

_____

_____

INVENTORY: _____ INVENTORY: _____
INVENTORY: _____ INVENTORY: _____
INVENTORY: _____ INVENTORY: _____
INVENTORY: _____ INVENTORY: _____

QUALITY CONFORMANCE INSPECTION (QCI) RECORD

See Reverse for Completion Instructions

DATE: _____ PROJECT SITE: EAST ELLIOTT

UXO QC SPECIALIST:

TASK INSPECTED: _____

SCHEDULED INSPECTION: YES ( ) NO ( ) REINSPECTION ( )

DAILY ( ) WEEKLY ( ) OTHER ( ) _____

RESULTS:

( ) TASK IS BEING ACCOMPLISHED IN CONFORMANCE WITH THE WORK PLAN

( ) TASK IS NOT BEING ACCOMPLISHED IN CONFORMANCE WITH THE WORK PLAN.

THE NOTED NONCONFORMANCE IS AS FOLLOWS: _____

REINSPECTION: DATE OF REINSPECTION: _____

TASK AND DATE OF NONCONFORMANCE BEING REINSPECTED: _____

RESULTS:

( ) TASK IS BEING ACCOMPLISHED IN CONFORMANCE TO THE WORK PLAN

( ) TASK IS NOT BEING ACCOMPLISHED IN CONFORMANCE TO THE WORK PLAN.

THE RE-OCCURRING NONCONFORMANCE IS AS FOLLOWS: _____

INSTRUCTIONS FOR COMPLETION

A QCI Record will be completed on each task inspected.

Date: Enter the date the inspection takes place.

Project Site: Enter the project site's name.

UXO QC Specialist: Enter the person's name conducting the QCI.

Task Inspected: Enter the name of the task being inspected as per the QCI Schedule.

Scheduled Inspection: Place an "X" in the appropriate ( ). If other is applicable, note the reason

Results: Enter a "X" in the appropriate ( )
If the task is in conformance, no other information is required on this form.
If the task is not in conformance, continue with the explanation in space provided

Reinspection: Date and Task being reinspected. Enter the date and pertinent task
Results: Enter a "X" in the appropriate ( ).
If the task is still not in conformance, continue with the explanation in space provided.

Distribution of completed forms:

Conformances: 1 - On-site QC File (Inactive)

Nonconformances:
1 - Project Manager
1 - Quality Manager
1- SUXOS
1 - On-site QC File (Active)

Reinspections:
1 - Project Manager
1 - Quality Manager
1 - SUXOS
1 - On-site QC File (Inactive if compliant) (Active is noncompliant)

WARNINGS AND INSTRUCTIONS
FOR THE STORAGE OF EXPLOSIVE MATERIALS

(A copy of this should be placed on the inside door of a magazine.)

LOCATION OF MAGAZINES:

Always separate magazines from other magazines, inhabited buildings, highways, and passenger railways. See American Table of Distances.

The maximum NEW for this magazine is _____

Never allow combustible material to accumulate within 25 feet of the magazine.

Never all any lighters, matches, open flames or other sources of ignition or violate materials within 50 feet of the magazine.

Never attempt to make any repairs to the inside or outside of a magazine containing explosive materials.

CONSTRUCTION OF MAGAZINES:

Always be sure magazines are solidly built and securely locked to protect from weather, fire, and theft. Protect from penetration by bullets and missiles.

Always keep the inside of the magazine clean, dry, cool and well ventilated

Always post clearly visible 'EXPLOSIVES-KEEP OFF" signs outside of the magazine. Locate signs so that a bullet passing directly through them cannot hit the magazine

CONTENTS OF MAGAZINES:

Always cleanup spills promptly

Always store only explosive materials in a magazine.

Always rotate stocks of explosive material so the oldest material in the magazine is used first.

Never store detonators with other explosive materials.

Never use explosive materials which seem deteriorated.

Never exceed recommended storage conditions and temperatures for explosive materials.

Never perform any type of operation in a magazine other than inspection, inventory or bringing in or taking out explosive materials.

HANDLING EXPLOSIVE MATERIALS:

Never handle explosive material during or during the approach of an electrical storm

Never fight fires involving explosive materials Remove yourself and all other persons to a safe location and guard the area

Never put explosive materials in pockets of your clothing.

Always close partially used packages of explosive materials

Always store explosives in their original package

Never touch metal fasteners with metal slitters when opening packages of explosive materials

Never mix different explosives in the same package.

SCI WEEKLY VEHICLE INSPECTION CHECKLIST

Site Location: _____
Inspected Vehicle: _____ **Owner:** _____
Date Inspected: _____ **Mileage:** _____
Inspector: _____

Use [✔] For Pass, Use [X] For Discrepancy

1. DOCUMENTATION: Registration [ ] Insurance [ ] Emergency Route Map/ Phone Numbers [ ]	**2. BRAKES:** Hand/Emergency [ ] Service [ ]
3. TIRES: Pressure [ ] Condition [ ]	**4. BELTS:** Proper tension [ ] Condition [ ]
5. EQUIPMENT: Fire extinguishers [ ] First Aid/CPR/Burn/ Eyewash kits [ ] *Tie downs [ ] *Chocks [ ] *Placards [ ]	**6. LIGHTS:** Headlights (high & low) [ ] Brake Lights [ ] Parking [ ] Back-up [ ] Turn Signals [ ] Emergency Flashers [ ]
7. FLUID LEVELS: Oil [ ] Coolant [ ] Brake [ ] Steering [ ] Transmission [ ] Windshield Wiper [ ] Fluid Leaks [ ]	**8. GENERAL:** Windshield Wipers [ ] Horn [ ] Seat Belts [ ] Steering [ ] Windshield/Windows [ ] Gas Cap [ ] Mirrors [ ] Exhaust System/*Spark Arrester [ ] Cleanliness [ ]

(Note: Items marked with * apply to explosive carriers only)

Description of deficiencies: _____

_____

_____

_____

_____

_____

_____

Date Corrective Action Completed: _____

SCI UXO/OE SERVICES

SITE VISITOR LOG

PROJECT:

PERSON GIVING BRIEFING:

NAME	COMPANY	PHONE NO.	DATE	TIME IN	TIME OUT

HEAT STRESS MONITORING LOG

Date:_____ **Site Name:**_____ **Conditions:** _____

SSHO:_____ **Location:**_____

Name	Organization	Start Time	Pulse Rate	Time	Pulse Rate	Time	Pulse Rate	Time	Pulse Rate		

Remarks and Observations:

CHAIN OF CUSTODY RECORD

JECT: 2044	PROJECT NAME: East Elliott	SAMPLER: (Signature)

A. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	REMARKS

quished by: Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
ceived by: Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)(	Date/Time
nquished by: ature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time

Received for Laboratory by: Signature Date/Time	Remarks:

CI Form P142 (2/9/01)

PREVIOUS EDITION MAY BE USED

PerFORM (DLA)

1. TOTAL PRICE | 2. SHIP FROM | 3. SHIP TO

DOLLARS | CTS

UNIT PRICE | DOLLARS | CTS

4. MARK FOR

5. DOC DATE | 6. NMFC | 7. FRT RATE | 8. TYPE CARGO | 9. PS

10. QTY. REC'D | 11. UP | 12. UNIT WEIGHT | 13. UNIT CUBE | 14. UFC | 15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE

18. TY CONT | 19. NO CONT | 20. TOTAL WEIGHT | 21. TOTAL CUBE

22. RECEIVED BY | 23. DATE RECEIVED

This certifies that the AEDA residue, range residue, and/or explosive Contaminated property listed has been 100 percent properly inspected And to the best of our knowledge and belief, are inert and/or free of Explosives or related material.

(Certifier) _____
Printed Name:
Senior UXO Supervisor
East Elliott Project
(256) 864-0018

(Certifier) _____
Printed Name:
UXO QC Specialist
East Elliott Project
(256) 864-0018

Serial # SCI-EE- - 2003

(Verifier) _____

24 DOCUMENT NUMBER & SUFFIX (30-44)

25. NATIONAL STOCK NO. & ADD (8-22)

26. RIC (4-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80)

27 ADDITIONAL DATA

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1 DODIC	2 NSN	3 LOT NO	4 LOCATION	B	D
5 DESCRIPTION			A	C	E

6 DATE	7 DOCUMENT NO	8 ACTION/PURPOSE	9 QUANTITY		10 BALANCE	11 PRINTED NAME
			A GAIN	B LOSS		

DA FORM 3020-R, AUG 89 **MAGAZINE DATA CARD**

For use of this form see DA PAM 710-2-1; the proponent agency is DCSLOG

Continued on Reverse

PREVIOUS EDITION IS OBSOLETE

USAPPC V1 01

1 DODIC	2 NSN	3 LOT NO	4 LOCATION	B	D
5 DESCRIPTION			A	C	E

6 DATE	7 DOCUMENT NO	8 ACTION/PURPOSE	9 QUANTITY		10 BALANCE	11 PRINTED NAME
			A GAIN	B LOSS		

REVERSE, DA FORM 3020-R, AUG 89 **MAGAZINE DATA CARD** *Use Other Side First*

USAPPC V1 01

INFOPRO CORPORATION

BI-WEEKLY CONTRACT EMPLOYEE TIMESHEET

EMPLOYEE ID #: UXOD-XXXC

EMPLOYEE NAME: _____

FROM: 06/15/04 **TO:** 06/28/04

		DAY	S	S	M	T	W	T	F	TOTAL HOURS
		DATE	6/15	6/16	6/17	6/18	6/19	6/20	6/21	
PROJECT NUMBER	PROJECT NAME	LAB CAT								
2044.005	East Elliott MOB/DEMOB									0.0
2044.005	East Elliott-Reg Work									0.0
2044.005	East Elliott-4% HDP									0.0
2044.005	East Elliott-8% HDP									0.0
2044.005	East Elliott-4% HDP OT									0.0
2044.005	East Elliott-8% HDP OT									0.0
2044.005	Vacation									0.0
2044.005	Sick									0.0
2044.005	Holiday									0.0
	WEEK SUBTOTAL									0.0
			6/22	6/23	6/24	6/25	6/26	6/27	6/28	
2044.005	East Elliott MOB/DEMOB									0.0
2044.005	East Elliott-Reg Work									0.0
2044.005	East Elliott-4% HDP									0.0
2044.005	East Elliott-8% HDP									0.0
2044.005	East Elliott-4% HDP OT									0.0
2044.005	East Elliott-8% HDP OT									0.0
2044.005	Vacation									0.0
2044.005	Sick									0.0
2044.005	Holiday									0.0
	WEEK SUBTOTAL									0.0
	PAY PERIOD TOTAL									*0.0*

PAY PERIOD TOTAL FOR STRAIGHT TIME (0% HDP): 0.0
PAY PERIOD TOTAL FOR STRAIGHT TIME (4% HDP): 0.0
PAY PERIOD TOTAL FOR STRAIGHT TIME (8% HDP): 0.0
PAY PERIOD TOTAL FOR OVERTIME (4% HDP): 0.0
PAY PERIOD TOTAL FOR OVERTIME (8% HDP): 0.0
PAY PERIOD FOR MOB - DEMOB: 0.0

EMPLOYEE SIGNATURE: _____ **DATE:** _____

SUPERVISOR SIGNATURE: _____ **DATE:** _____

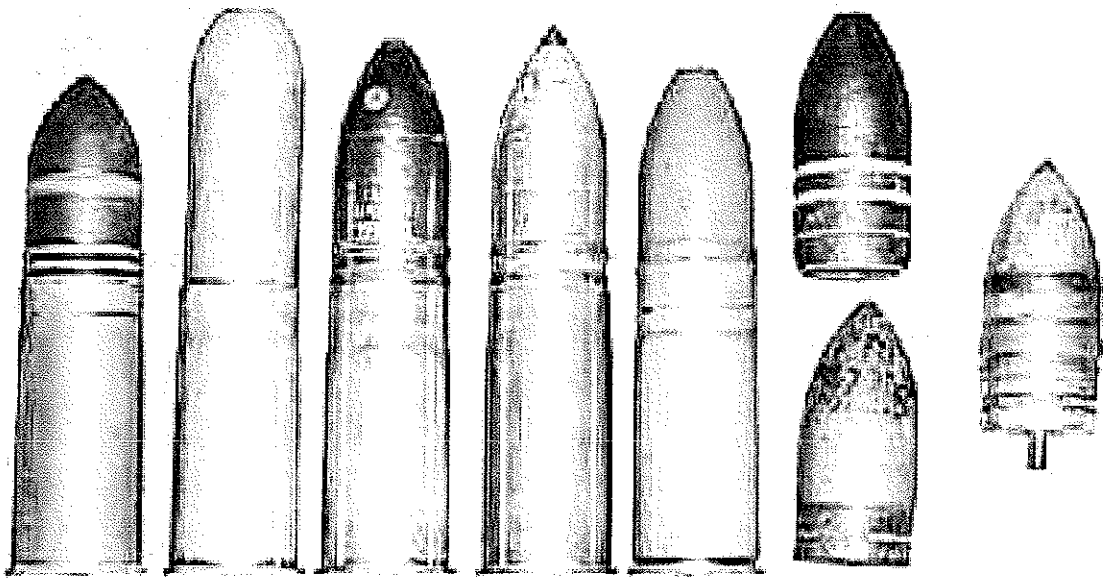
* OVERTIME MUST BE APPROVED BY THE PROJECT MANAGER IN ADVANCE

NAME	POSITION	#	40 HR	8 HR	SUPV	MEDICAL	
PARADINE,R.A.,Jr"Skip"	PM	0962	2000	Dec-03	2002	2/26/2004	**
ADAMS, STANLEY S.	SUXOS	0806	1999	May-04	2003	4/13/2004	**
MACKANIN, GEORGE, JR.	UXO SO	0334	1996	May-04	1997	5/9/2003	*/**
ANDREWS, JOHN K. C.	UXO QC	PNDG	2003	Nov-03	2003	11/20/2003	**
GIVENS, ARCHIE A. III	UXO T III	0340	1995	Jun-03	1999	5/9/2003	
TINCKNELL, BRUCE D.	UXO T III	0724	Need	Need	Need	Need	
PONTIUS, SCOTT R.	UXO T II	1251	2001	Aug-03	N/A	8/27/2003	
KRAINTZ, ANTHONY W.	UXO T II	0932	Need	Need	N/A	Need	
PONTISSO, JOSEPH E.	UXO T II	0605	1990	Jan-04	N/A	Need	*/**
RAMIREZ, RICHARD P.	UXO T II	0165	Need	Need	N/A	Need	
	UXO T II/I				N/A		
	UXO T II/I				N/A		
	UXO T II/I				N/A		
DUKE, JERRIEL B.	UXO T I	0994	2001	Need	N/A	Need	

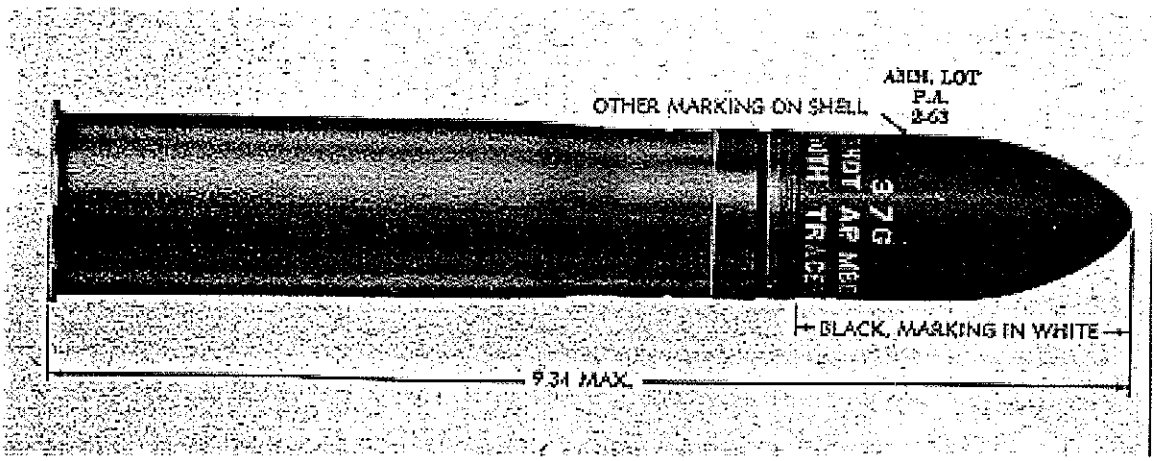
*CA Blasters License

**First Aid - CPR

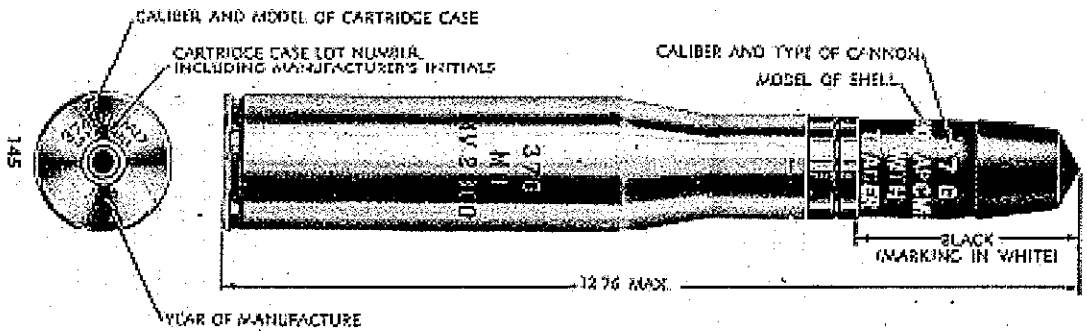
MOST PROBABLE MUNITIONS



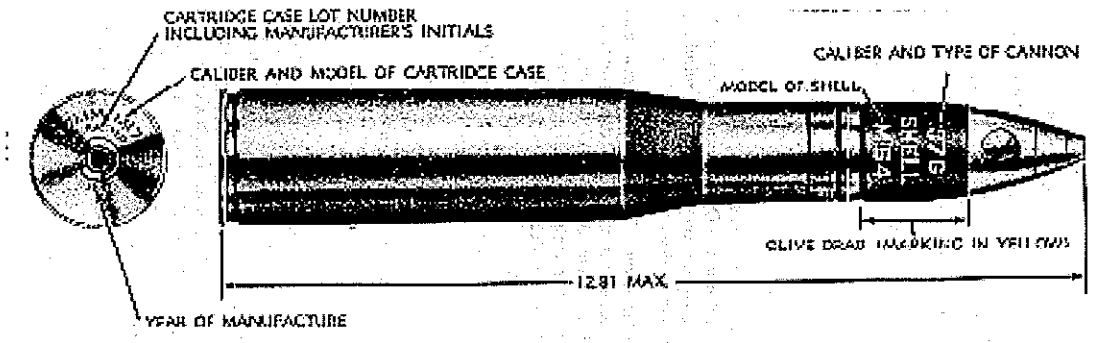
Various 37mm



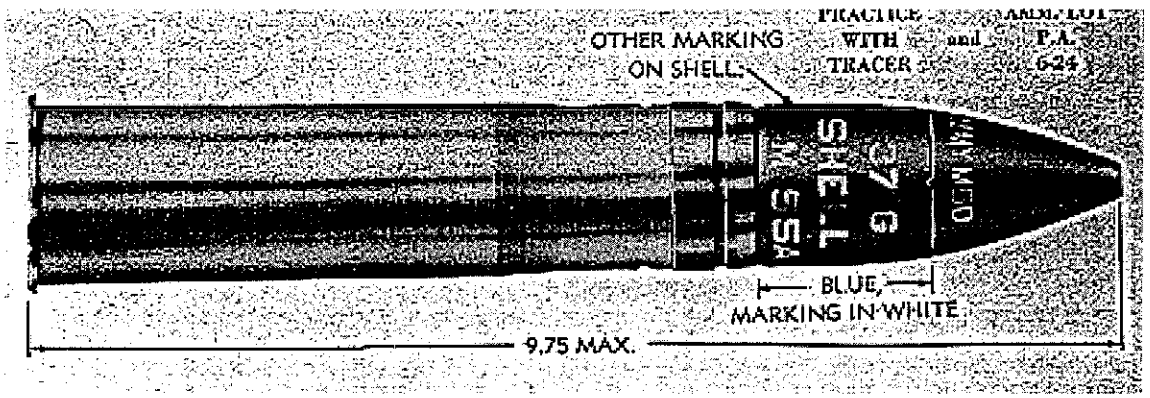
PROJECTILE, 37MM, M80, Armor Piercing (AP) (No HE)



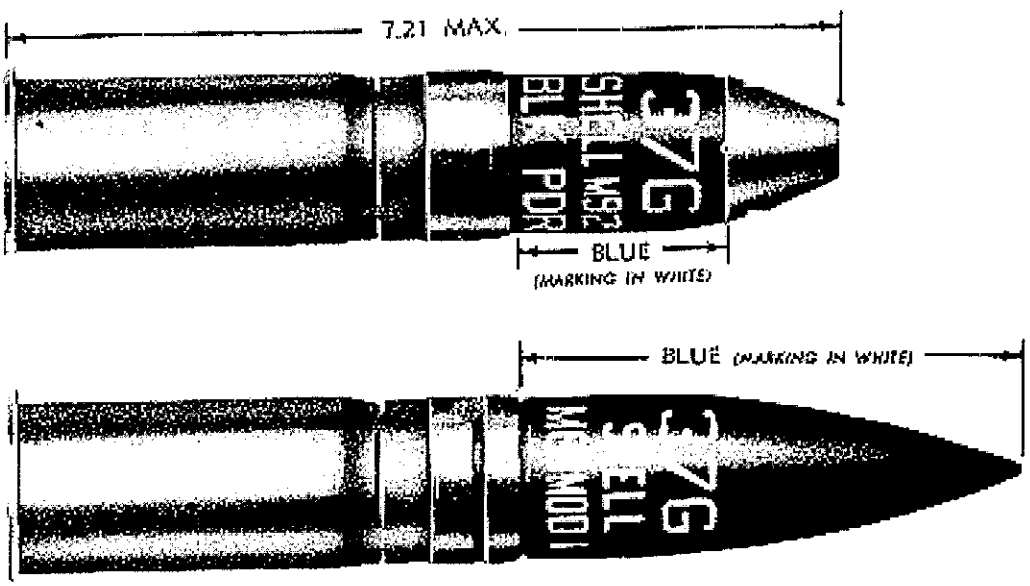
PROJECTILE, 37MM, M59, Armor-Piercing-Capped, with Tracer (No HE)



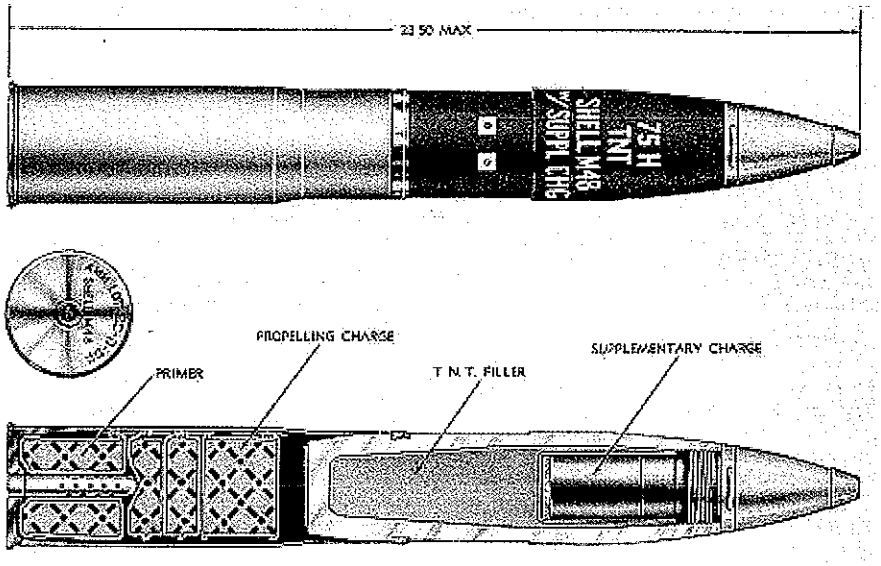
PROJECTILE, 37MM, M54, High Explosive [0.07 pound Tetryl], with Tracer



PROJECTILE, 37MM, M55, Practice (No HE)

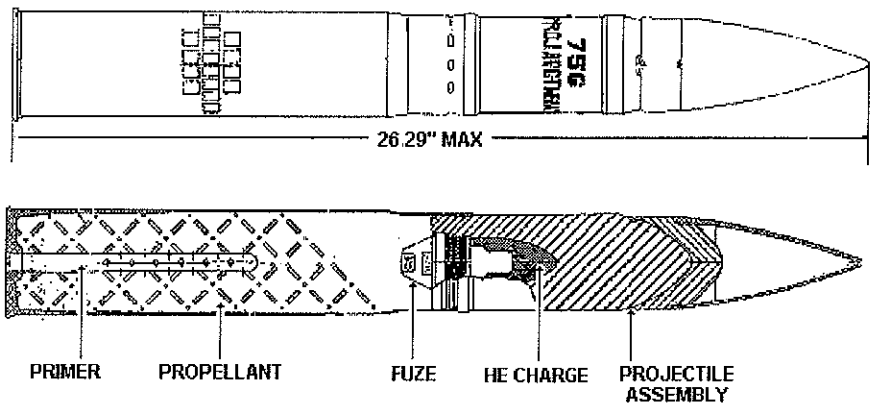


Top – PROJECTILE, 37MM, M92, Practice, Black Powder with Fuze, PD, M74
Bottom – PROJECTILE, 37MM, M63-Mod 1, Practice, Black Powder with Fuze, BD, M58



PROJECTILE, 75MM, M48, High Explosive [1.4 pound TNT or Amatol] with Fuze, Point Detonating, M48 or M54

CARTRIDGE, 75 MILLIMETER: APC-T, M61A1



Armor-Piercing Capped with Tracer and 0.14 pounds of High Explosives (Explosive D) with Base Detonating Fuze, M66A1

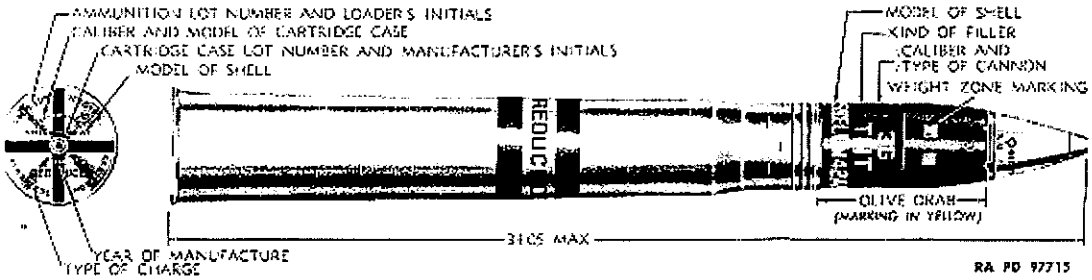


Figure 106 — HE Shell M42A1, Reduced Charge, Flashless-smokeless, With PD Fuze M48A2, for 3-inch Guns, 15 pdr, M1902M1, M5, and M7

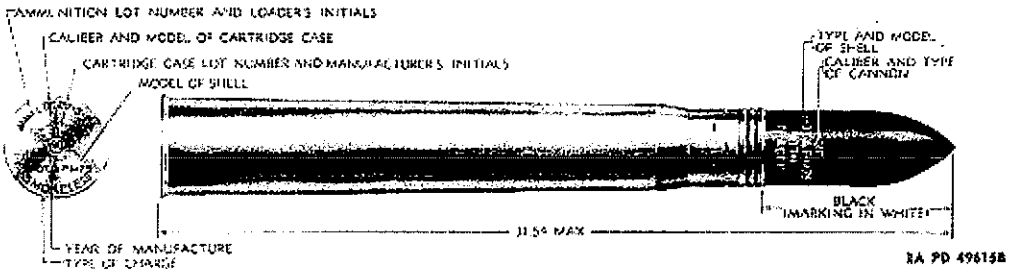


Figure 107 — AP-T Shot M79, Smokeless, for 3-inch Guns M5 and M7

Top – PROJECTILE, 3 INCH (76MM), M42, 0.86 pound TNT High Explosive with Fuze, Point Detonating, M48 or Mechanical Time, M43 or PTT Fuze Mk III.
Bottom – PROJECTILE, 3 INCH (76MM), M79, Armor-Piercing-Tracer (No HE)

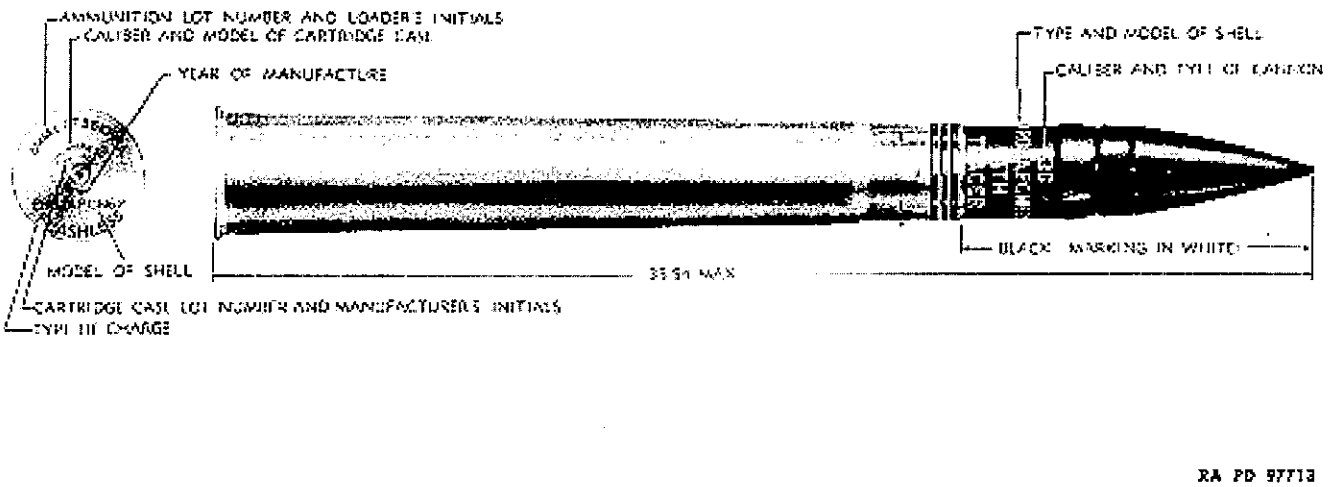


Figure 103 — APC-T Projectile M62, Flashless, for 3-inch Guns M5 and M7

PROJECTILE, 3 INCH (76MM), M62, Armor-Piercing-Capped with Tracer, with 0.17 pound Explosive D High Explosive with Fuze, Base Detonating, M66.

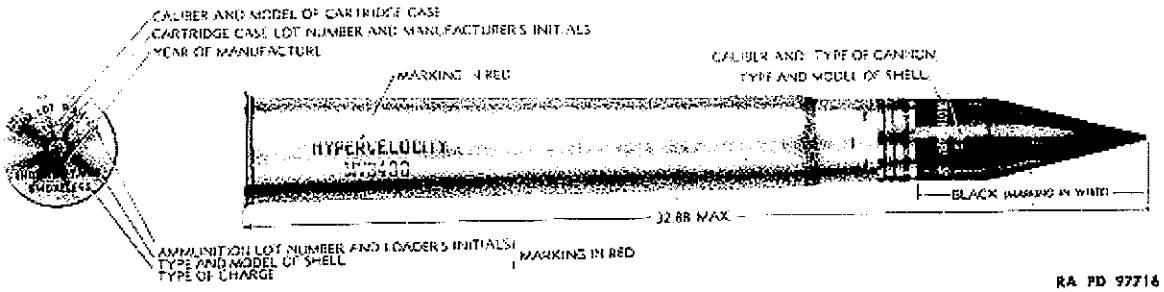


Figure 108 — HVAP-T Shot M93, Smokeless, for 3-inch Guns M5 and M7

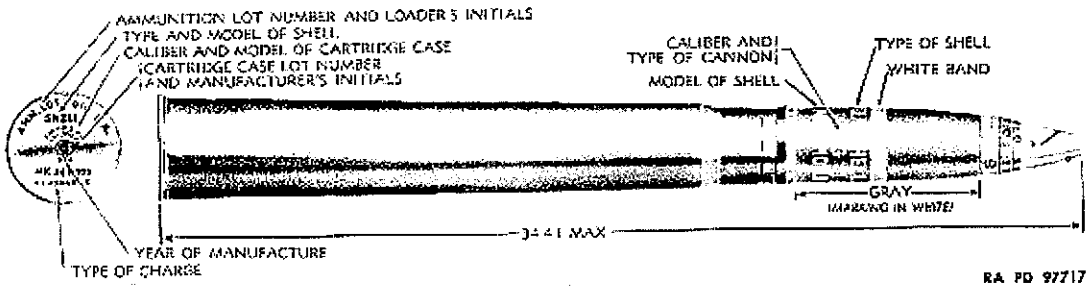


Figure 109 — Illuminating Projectile Mk. 24, Mod. 1, Flashless, for 3-inch Guns M5 and M7

Top – PROJECTILE, 3-INCH (76MM), M93, High-Velocity Armor-Piercing with Tracer (No HE)
Bottom – PROJECTILE, 3-INCH (76MM), MK24, Illumination with Fuze, Time

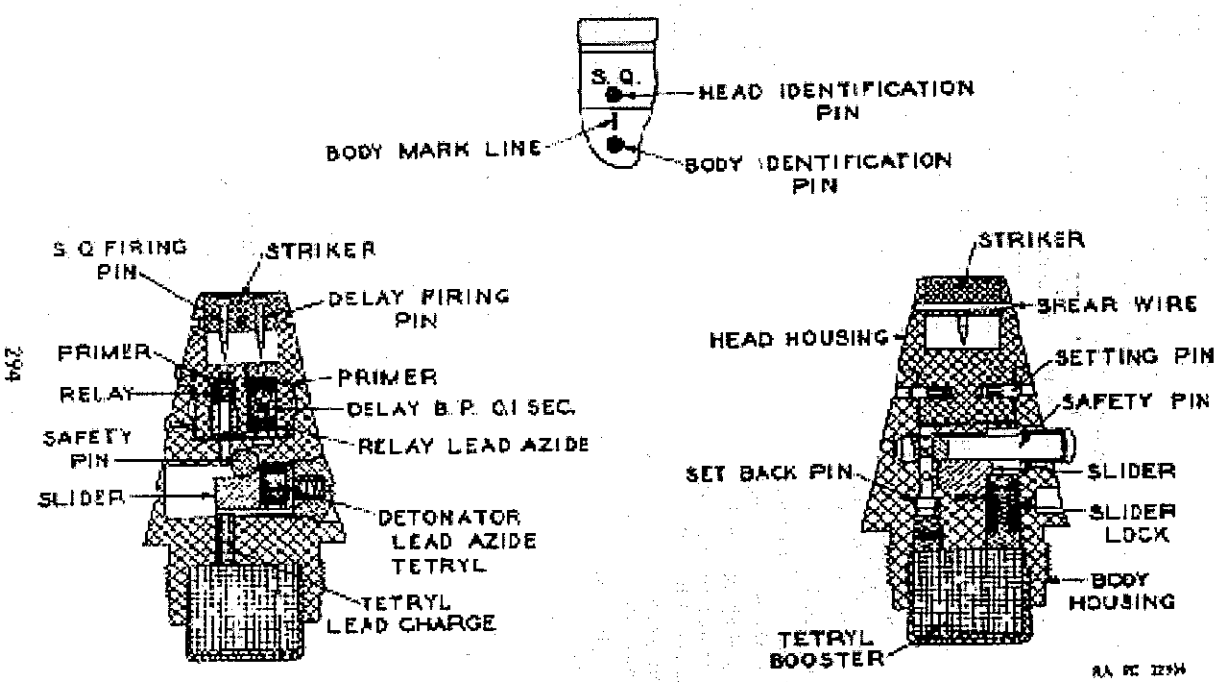
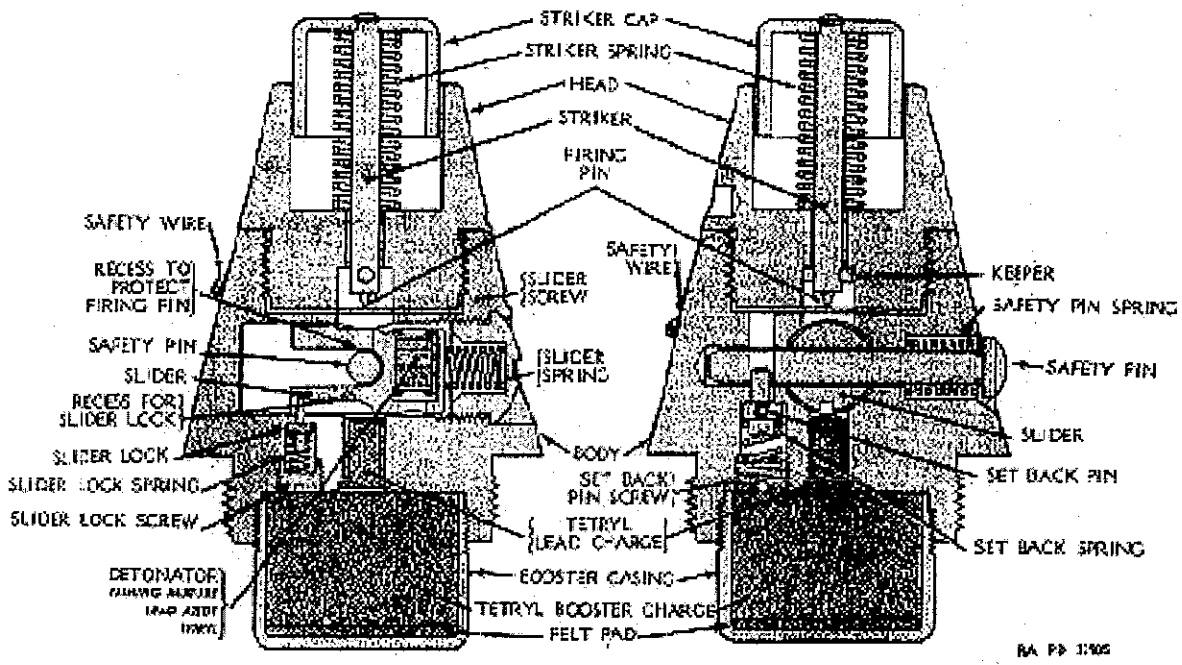


Figure 116 — FUZE, P.D., M45

Fuze, Point Detonating, M45 is a selective, superquick, and delay action fuze.



Fuze, Point Detonating, M52-series are single-action superquick fuzes with a direct action firing device. If safety (bore-riding) pin becomes unseated or is missing, fuze is armed and extreme care should be taken to assure that the striker is protected from impact.

These fuzes may have the booster casing removed and a black powder charge substituted for target practice ammunition.

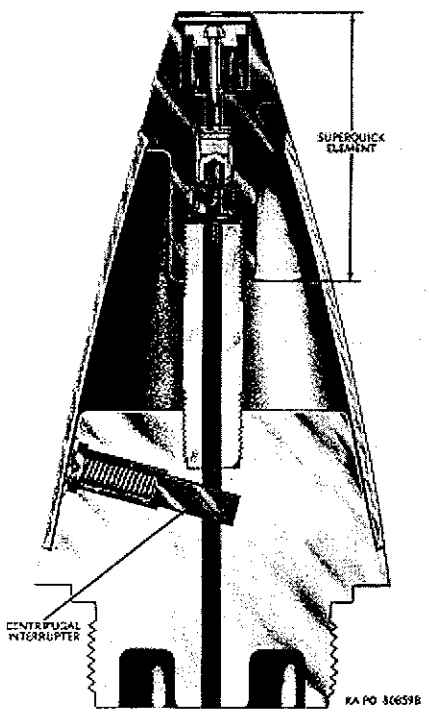
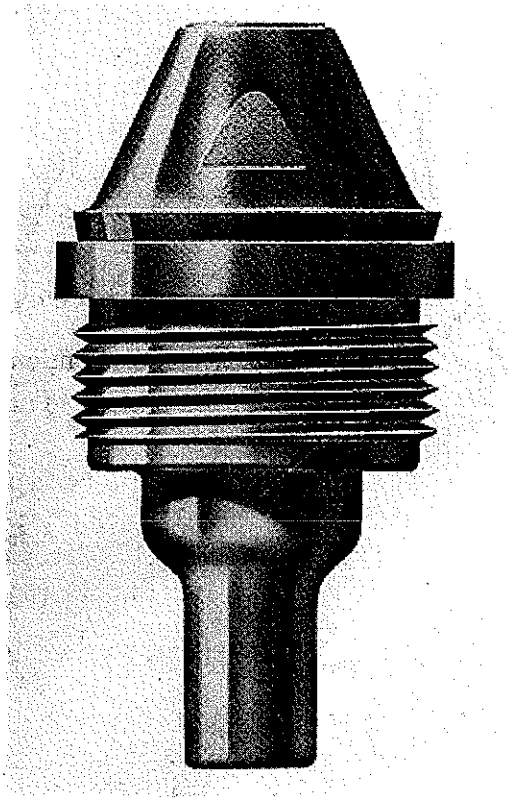


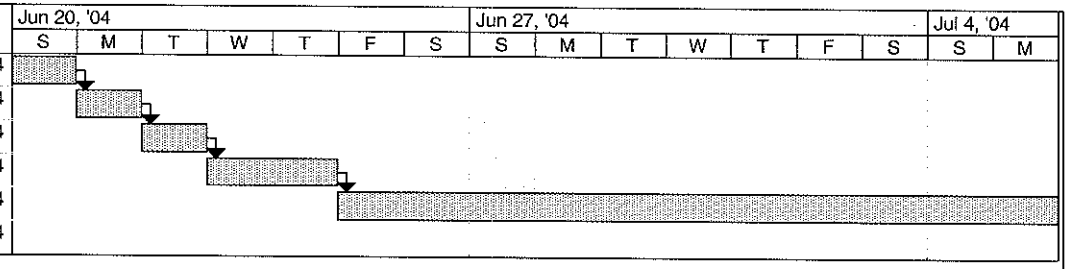
Figure 5-12. Point detonating fuze M57.

Fuze, Point Detonating, M57 is a single-action superquick type fuze.



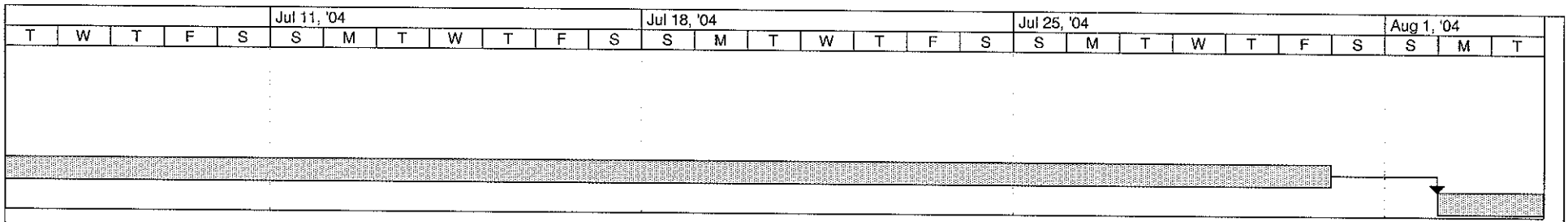
Fuze, Base Detonating, M66-series are delay-action, base-detonating fuzes. They are of the simple inertia type, without bore-safety provisions.

ID		Task Name	Duration	Start	Finish
1		PREMOB TO SITE	1 day	Sun 6/20/04	Sun 6/20/04
2		MOBILIZE TO SITE	1 day	Mon 6/21/04	Mon 6/21/04
3		SITE SPECIFIC TRAINING	1 day	Tue 6/22/04	Tue 6/22/04
4		BRUSH REMOVAL	2 days	Wed 6/23/04	Thu 6/24/04
5		SURFACE CLEARANCE	26 days	Fri 6/25/04	Fri 7/30/04
6		DEMIL AND FINAL QC	2 days	Mon 8/2/04	Tue 8/3/04



Project: Landfill Phase Schedule
Date: Thu 5/20/04

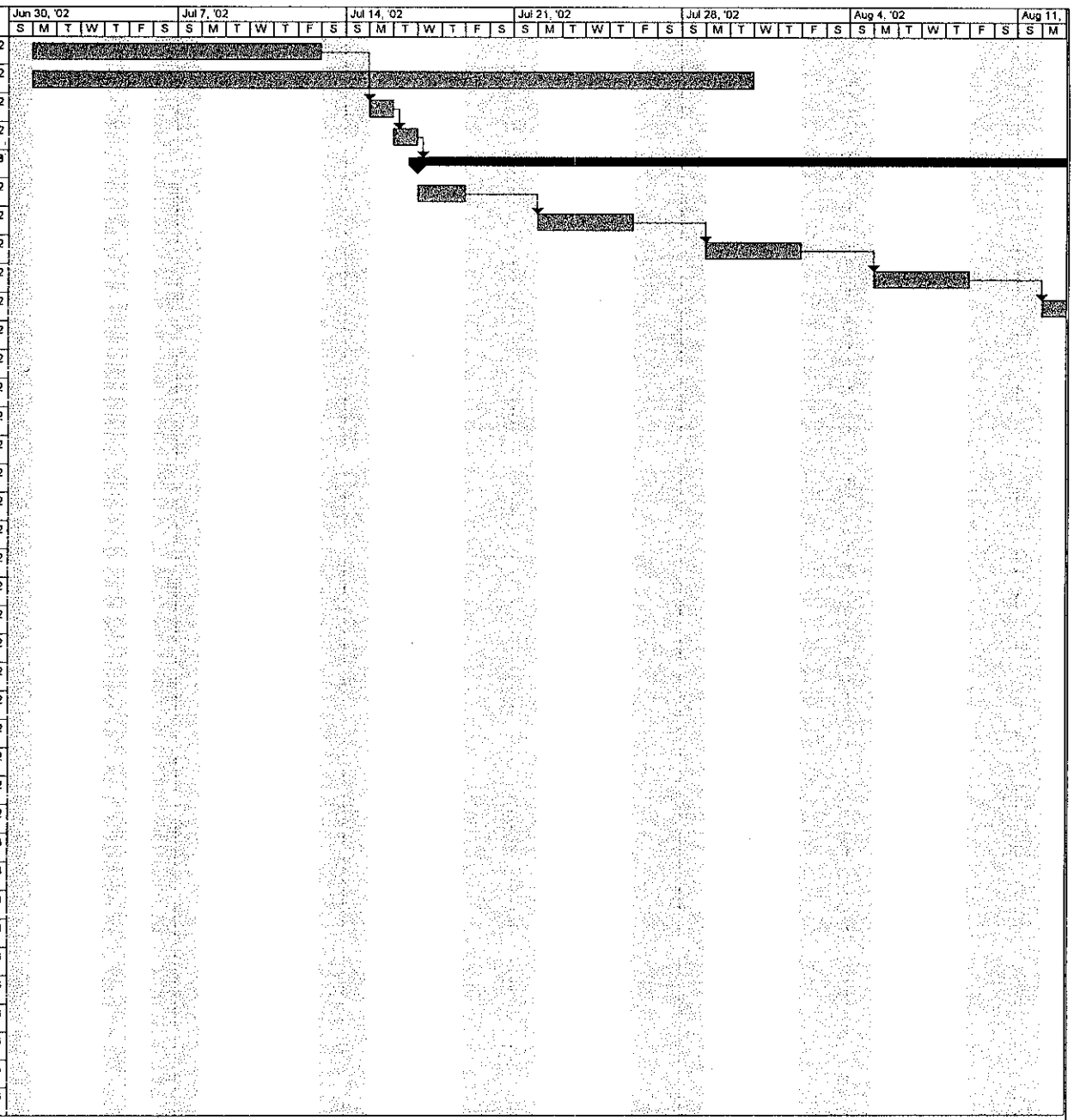
Task		Summary		Rolled Up Progress		Deadline	
Split		Rolled Up Task		External Tasks			
Progress		Rolled Up Split		Project Summary			
Milestone		Rolled Up Milestone		External Milestone			



Project: Landfill Phase Schedule
Date: Thu 5/20/04

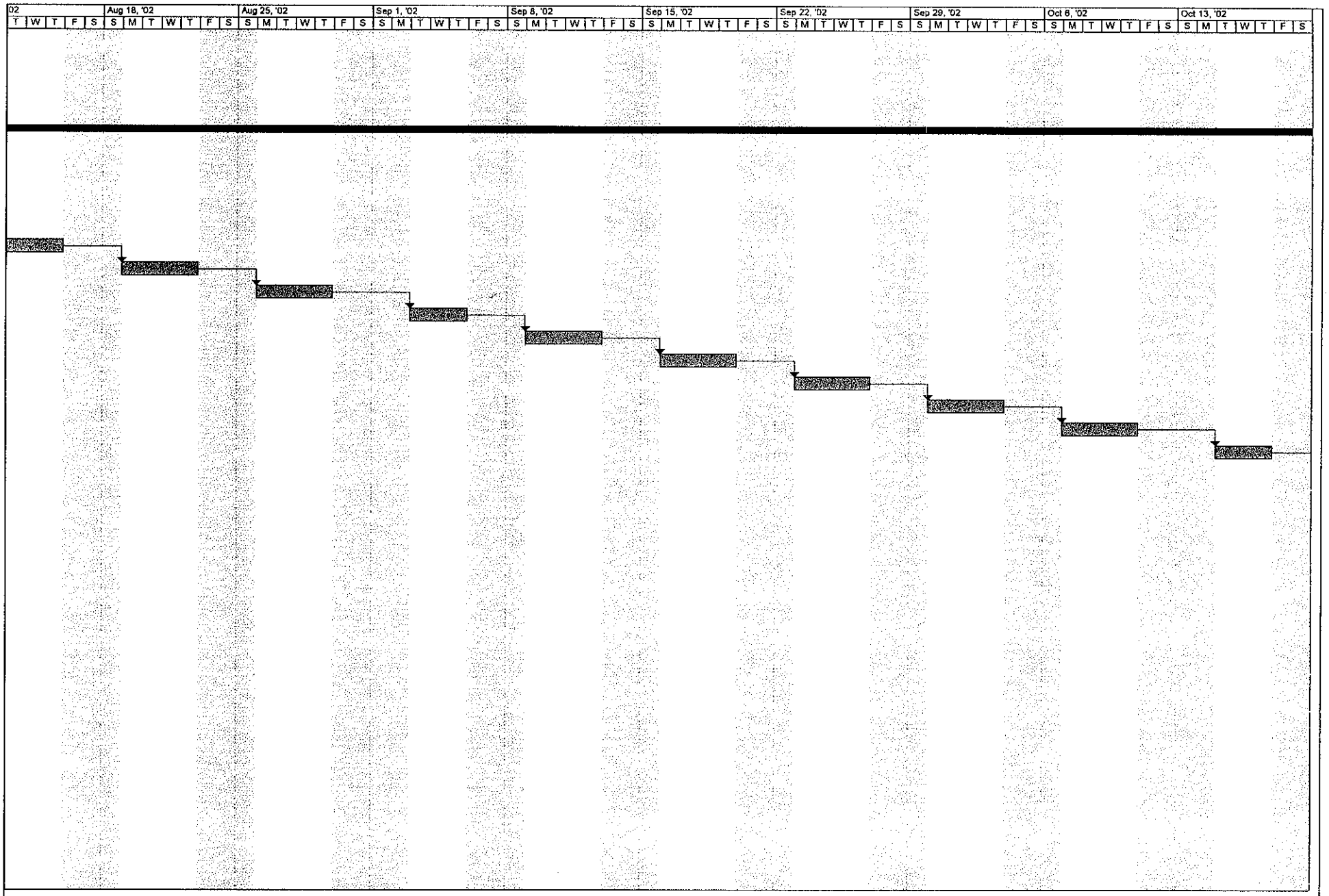
Task	Summary	Rolled Up Progress	Deadline
Split	Rolled Up Task	External Tasks	
Progress	Rolled Up Split	Project Summary	
Milestone	Rolled Up Milestone	External Milestone	

ID		Task Name	Duration	Start	Finish
1		PREMOB	9 days	Mon 7/1/02	Fri 7/12/02
2		MAPPING & SURVEYING	19 days	Mon 7/1/02	Tue 7/30/02
3		MOB CREW	1 day	Mon 7/15/02	Mon 7/15/02
4		SITE SPECIFIC TNG	1 day	Tue 7/16/02	Tue 7/16/02
5		**REMOVAL ACTION (891 Grids)**	**94 days**	**Wed 7/17/02**	**Tue 1/14/03**
6		Week 1- 20 grids 4.6 Acres	2 days	Wed 7/17/02	Thu 7/18/02
7		Week 2 - 40 grids 9.2 Acres	4 days	Mon 7/22/02	Thu 7/25/02
8		Week 3 - 40 grids 9.2 Acres	4 days	Mon 7/29/02	Thu 8/1/02
9		Week 4 - 40 grids 9.2 Acres	4 days	Mon 8/5/02	Thu 8/8/02
10		Week 5 - 40 grids 9.2 Acres	4 days	Mon 8/12/02	Thu 8/15/02
11		Week 6 - 40 grids 9.2 Acres	4 days	Mon 8/19/02	Thu 8/22/02
12		Week 7 - 40 grids 9.2 Acres	4 days	Mon 8/26/02	Thu 8/29/02
13		Week 8 - 30 grids 6.9 Acres	3 days	Tue 9/3/02	Thu 9/5/02
14		Week 9 - 40 grids 9.2 Acres	4 days	Mon 9/9/02	Thu 9/12/02
15		Week 10 - 40 grids 9.2 Acres	4 days	Mon 9/16/02	Thu 9/19/02
16		Week 11 - 40 grids 9.2 Acres	4 days	Mon 9/23/02	Thu 9/26/02
17		Week 12 - 40 grids 9.2 Acres	4 days	Mon 9/30/02	Thu 10/3/02
18		Week 13 - 40 grids 9.2 Acres	4 days	Mon 10/7/02	Thu 10/10/02
19		Week 14 - 30 grids 6.9 Acres	3 days	Tue 10/15/02	Thu 10/17/02
20		Week 15 - 40 grids 9.2 Acres	4 days	Mon 10/21/02	Thu 10/24/02
21		Week 16 - 40 grids 9.2 Acres	4 days	Mon 10/28/02	Thu 10/31/02
22		Week 17 - 40 grids 9.2 Acres	4 days	Mon 11/4/02	Thu 11/7/02
23		Week 18 - 30 grids 6.9 Acres	3 days	Tue 11/12/02	Thu 11/14/02
24		Week 19 - 40 grids 9.2 Acres	4 days	Mon 11/18/02	Thu 11/21/02
25		Week 20 - 30 grids 6.9 Acres	3 days	Mon 11/25/02	Wed 11/27/02
26		Week 21 - 40 grids 9.2 Acres	4 days	Mon 12/2/02	Thu 12/5/02
27		Week 22 - 40 grids 9.2 Acres	4 days	Mon 12/9/02	Thu 12/12/02
28		Week 23 - 40 grids 9.2 Acres	4 days	Mon 12/16/02	Thu 12/19/02
29		Week 26 - 20 grids 4.6 acres	4 days	Mon 1/6/03	Thu 1/9/03
30		Week 27 - 11 grids	2 days	Mon 1/13/03	Tue 1/14/03
31		**PREPARE FINAL REPORT**	**80 days**	**Wed 1/15/03**	**Wed 5/7/03**
32		DRAFT FINAL REPORT	22 days	Wed 1/15/03	Thu 2/13/03
33		GOVERNMENT COMMENTS RCVD	22 days	Fri 2/14/03	Tue 3/18/03
34		INCORP. GOVT CMTS IN FINAL RPT	7 days	Wed 3/19/03	Thu 3/27/03
35		PRE-FINAL REMOVAL RPT DUE	0 days	Thu 3/27/03	Thu 3/27/03
36		GOVERNMENT COMMENTS RCVD	22 days	Fri 3/28/03	Mon 4/28/03
37		INCORP GOVT CMTS IN FINAL RPT	7 days	Tue 4/29/03	Wed 5/7/03
38		FINAL REPORT DUE	0 days	Wed 5/7/03	Wed 5/7/03



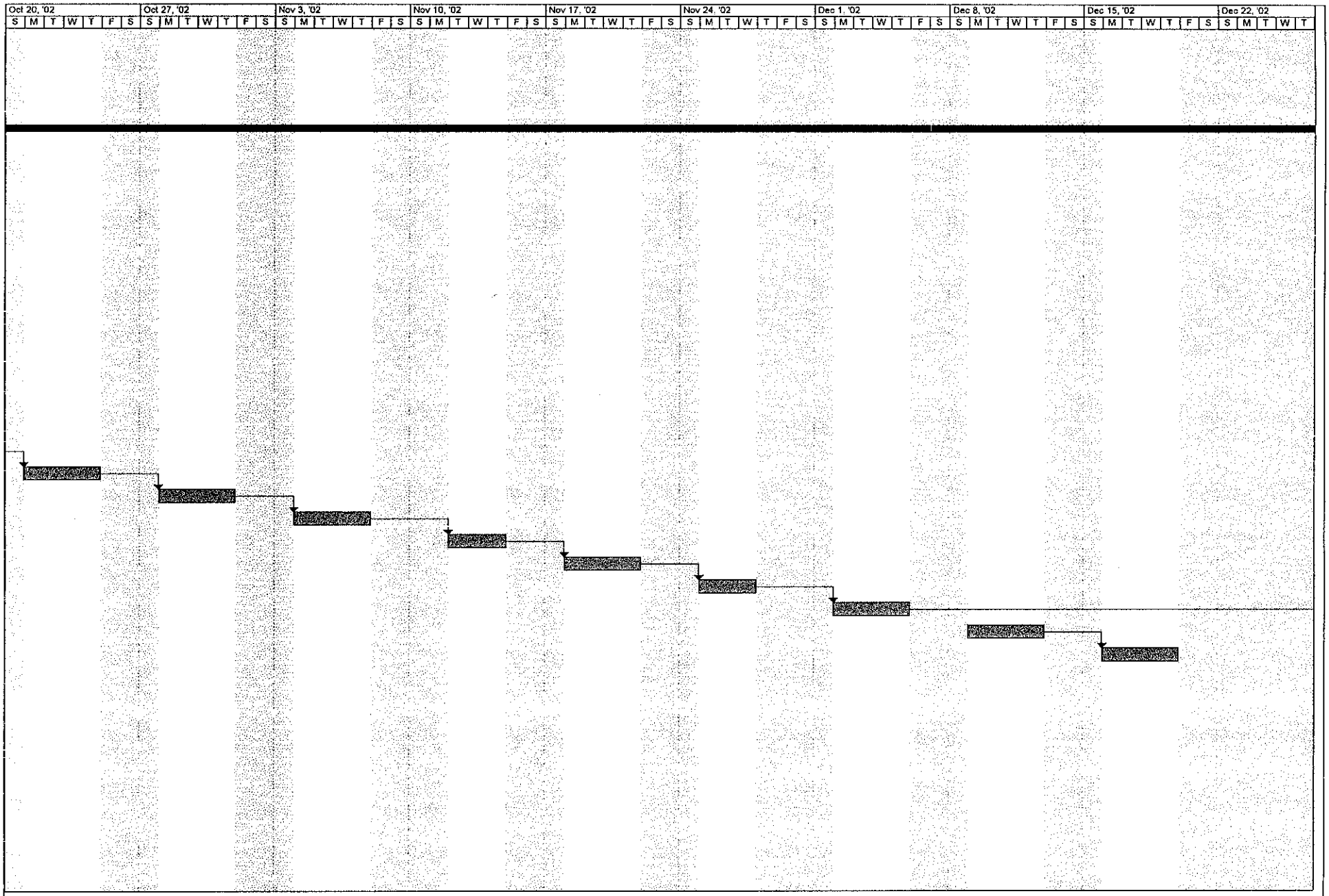
Project: East Elliott New SOW
Date: Fri 5/24/02

Task | Progress | Summary | Rolled Up Split | Rolled Up Progress | Project Summary
Split | Milestone | Rolled Up Task | Rolled Up Milestone | External Tasks



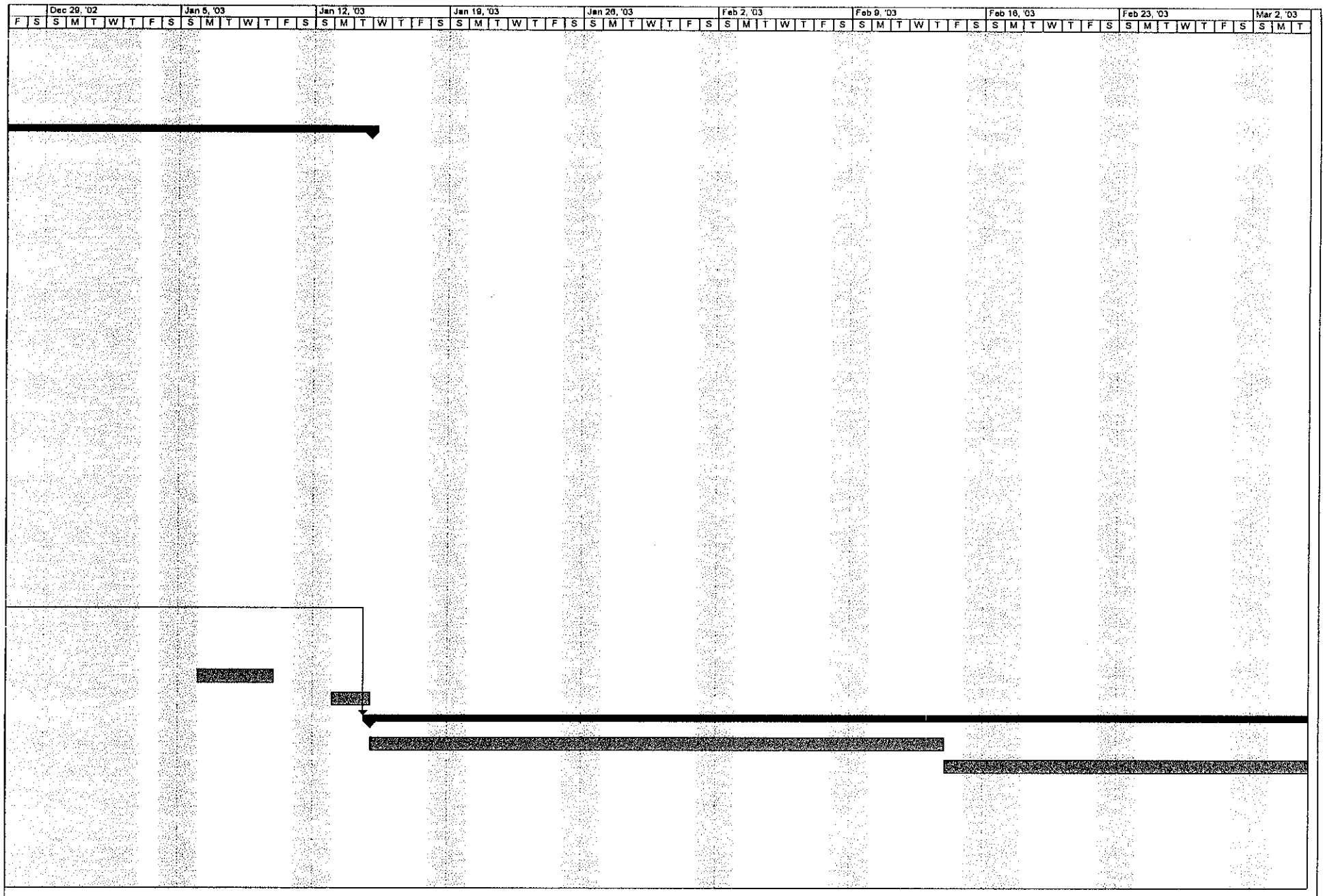
Project: East Elliott New SOW
Date: Fri 5/24/02

Task | Progress | Summary | Rolled Up Split | Rolled Up Progress | Project Summary
Split | Milestone | Rolled Up Task | Rolled Up Milestone | External Tasks



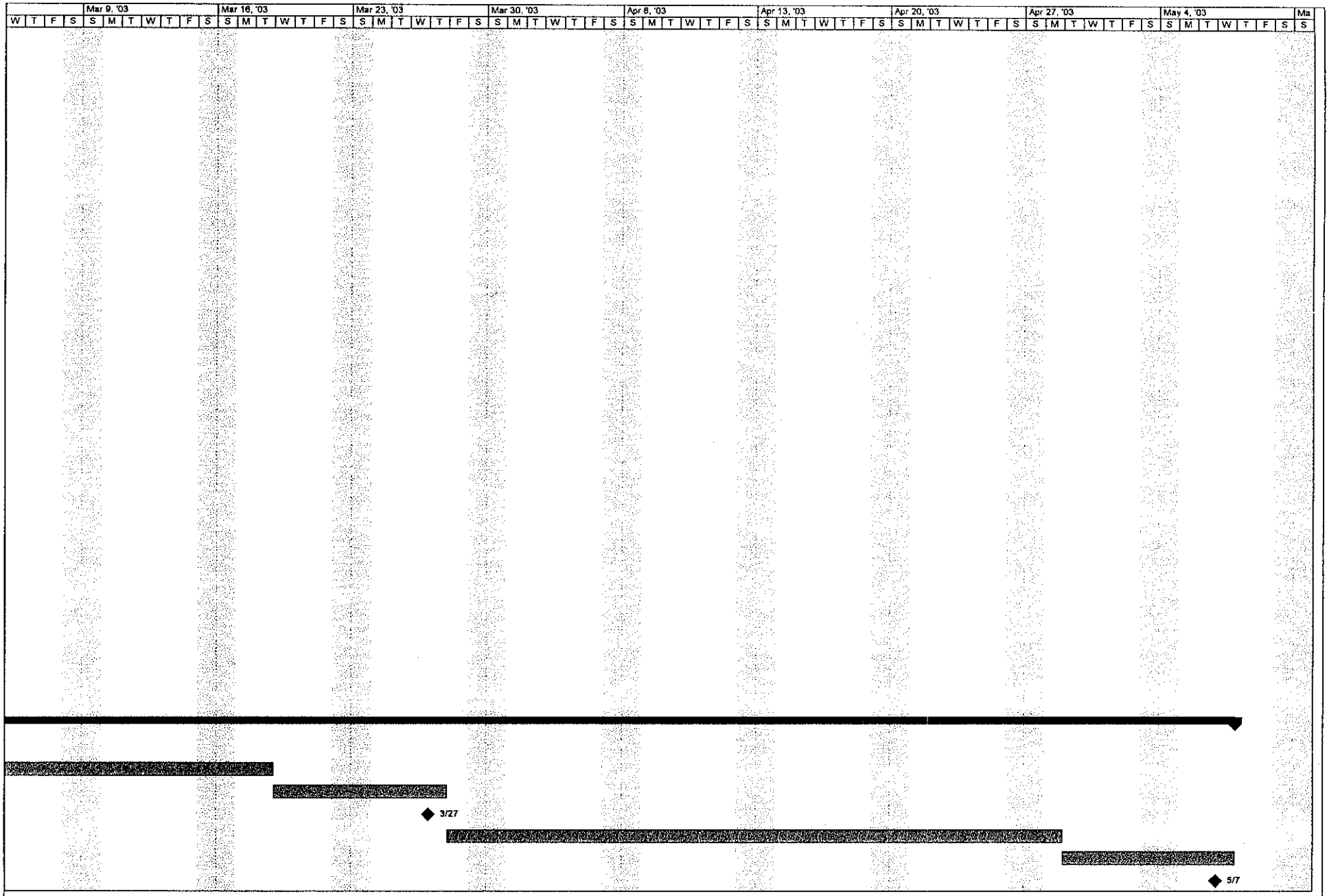
Project: East Elliott New SOW
Date: Fri 5/24/02

Task		Progress		Summary		Rolled Up Split		Rolled Up Progress		Project Summary	
Split		Milestone		Rolled Up Task		Rolled Up Milestone		External Tasks			



Project: East Elliott New SOW
Date: Fri 5/24/02

Task | Progress | Summary | Rolled Up Split | Rolled Up Progress | Project Summary
Split | Milestone | Rolled Up Task | Rolled Up Milestone | External Tasks



Project: East Elliott New SOW
Date: Fri 5/24/02

Task | Progress | Summary | Rolled Up Split | Rolled Up Progress | Project Summary
Split | Milestone | Rolled Up Task | Rolled Up Milestone | External Tasks

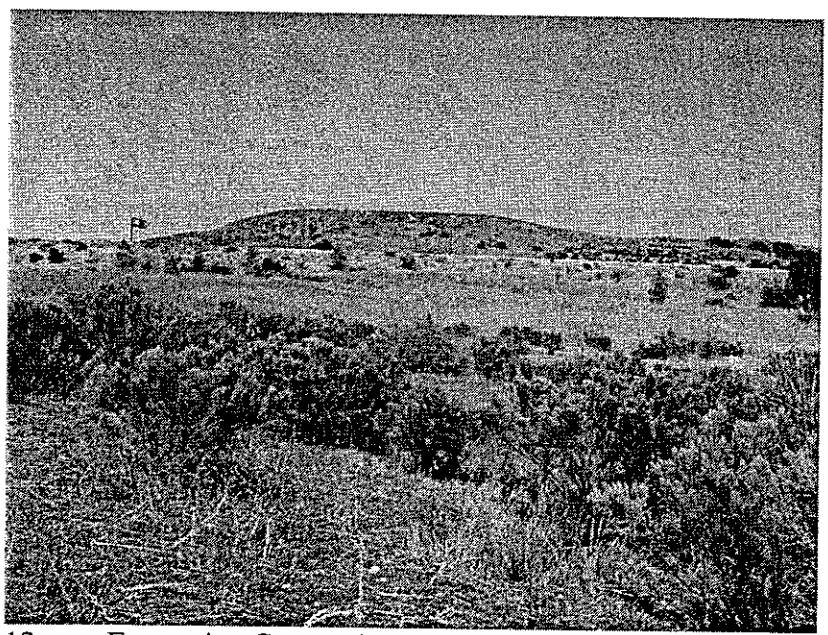
1.0 PURPOSE: This Addendum will describe the proposed UXO support procedures and the equipment to be used for the UXO support during construction activities at the Mission Trails Equestrian Center, Mission Trails Regional Park, Camp Elliott, San Diego CA. This Addendum is in response to the Statement of Work dated July 10, 2002 contained at the end of this Addendum and provides those details that are not specifically addressed in the approved Work Plan for the East Elliott Project dated December 7, 2001 and revised February 11, 2002.

2.0 BACKGROUND AND SITE HISTORY - See Chapter 1 of the Camp Elliott Work Plan.

2.1 LOCATION OF WORK.

The Mission Trails Equestrian Center is to be located in the Mission Trails Regional Park, off California State Highway 52 and Mast Boulevard, approximately one-quarter mile from the entrance into the park, as identified on the map

Ordnance/Explosives (OE) has never been reported or found in this location. The possibility of finding OE is considered minimal by the Government.



12-acre Equestrian Center site with CSH 52 in background.

3.0 EXPLOSIVES SITING PLAN – See Chapter 4 of the Camp Elliott Work Plan

3.1 EXPLOSIVE MANAGEMENT PLAN – See Chapter 3 of the Camp Elliott Work Plan

4.0 SUBSURFACE CLEARANCE IN SUPPORT CONSTRUCTION ACTIVITIES.

4.1 Underground Utilities: There is a gas line, which goes through the site "Underground Service Alert" has to called in advance so that the gas company personnel can come to the site

and mark the route of the line. This is accomplished by calling 2-calendar days in advance and the utilities' personnel will mark the route. For planning purposes, SCI will call 800-227-2600 on January 2, 2003 so that the gas line can be marked not later than January 6, 2003.

4.2 GEOPHYSICAL INVESTIGATION PROGRAM OBJECTIVE

The geophysical investigation objective is to detect and map geophysical anomalies to determine if the site contains the project's Most Probable Munitions (MPMs). Site MPMs include 37mm projectiles and 75mm projectiles Detection depth objectives for the MPMs are as follows: 1 foot for 37-mm projectiles and 2.5 feet for the 75mm projectiles. The geophysical investigation is to be performed in a manner to ensure 100% coverage of the 12-acre site. The investigation will consist of collection, reduction, identification of, and reacquisition and marking of UXO-like anomalies. Horizontal control will be provided using RTK Global Positioning System (GPS).

Geophysical data will be analyzed for anomalous responses indicative of the MPMs. Anomaly locations will be recorded on dig sheets. Anomalies will be reacquired using GPS in conjunction with EM 61 and Schonstedt. All anomalies will then be investigated by SCI in accordance with the project work plan.

4.3 UNEXPLODED ORDNANCE (UXO) SAFETY

The geophysical crew will include a UXO Technician II (UXO Specialist) to conduct visual surveys for surface ordnance prior to the survey crew entering an area potentially containing UXO. A magnetometer or electromagnetic survey of each intrusive activity site will be performed to ensure the site is anomaly free prior to the crew setting monuments or driving stakes. Encountered UXO will be avoided by the Geophysical Crew and flagged/reported to SCI for disposition

4.4 PERSONNEL QUALIFICATIONS

All geophysical investigations will be managed by a qualified geophysicist meeting the requirements listed in Data Item Description DID OE-025. UXO safety for the crew will be provided by a qualified UXO Technician II or greater, also meeting the requirements listed in DID OE-025.

4.5 ANTICIPATED UXO AND DEPTHS

Munitions used in the vicinity of the proposed Equestrian Center include 37mm and 75mm projectiles. It is anticipated that the smallest ordnance item will be a 37-mm projectile. The geophysical equipment will be configured to detect MPMs at the maximum depths listed in Table 1-1

Table 1, Munitions and Maximum Detection Depths

Munition	Maximum Depth
37mm Projectile	1 foot
75mm Projectile	2.5 feet

Suspected OE items deeper than the depths in Table 1, will be investigated. The time spent investigating these deeper depths will be recorded.

4.6 SITE CONDITIONS

4.6.1 Topography

The terrain is undulating to gently rolling land surfaced by deep sandy and loamy soils that support grasses and coastal scrub. The area of concern is a 12-acre site, which is relatively flat.

4.6.2 Vegetation

The area's vegetation is primarily coastal sage scrub and associated grasses. However, the site does contain trees and tall brush, which may present a problem for the positioning system, causing data dropouts due to the base and rover not sharing a common space vehicle constellation.

Vegetation located in the southwest corner of the site will physically hamper the geophysical survey, and will have to be cut prior to performing the geophysical survey.

4.6.3 Geologic Conditions

In the Coastal Plain region, erosion resistant peaks composed of Mesozoic crystalline rocks (such as at Rock Mountain on the north side of Otay Valley, Black Mountain near Rancho Penasquitos, and Cowles Mountain near San Carlos) are at depth to the buried Mesozoic crystalline rock terrain. These basement "highs" poke through the younger Cretaceous and Tertiary sedimentary cover and create topographic relief on the buried landscape of western San Diego County

The Coastal Plain Region is underlain by a "layer cake" sequence of marine and non-marine sedimentary rock units that record portions of the last 140 million years of earth history Over this period of time the relationship of land and sea has fluctuated drastically so that today ancient marine rocks are preserved up to elevations around 900 feet above sea level and ancient river deposits as high as 1,200 feet Faulting related to the local La Nacion and Rose Canyon fault zones has broken up this "layer cake" sedimentary sequence into a number of distinct fault blocks in the southwestern part of the county

4.6.4 Soil Conditions

The soils contained within the project site range from sandy loam to heavy clays.

4.6.5 Shallow Groundwater Conditions

Shallow ground water should not interfere with the geophysical survey.

4.6.6 Overall Site Accessibility and Impediments

There are no site accessibility or impediment issues known at this time

4.6.7 Potential Worker Hazards

The terrain does not appear to provide any significant threat or danger to the workers on the site. The site does contain biological factors such as rattlesnakes, rodents (hanta virus) and bees. Other concerns are heat and humidity. Engineering controls for these factors are outlined in the project SSHP.

4.6.8 Geophysical Conditions

Site photographs indicate the presence of cultural features that may act as geophysical noise sources. These features include fences and piles of discarded asphalt and concrete containing metal.

There is a potential for electrical interference from CSH 52 and this potential will be monitored.

4.6.9 Man-made Features Potentially Affecting Geophysics

The main features that affect geophysical data quality are buildings, roads and surface debris that represent physical obstructions or anomaly sources if constructed with metal

4.7 EQUIPMENT

4.7.1 Geophysical Equipment

4.7.1.1 EM61-MK2

Considering the site's geology and that the mass of the targets of interest have been defined and will be queried on the Site "Test Strip", the most desirable tool for use in the geophysical investigation is the Geonics EM61.

The EM61 is a high sensitivity, high-resolution instrument that detects both ferrous and non-ferrous metal objects by means of electromagnetic induction, employing a geophysical method called transient electromagnetics. The MK2 is an advanced version of the standard EM61 model with a number of improvements that will be discussed below. In general, the EM61 generates a pulsed primary magnetic field that induces electrical currents to flow, temporarily, in nearby metallic objects. The induced currents are detected and measured by two receiver coils mounted on the EM61 assembly. The EM61 employs the transient electromagnetic method whereby the

pulsed magnetic field is shut off very rapidly and the induced electrical current is measured at some known time ("time gate") after the primary field is shut off.

The EM61-MK2 can measure the decaying eddy currents at up to four different time gates facilitating the detection of small targets and improved target characterization compared to the standard EM61 (it is recognized that different types of metal objects exhibit different rates of decay for the induced eddy currents). In addition, the MK2 uses an improved data logger that can be fully integrated with a GPS so geographic coordinates can be recorded along with the EM61 measurements.

The EM61's response curve produces an anomaly peak over the target location. Burial depths of detected targets can be estimated from the width of the anomaly response and from the relative response from each of the two receiver coils. The MK2 data logger has a real-time graphic display of the response curve to facilitate real-time data analysis.

Induced eddy currents dissipate rapidly in low conductivity materials, but induced currents persist for longer periods in high conductivity materials (metal objects). By making the eddy current measurement at a relatively long time after termination of the primary pulse, the response is practically independent of the conductivity of the ground. Thus, the EM61 generally produces very clean, noise-free measurements even under varying soil conditions.

Horizontal positioning information will be obtained using a Trimble 4700 Base/4800 RTK GPS Total Station System. The GPS will provide geographic coordinates for the EM61 survey and used to obtain survey perimeter coordinates. The flat open nature of the site lends itself to the use of RTK GPS for positioning. The positioning system description is outlined later in this section.

4.7.1.2 Fisher Impulse

The Fisher Impulse® pulse induction metal detector is a no-motion, handheld, all-metals electromagnetic detector that responds instantly to targets allowing the operator to hunt fast, slow or with no motion at all. Its circuitry is highly stable eliminating the need to retune the instrument every few feet. It is Electro-Static Insulated (ESI shielded) and waterproof to 250 feet. It features Liquid Crystal Display (LCD) for visual indication of strength with a bar graph that climbs as the signal strength increases. The LCD also constantly monitors battery strength. It features a Light Emitting Diode (LED) that flashes when a target is located. An audio target signal is provided, and increases in pitch and volume as the center of search coil passes over the target. The instrument proposed for use on this project is fitted with the optional 10-inch spider coil for added sensitivity. This instrument may provide interference with other instruments if operated within 50 feet.

This instrument shall be utilized to augment the EM61 in pinpointing anomalies during reacquisition.

4.7.1.3 Schonstedt GA52-CX

The GA-52C*x* Magnetic Locator is a hand-held fluxgate magnetic gradiometer that detects the vertical gradient of the magnetic field. Instrument controls consist of on/off-sensitivity switch with four sensitivity settings and a volume control. It responds to the difference in the magnetic field between two sensors spaced about 20 inches apart. The response is a change in the frequency of the signal emitted by the piezoelectric speaker. The instrument provides audio detection signals when the locator's tip is passed or held directly over the target. Since the GA-52C*x* responds only to ferrous objects, it will be used during reacquisition in conjunction with the EM61 and Fisher Impulse to determine whether the anomaly is ferrous or non-ferrous.

4.7.2 Positioning Equipment

4.7.2.1 Trimble 4700/4800 RTK GPS Total Station

The selected positioning system for this project is the Trimble 4700/4800 RTK GPS Total Station. The Trimble 4700 will be used as the base and placed over existing site monumentation with known coordinates. The 4800 Rover will be mounted on a quad-pod directly over the EM61 Mk2 coils and connected to the EM61 field computer for positional data input. Correction data will be transmitted to the 4800 Rover using a Trimble TRIMMARK™ IIe Base/Repeater.

4.7.2.1.1 Trimble's GPS Total Station® 4700 is a modular, real-time kinematic (RTK) survey system used for fast accurate surveys of all types. The system features an integrated 9-channel, dual-frequency GPS receiver with integrated radio modem. The 4700 features On-the-Fly (OTF) initialization and RTCM SC-104 input/output and NMEA-0183 output. The 4700's modular design provides flexibility for set-ups that require a separate GPS receiver and antenna. The antenna can be used on a range pole, mounted on a vehicle, installed as a base station or extended high above tree canopy to provide optimal solutions for everyday tasks. The 4700 is ideal for a broad range of surveys, including topographic, stakeout boundary, seismic and geodetic control.

4.7.2.1.2 The GPS Total Station® 4800 packages Trimble's real-time kinematic (RTK) GPS survey technology in a lightweight system that has no external cables, batteries or antennae. The system's 9-channel, dual-frequency GPS receiver, Micro-centered™ GPS antenna, data radio, power supply and cables can be integrated into a Trimble PowerLiTE™ GPS pole eliminating the need for a backpack or waistpack or cables connecting the surveyor to the pole. The 4800 features On-the-Fly (OTF) initialization and RTCM SC-104 input/output and NMEA-0183 output. The 4800 is ideal for a broad range of surveys, where mobility and ease of movement are vital.

4.7.2.1.3 The TRIMMARK™ IIe Base/Repeater broadcasts or repeats GPS data to Trimble survey grade GPS receivers that either contain an internal radio modem or are being used with a TRIMMARK Rover. Under optimal conditions, the system broadcasts up to 15 km line-of-sight without a repeater. The TRIMMARK IIe base/repeater transmits data on frequencies between

450-470 MHz. An additional unit can be used to extend the network range and provide seamless coverage around local obstacles such as large buildings or hills. Considering the topography and size of the site, coverage is not anticipated to be a problem. The use of 469.500, 469.550, 469.600, 469.625, 469.650, 469.700, 469.725, and 469.750 MHz will be avoided if possible, as these are the most common community voice repeater input frequencies. Available frequencies other than those listed have been cleared for use by MCAS Miramar.

4.8 FIELD OPERATIONS

4.8.1 Schedule

Due to the non-intrusive nature of the geophysical data collection, personnel performing the geophysical data collection and reacquisition phase will work five 10-hour workdays per week. See Project timeline at the rear of this Addendum.

4.8.2 Site Preparation

As site preparation is not considered a UXO clearance procedure, UXO avoidance procedures will be followed. Site personnel working in areas not previously surveyed for the presence of UXO will be accompanied by UXO-qualified personnel.

Site preparation will consist of vegetation removal, surface clearance and removal of metal fence posts and barbed wire from the site, as described in sections 4.8.3 and 4.8.4 of this document. Asphalt debris piles will not be removed during this phase of the investigation.

4.8.3 Brush Removal

Site vegetation that may impede the subsurface geophysical survey and subsurface clearance efforts will be cut prior to the geophysical survey. To prevent erosion, vegetation cutting will be limited to only that amount necessary to allow the performance of the geophysical survey and subsurface clearance. Every attempt will be made to minimize damage, especially root damage, to trees. Given the relatively small amount of vegetation to be removed, manual removal methods should be all that is required. Small chain saws and weed eaters will be utilized as necessary. All cut plant material will be removed from the site and transported to the landfill north of CSH 52.

4.8.4 Surface Clearance

A surface clearance of the site will be performed prior to geophysical mapping. All UXO, UXO-related remnants, target materials, and non-UXO related materials which may interfere with the subsurface geophysical survey will be removed from the surface of the work area and staged for later disposition. Included in the surface clearance is the removal of abandoned fence posts on the northeastern boundary of the site. The disposition of encountered UXO will be in accordance with the basic Work Plan.

The asphalt debris piles will not be removed during this phase of the investigation.

4.8.5 Test Strip Construction

The test strip will be used to demonstrate and document the site-specific performance of the geophysical/positional hardware and QC systems. The detection capabilities of the EM61-MK2 will be demonstrated by quantifying the EM61 response to known objects buried at known depths and at known orientations. The assessment will entail the establishment of an EM61 standardization area and the acquisition of background EM61 readings along a test transect that is free of buried metal objects. The other types of metal detecting instruments (e.g., Schonstedt™ GA 52 magnetometers and Fisher IMPULSE metal detectors) will be used to scan for standardization area and test strip locations to ensure they are free of buried metal. Once a suitable background location is determined, a "Test Strip" will be constructed and seeded with USACE-provided inert 37mm and 75mm projectiles. These items will be buried at depths of 1 ft and 2.5 ft BGS, respectively. The depth will be measured from the ground surface to the item's top (first encounter). Two each of each item (one placed vertically and one placed horizontally at the specified depths) will be placed in the Test Strip with no less than 10-ft separation between items. Extents of the Test Strip and location of seeded targets will be surveyed to an accuracy of at least 0.1-ft. A spreadsheet containing the seed item identification numbers with X, Y, Z positions and attitude will be generated for use throughout the project. Figure 3.1 shows a conceptual diagram of the Test Strip.

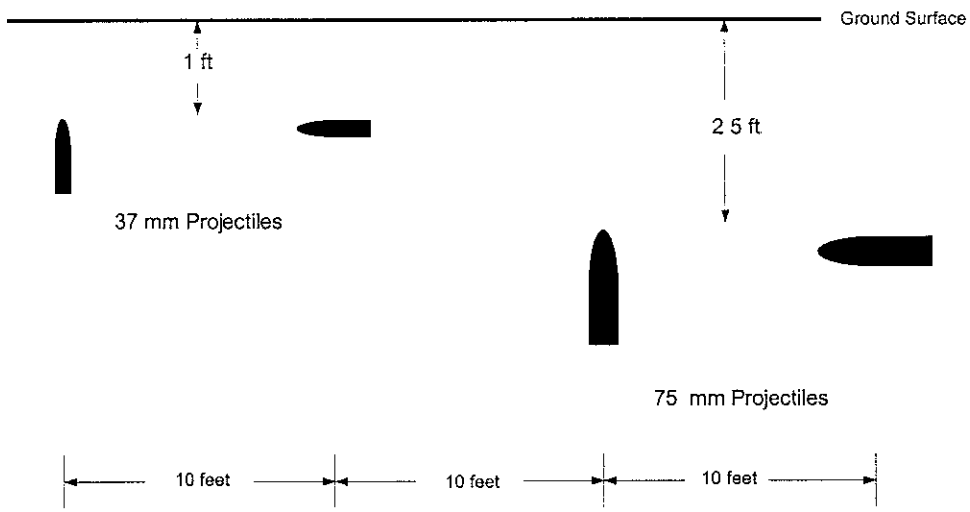


Figure 4.1, Test Strip Schematic.

4.8.5.1 Initial Assessment

After functional checks and standardization procedures have been performed at the established standardization area, the EM61 will be wheeled in normal operating mode along the test strip or in any manner used during the actual deployment of the instrument. Test strip data will be digitally recorded with the data file to include instrument type, line identifier, date, and time. Data will be recorded with the

EM61-MK2 in a 2-coil, three-time gate configuration The data will be downloaded from the EM61 data logger to a laptop computer for analysis and backup.

The EM61 data will be processed and viewed in profile format. Data from each time gate will be compared and the time gate producing the most definitive anomalies at all ordnance locations will be identified. The Test Strip will be maintained throughout the duration of the production survey to allow daily performance checks of the EM61 instrument and QC of the EM61 data A minimum sample rate of 8 readings per second will be used for all measurements during the assessment and production survey operations.

Initial assessment procedures are summarized below:

1. Select an area for the standardization area/test strip locations.
2. Survey selected areas with geophysical instruments to ensure the area is free of buried metals.
3. Mark and survey extents of test strip and standardization area.
4. Perform background EM61 survey at test strip and standardization area using 2-coil, three time-gate configuration.
5. Check and calibrate EM61 at standardization area Record response and calculate standard response in according with paragraph 4 10 of this document.
6. Bury inert ordnance items along test strip; record item's location, depth and orientation.
7. Perform GPS survey to document test strip and ordnance item locations.
8. Perform EM61 survey along seeded test strip using 2-coil, three time-gate configuration
9. Return to standardization area. Record exit reading at standardization area.
10. Download EM61 from data logger to laptop computer. Backup data onto floppy disk
11. Process data; plot data profiles and evaluate
12. Provide raw data and processed data to SCI and USACE for QC review

4.8.6 Positional Control

Positional control will be transferred to the site from existing NGS monumentation Two control points will be set on the site in close proximity to the test strip. These control points will be used to reference the RTK base station and allow daily QC checks of the positional system. Permanent monuments will not be set on the site

4.9 Geophysical Mapping

4.9.1 Method

The entire 12-acre site will be geophysically mapped. Geophysical data collection will be performed using the EM-61 in the wheeled configuration, transported by the field geophysicist or ATV, using parallel transect surveys with 2.5-foot spacing. Measures such as surveying in endpoints and using dead-reckoning techniques for collection of geophysical data will be used in areas where the RTK positioning system proves ineffective

4.9.2 Data Resolution

The EM61-MK2 coils are 1 x 0.5 meter and do not provide significant sensitivity to items outside of the coils. Transect spacing of 2.5 feet will ensure adequate coverage of the area. Based

on the anticipated survey speed, a resolution of approximately 0.5 feet is expected (i.e., objects closer than 0.5 feet together will not be resolved). The resolution will be greater along the traverse than between the traverse.

4.9.3 Data Density

The EM61-MK2 will be used in the 2-coil, three time-gate configuration to obtain the greatest amount of subsurface information. At these settings, the instrument can record a minimum of eight readings per second and a maximum of 12 readings per second. Based on a 2.5 foot transect spacing, a survey speed of 4 ft per second and an acquisition rate of eight readings per second, this translates into approximately two readings per foot, 10,560 per transect mile, or 418,176 (39.6*10,560) readings for the project.

4.9.4 Positioning

Horizontal positioning information will be obtained using a Trimble 4700 Base/4800 RTK GPS Total Station System. The GPS will provide geographic coordinates for the EM61 data and will be used to obtain survey perimeter coordinates. The flat open nature of the site lends itself to the use of RTK GPS for positioning. All horizontal positional data will be referenced to NAD 83 California Zone 6 State Plane coordinates, in US Survey Feet to the accuracy and precision standards outlined in the Project SOW.

4.9.4.1 Satellite Availability

Due to the small size of the site, the RTK base will be within 1km of the rover, radio communication is not anticipated to be a problem. However, the site does contain trees and tall brush, which may present a problem for the positioning system, causing data dropouts due to the base and rover not sharing a common space vehicle constellation. To minimize these problems, the RTK lock will be monitored by the surveyor element of the geo team. In cases where RTK lock is lost, the collection process will be paused until re-initialization of the system is achieved. Measures such as surveying in endpoints and using dead-reckoning techniques for collection of geo data may be used if the RTK positioning system proves ineffective in these areas. The Geophysical field crew will use Trimble mission-planning software to anticipate PDOP spikes occurring during the workday and plan their breaks, battery changes and data downloads during these periods.

4.10 INSTRUMENT STANDARDIZATION

Standardization procedures will be performed prior to geophysical production survey. These procedures include establishing a standard response, accomplished by establishing target and background reference geometry and determining the numerical difference between the target anomaly high and background response of the system. Multiple anomaly-versus-background measurements will be made and used to calculate the mean residual (anomaly response) and calculation of the system-specific standard deviation. Since the project's primary mode of transport involves the EM61 being towed by an ATV, an additional standard response for the

ATV-EM61 system will be accomplished while the EM61 is connected to the ATV (engine running). Measurements taken and calculations performed will be annotated in the logbook for archiving and reference.

Standardization of the system will be accomplished using a standardization jig, consisting of a two-inch ball hitch mounted to a rigid frame to ensure the ensure a fixed geometry with each receiver coil of the EM61, each time the check is performed. After a suitable location has been selected for the standardization area, stakes will be driven into the ground to ensure the test stand will be placed in the same location and orientation each day of operation.

Standard response checks will be made each morning, prior to data collection, midday and at the end of the workday. Additionally, checks will be performed immediately prior to and following scheduled battery changes. Standardization responses will be annotated in the logbook and compared to the standard response to ensure it is within the acceptance range.

Acceptance range is specified at +/- 10 percent of the standard response. If the system does not respond within the acceptance range, the standardization procedures are repeated. Three sequential failures will cause the system to be removed from service. Any failed system will be repaired/replaced and a new standard response, with new standard deviation and acceptance range calculated prior to redeployment to the field.

The standard response will be recalculated and the system baseline re-recorded, whenever a critical component of the system is repaired/replaced or modified to support changing survey conditions.

4.11 Production Survey Procedures

Daily field surveying will follow a systematic approach for quality control and data acquisition. First, equipment warm-up, functional tests, standardization check and base station setup will be performed as required. Next, equipment performance will be evaluated by acquiring data along the Test Strip in two directions. After reviewing the performance test data to ensure equipment is operating properly, acquisition can begin. At the end of the survey day, two additional traverses of the Test Strip will be recorded again to evaluate system drift and performance. Data will be acquired using parallel transect surveys spaced at 2.5 feet. Transect navigation will originate from a baseline and marked using an automated line sprayer or physical lines to guide the subsequent transects. Site areas not accessible for the survey (not surveyed) due to physical obstructions such as the piles of concrete and asphalt located along the Eastern boundary of the site will be mapped and annotated in the field log.

The boundaries of all unmapped/uninvestigated areas will be recorded and mapped within the GIS

Production survey procedures are summarized below:

Ensure that the EM61 is switched on in an area free of metal to allow the auto-null feature of the instrument to operate properly. A battery change/instrument switch-on area will be identified and marked for this purpose. Occupy standardization area and record EM61 response. Compare to Initial Assessment reading.

1. EM61 survey of test strip. Write data to separate data file. Re survey in opposite direction.

2. Review EM61/GPS data to ensure the system is operating properly.

3. Perform 100% EM61 survey. Using parallel transect surveys spaced at 2.5 feet. Write data to separate files.

4. Change batteries at scheduled intervals to control instrument drift in the battery change/ instrument switch-on area and check instrument in the test strip before resuming EM61 survey. Perform standardization checks immediately prior to and following scheduled battery changes. Annotate response in the logbook and compare to the standard response to ensure it is within the acceptance range.

5. Return to the test strip at day's end. Re-survey, both directions. Write data to separate file.

6. Return to the standardization area and perform check. Annotate response in the logbook and compare to the standard response to ensure it is within the acceptance range.

7. Download data to laptop computer. Backup to floppy disk(s).

4.11.1 Geophysics/Survey Field Logbook

The geophysical mapping team will perform continuous tracking, checks and adjustments of their field data for quality control and to establish/maintain efficient field procedures. A logbook detailing pertinent activities, transect features and field conditions encountered in the performance of the geophysical investigation will be kept in the field. Initial standardization and acceptance range will be annotated in the logbook for reference during standardization checks. The log will be updated daily with geophysics standardization response values and QC function checks. Positional QC checks will also be recorded in the log. Sketched maps to explain features will be included as required. A copy of the log will be provided to SCI weekly for inclusion in the Weekly QC report.

Standardization logs will be entered into an excel spreadsheet for archiving, additional QC review, and transmittal to the USACE.

4.12 DATA PROCESSING, CORRECTION AND ANALYSIS

Data will be processed using two software packages; Geonics DAT61 for downloading and GeoSoft's Oasis Montaj® 5.1.4 for display and analysis. The Geonics DAT61 software will be used to download the raw field data, check the GPS positioning information, and to export ASCII data files. The ASCII files will be imported into Oasis Montaj® 5.1.4 for post acquisition processing. Post processing entails the production of profiles of the various types of EM61 data. In particular, the differential channel data (top coil reading minus bottom coil reading) will be used to help filter out responses from surface metal debris (if any). Data profiles for the various time gates will be evaluated for indication of buried ordnance. To aid the evaluation, anomalies from the test strip data over known ordnance items will be compared to any anomalies seen on the production survey data. Particular attention will be paid to the time gate data that exhibited the most definitive anomalies over the known ordnance items.

The data will be processed using the UX-Detect module within Oasis Montaj® 5.1.4. UX-Detect is an automated analysis tool that identifies the source locations and depths of potential UXO. It provides both graphic and tabular output of the interpreted data. The tabular data will then be supplied as dig sheets to direct further investigation. These data will be input to the GIS for spatial display and mapping. Additionally, selected target locations will be converted to Trimble Waypoint files for upload to the RTK GPS Rover for reacquisition.

4.12.1 Instrument Drift Correction

In the event that instrument drift is observed in the quality and redundancy checks, the data will be evaluated for repeatability. If the results are repeatable with only a static shift then a simple linear correction factor can be applied to remove the affects of instrument drift in the data. The Project Geophysicist will discuss this with the USACE Geophysicist prior to performing

4.12.2 Digital Filtering and Enhancement

The Oasis Montaj® 5.1.4 software package can be used to apply different filtering techniques to the EM61 data set to improve the signal to noise ratio. Some of the filter options that can be applied are high pass filtering, low pass filtering, fast Fourier transforms, smoothing routines, and residual computations. These filters can be used to tailor the line path and adjust baseline attributes for the survey. EM61 differential EM61 channel data can be analyzed to minimize the effect of surface metal debris so anomaly targets at depth can be identified more easily. However, in general EM61 data rarely require these types of signal conditioning. The only time any of these filters are routinely applied is during automated anomaly picking and depth determination in the UX-Detect module.

Any filtering applied during processing will be recorded in the data file header/processing log.

4.12.3 Quantitative Interpretation and Dig Sheet Development

The EM61 generates two channels of information. Data are recorded for both the top and bottom sensor. The information from the bottom coil and differential channel information (top coil value minus bottom coil value) will be displayed graphically using Geosoft Oasis Montaj® to identify locations of the geophysical anomalies indicative of the anticipated ordnance items. Dig sheet coordinates will be output from Oasis Montaj® and migrated directly to the Project GIS to minimize the potential of human error in the transcription of the data. The Project GIS will be used to generate grid maps and target lists for reacquisition and investigation.

4.12.4 Records Management

Geophysical field data will be checked, corrected, and processed into ASCII files. After data has been corrected for navigation errors, instrument bias, and measurement drift, it will be archived and posted for further analysis, target selection and QC. Raw and final processed geophysical data will be archived in column delineated ASCII files in the format X, Y, V1, and V2, where X= Easting Coordinate, Y= Northing Coordinate, V1= top sensor reading, V2=next lower (spatially) co-located sensor reading, etc. Additional columns may be added as needed to display additional data. Database structure will be discussed with and approved by the USACE Geophysicist, prior to the collection of data. All positional data will be provided in NAD 83 California Zone 6 State Plane coordinates, in US Survey Feet. Data will be backed up on a daily basis.

Each ASCII file will contain a header with information (metadata) about the file. Below is the standard GMS geo-metadata structure that will be used (as applicable) as a template for file headers on this project.

General Description of Data
Type of data (Unprocessed EM61 data, Processed EM61 data, etc.)

Acquisition Parameters
Date of acquisition
Operator (Name)
Equipment used for Acquisition (Serial #s of Geo and GPS equipment for collection)
Method of collection (Mode of collection and method of positioning)
Grids surveyed
Lane spacing

Processing Parameters
Data processor (Geophysicist name)
Processing software used (brand and version)
Corrections applied
- Instrument drift
- Lag correction

Gridding Parameters
- Gridding algorithm used
- Grid cell size

Target Picking
- Target picking algorithm
- Target picking parameters (target cut-off values: mV, arbitrary value, etc.)

Exported files

- Target list export file name
- Database export file name

QC Parameters
- Performed by (Geophysicist name)
- QC method used

4.13 ANOMALY REACQUISITION

The Geophysical Investigation Team will reacquire anomalies using the Trimble 4700/4800 RTK GPS Total Station. The EM61 will be used to verify the anomaly and a Fisher Impulse and Schonstedt GA52-CX will be use to refine anomaly locations. All anomalies will be prominently marked for the subsequent intrusive investigation, using hubs (sprayed with paint to make visual and marked with the appropriate target number), placed no farther than 1 foot to the north of the anomaly to avoid contact with the anomaly. Pin flags can be used to mark the locations, at the discretion of the SCI PM

4.13.1 Ferrous versus Non-ferrous Anomalies

All anomalies identified as UXO-like targets will be reacquired. A Schonstedt gradiometer will be used in conjunction with the EM-61 and Fisher Impulse EM detectors to determine whether the anomaly is ferrous or non-ferrous. Those anomalies found to be non-ferrous will be noted on the GIS feedback form as such and 10% of these anomalies will be marked for investigation, using the procedures outlined above.

The project GIS will be updated after feedback from the reacquisition team. Dig sheets and Dig Maps will be generated for the UXO Investigation Team to assist in the navigation to the hubs placed during anomaly reacquisition.

4.14 QUALITY CONTROL

Quality control measures have been put in effect throughout the collection process. The performance of both the geophysical survey instrumentation and navigation systems is routinely monitored to ensure the highest quality survey data. If any significant discrepancies exist in the positioning or repeatability of the data, the problem will be identified and corrected. In addition, all data will be carefully evaluated by a trained Geophysicist and GIS Analyst not associated with the field data collection or processing of the collected data, for any potential problems (abnormal data spikes or inconsistent background values). All problems will be documented and resolved. After processing and analysis, GMS will post both raw and processed data for a quality review to the GMS FTP site (accessible through the GMS website www.globalmappingsystems.com) and notify SCI via email and the USACE when new data are posted

Global Mapping Systems Inc. File Transfer Protocol (FTP) Site Access

1. The following is a step by step procedure listing for accessing the Global Mapping Systems Inc. FTP Site.

2. To receive a user name and password, contact Jerry Grose at (757) 368-5500, or e-mail request to jgrose@globalmappiongsystems.com. A request can also be made through our website at www.globalmappingsystems.com by clicking on the feedback button and filling out the form as shown below.

3. To access the FTP Site:
   a. In your Web Browser address bar, type in ftp://globalmappingsystems.com/ . You will be prompted to type in the user name and password assigned to you.
   b Go to our Web Page, www.globalmappingsystems.com , and follow the FTP Access Link Button.

4. To download files from the FTP Site:
   a. Navigate to the file you wish to download.
   b. Open your Windows Explore Directory
   c. Navigate to the Drive and Directory you wish to download the file TO
   d. Left click on the file you are downloading and drag it to the directory you are downloading to.

5. To upload a file to the FTP Site:
   Open your Windows Explore Directory
   a. Navigate to the Drive and Directory you wish to Upload the file FROM
   b. Left click on the file you are uploading and drag it to the FTP page

6. Naming Files: Be sure to reference the project name and file type in the name of the file you are sending.

7. Please forward any questions to the GMS Inc. Web Master at (757) 368-5500.

4.14.1 Geophysical Instrument/Data QC

The geophysical survey instrument response is monitored for quality/redundancy and documented prior to and immediately after each survey is performed. Additionally, instrument response checks are performed at the beginning and conclusion of each survey day on the Standardization Area/Test Strip. Response test may also be performed at any time during the day if there is a question as to the performance of the instrument. Battery condition will be monitored and batteries replaced at regular intervals to ensue minimal drift of the instrument. As the data are analyzed, additional checks are performed to document any instrument drift between survey work areas and to look for correlation of the data between survey lines. Standardization checks will be performed immediately prior to and following scheduled battery changes Responses will be annotated in the logbook and compare to the standard response to ensure it is within the acceptance range.

4.14.2 Positioning System/Data QC

The positioning system accuracy is monitored and documented prior to and immediately after each survey is performed. Accuracy control checks are performed at the beginning and conclusion of each survey day on the Test Strip. Control checks may also be performed at any time during the day if there is a question as to the performance of the instrument. All control checks will be annotated in the logbook. Elevation and PDOP masks will be set to optimize the system to the site and data collection events will be scheduled during periods of optimal satellite constellations to provide the highest quality positioning data. As the data are analyzed, the GIS Analyst performs additional checks to ensure quality of the positional data by review of NMEA data string. Feedback from the reacquisition and ground-truth information resulting from the anomaly investigation will be used as an additional QC tool. Positional QA/QC data is stored digitally within the downloaded RTK data collector files (*.dc) and is available for review upon request. The QA/QC data contained in the *.dc includes the following attributes for each position recorded: Name, Description, Feature Code, Local Latitude, Local Longitude, Northing, Easting, Elevation, Height, Horizontal Quality, Elevation Quality, Height Quality, Point Style, Layer, Antenna Height, Start Time, Stop Time, Delta X, Delta Y, Delta Z, Horizontal Precision, Vertical Precision, RMS, Maximum RDOP, Maximum PDOP, Maximum HDOP, Maximum VDOP, Number of GPS positions, Minimum Satellites.

4.14.3 Feed-Back Process

The geophysical survey team will perform comparisons between the predicted location of an anomaly and ground-truth information resulting from the anomaly investigation. This process provides the geophysical survey team with direct feedback as to the performance of both the geophysical survey instrument and the navigation system.

5.0 ANOMALY INVESTIGATION

Those anomalies determined to be "UXO-like", plus 10% of the negatives, will be hand excavated

As can seen on the project map at the end of this addendum, CSH 52 and occupied dwellings are within the 1701 feet minimum separation distance zone. All investigations of anomalies will be conducted utilizing the Government-furnished Miniature Open Front Barricade (MOFB). See paragraph 4.3.3.1 of the basic work plan.

The results of each anomaly investigation will be recorded on the SCI Grid Information form. This information will be entered on the SCI prepared Daily Activities Report and consolidated on the SCI prepared Weekly Report.

A copy of the completed Grid Information form will be forwarded to GMS for updating of the site anomaly database.

UXO and/or OE-related scrap will be addressed as outlined in Chapters 2 and 15 of the basic work plan.

Any requirement to close Highway 52 will be coordinated with the California Highway Patrol and closures of the city streets will be coordinated with local authorities, for only the time needed to eliminate the hazard. The contractor will provide the resources necessary for traffic control.

6.0 ADDENDUM TO SITE SAFETY AND HEALTH PLAN – This paragraph is numbered to supplement the paragraphs in Chapter 6 of the basic work plan.

6.3.0 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

Work on the Mission Trails Equestrian Center is located in Mission Trails Regional Park, off Highway 52 and Mast Blvd., approximately one-quarter mile from the entrance into the park. This work will involve a 12-acre construction footprint as well as a 20-foot buffer zone surrounding the construction footprint. The ground surface is relatively flat to rolling hills, with occasional gullies, and covered with grass and/or sparse low brush and trees. The OE items of concern in this location range from 37mm to 75mm projectiles.

6.4.0 HAZARD ANALYSIS AND RISK ASSESSMENT

6.4.1 Activity Hazard Analysis

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Vegetation Reduction/Removal	**ANALYZED BY/DATE: C. Riordan 08/23/02**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Determine areas where vegetation clearance will be required • Identify spot where San Diego Ambrosia is growing and avoid within 3 feet of colony until it has been transplanted. Biologist report being unable to relocate this cluster of plants. • Perform a surface clearance of UXO. • Using chain saws, weed wackers, etc. performs vegetation clearance.	1. UXO/OE hazards 2. EMR for Electric Fuzes 3. Uneven working surfaces – slip, trip, fall hazards. 4. Muscle strain carrying instruments 5. Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, mosquitoes, rodents, and snakes. 7. Cuts and abrasions from use of equipment and flying debris. 8. Eye injuries from flying debris. 9. Noise	1. Training on UXO/OE on site. 2. Controlled use of radios and cell phones. 3. Be observant while walking 4. Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5. Heat stress monitoring, drinking water, work-rest schedule, and acclimatization 6. Training in biological hazards avoidance; PPE. (CSHP Chap 21) 7. Training in procedures for safe use of equipment and PPE. 8. PPE 9. Noise monitoring and PPE.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2. Appropriate geophysical equipment 3. Footwear with ankle support and non-slip soles. 4. Back braces (optional) 5. Communications to determine WBGT Index, drinking water 6-9. Appropriate clothing and PPE to include headgear, face shields, protective eyewear, noise protection, leather gloves and leg chaps 7. Chain saws, weed wackers	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training. 1. Equipment inspected daily prior to use. 2. PPE inspected daily prior to use	1,2. UXO personnel will be EODS graduates 1,2. Site specific UXO training will be presented to all site personnel. 3. Site specific training/terrain. 4. Site specific training/lifting techniques. 5. Heat Stress symptoms and prevention 6. Site specific flora/fauna to include first aid. 7,8. Safe operation of equipment 9. Noise protection training 10. All site personnel will have current HAZWOPER training.

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Excavation Operations with EMM	**ANALYZED BY/DATE: Cheryl M. Riordan 8/23/02**	
PRINCIPAL STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Inspect equipment prior to use • Go to spots where pin-flags indicate buried anomaly • Using geophysical equipment, determine depth of buried anomaly. • If depth is 12 inches or less below ground surface, it	1. UXO/OE hazards 2. EMR for Electric Fuzes 3. Uneven working surfaces – slip, trip, fall hazards. 4. Muscle strain carrying instruments 5. Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, mosquitoes, rodents, and snakes. 7. Mechanical hazards from EMM	1. Training on UXO/OE on site. 2. Controlled use of radios and cell phones. 3. Be observant while walking 4. Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5. Heat stress monitoring, drinking water, work-rest schedule, and acclimatization 6. Training in biological hazards

will be excavated by hand. • If depth is in excess of 12 inches, heavy equipment will excavate to within 12 inches of anomaly and remainder will be excavated by hand. • Geophysical equipment will be used again for each 2 feet of depth to assure location and depth of anomaly. • Ground guide will be used to direct heavy equipment operations • Spoil material will be placed at least 2 feet from edge of excavation • At end of operation, heavy equipment will be stored with bucket down.	8. Noise 9. Cave-in of excavation	avoidance; PPE. (CSHP Chap 21) 7. Training in procedures for safe use of equipment and PPE (CSHP Chap 27). 8. Noise monitoring and PPE 9. Competent person inspecting excavation, training in excavation safety (CSHP Chap 28)
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2. Appropriate geophysical equipment. 3. Protective footwear with ankle support, composite toe, and non-slip soles 4. Back braces (optional) 5. Communications to determine WBGT Index, drinking water 6-8. Appropriate clothing and PPE to include hard hat, protective eyewear, noise protection, leather gloves. 7. Backhoe	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training. 2. Equipment inspected daily prior to use. 2. PPE inspected daily prior to use	1,2. UXO personnel will be EODS graduates 1,2. Site specific UXO training will be presented to all site personnel. 3. Site specific training/terrain 4. Site specific training/lifting techniques. 5. Heat Stress symptoms and prevention. 6. Site specific flora/fauna to include first aid. 7,9. Safe operation of equipment Experienced EMM operators. 8. Noise protection training 10. All site personnel will have current HAZWOPER training

6.5.0 TRAINING

6.5.11 Heavy Equipment Operator Training

All personnel who will operate heavy equipment on site will be trained on each piece of heavy equipment to be operated. Training will include classroom instruction on safe heavy equipment operations and excavation safety, in addition to operator hands-on demonstration of proficiency in use of the equipment. Certificates of this training will remain in the employee's file on site for the duration of project activities, at which time the file will be transferred to the employee's official file in the SCI UXO/OE Services Huntsville office.

6.6.0 PERSONAL PROTECTIVE EQUIPMENT

6.6.4 Level D PPE

The following PPE will be added to the list of Level D PPE to be used on site, when working in the vicinity of heavy equipment operations:

- Composite toe safety boots
- Hard hats

6.6.8 Head Protection

When working in the vicinity of heavy equipment operations a hard hat will be required.

6.6.9 Foot Protection

When working in the vicinity of heavy equipment, composite toe safety footwear is required. Steel toe footwear would interfere with magnetometer operations.

6.15.0 STANDARD OPERATING PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES

6.15.6.7 Mosquitoes

Mosquitoes are responsible for transmitting diseases such as malaria and West Nile Virus through bites to the skin. While malaria is much more contagious, it is not normally found in North America. West Nile virus is commonly found in Africa, West Asia and the Middle East In recent years, West Nile virus has been increasingly found in the continental United States. It is most common in late summer or early fall, which is the active season for mosquitoes, but in warmer southern climates where the temperatures are milder, West Nile virus can be transmitted year round.

Mosquitoes become infected with the virus when they feed on infected birds, which may circulate the virus in their blood for a few days. Infected mosquitoes can then transmit the virus to humans and animals while biting to take blood. The virus is located in the mosquito's salivary glands, and may be injected into the animal or human, where it may multiply, possibly causing illness. Even in areas where the virus is circulating, few mosquitoes are infected with the West Nile virus. Even if the mosquito is infected, less than 1% of people who get bitten and become infected will get seriously ill.

The majority of cases of West Nile virus have been identified in birds, it has also been found in horses, cats, bats, chipmunks, skunks, squirrels, and domestic rabbits.

6.15.6.7.1 Symptoms

West Nile virus is an encephalitis, which causes an inflammation of the brain. Following transmission by an infected mosquito, West Nile virus multiplies in the person's blood system and crosses the blood-brain barrier to reach the brain. The virus interferes with normal central nervous system functioning and causes inflammation of the brain tissue. Fatality rates range from 3%-15% of persons who develop severe illness and rates are highest among persons over 50 years of age. This disease is not transmitted from person-to-person, so touching or working in the vicinity of someone with the disease will not increase the risk.

The incubation period for West Nile virus is normally 3-15 days. Most infections are mild, and symptoms include fever, headache, and body aches, occasionally with skin rash and swollen lymph glands. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death.

If symptoms develop, seek medical attention immediately.

6.15.6.7.2 Preventive Measures

Prevention and control of West Nile virus is most effectively accomplished through vector management programs. Be alert for dead animals on the site, particularly birds. If a dead bird or other animal is found on site, barehanded contact should be avoided. Using gloves or double plastic bags, wrap animal and call the Health Department. If the Health Department wants to test the bird, they will come and pick it up. If they are not testing the bird, it should remain wrapped in the plastic and disposed of according to established practices.

Other ways of reducing risk of becoming infected with West Nile Virus include:

- Implement mosquito control measures on the site
- Make sure that there are no open containers of standing water on the site in which mosquitoes can breed.
- Wear long sleeved shirts and long pants while outdoors.
- Stay indoors at dawn, dusk, and in the early evening when mosquitoes are most active
- Spray clothing with repellants containing permethrin or DEET
- Apply insect repellant sparingly to exposed skin. An effective repellant will contain 35% DEET. Higher concentrations provide no additional protection. Always read the manufacturer's directions on the repellant prior to applying it to the skin.

Africanized Bees:

- Be Alert – look before disturbing vegetation. Many bees coming and going from a single spot may indicate a nest.
- SCI will not attempt to remove a bee colony – a local vendor will do this, if required.
- If stung – first, get away, run to shelter of a vehicle and stay there even if some bees come in with you. Once safe, remove stings from your skin as quickly as possible to reduce the amount of venom they inject. If stung many times, seek medical attention.

- Do not swat at bees and don't freeze in place – move away.

6.15.8 Heavy Equipment Operation

Heavy equipment utilized on site will be operated under strict adherence to the applicable OSHA regulations found in OSHA 29 CFR 1910, OSHA 29 CFR 1926, the requirements of USACE EM 385-1-1, and the SCI UXO/OE Services Corporate Safety and Health Program. The procedures and requirements listed below will be followed as a minimum:

- The operation of heavy equipment will be limited to authorized personnel specifically trained in its operation.
- The operator will visually inspect heavy equipment daily prior to operation, and report any abnormalities/deficiencies to the SSHO
- The operator will use the safety devices provided with the equipment, including seat belts, backup warning indicators and horns, which will be operable at all times.
- While in operation, all personnel not directly required in the area will keep a safe distance from the equipment.
- The operator's cab will be kept free of all non-essential items and any loose items will be secured.
- Personnel will avoid moving into the path of operating equipment, and areas blinded from the operator's vision will be avoided.
- When heavy equipment must negotiate in tight quarters, or if operators of earth moving equipment cannot see the bucket, a secondary person will be stationed to guide the operator. Only one person will be permitted to direct the operator at any time.
- Additional riders will not be allowed on equipment unless it is specifically designed for that purpose, i.e., there is an additional seat with a seat belt.
- When equipment is not in use, all buckets, blades, etc will be lowered to ground level and the motor turned off.
- The operator must never leave a piece of heavy equipment with the engine still running

6.15.9 Excavations

Site personnel will comply with the general safety precautions, listed below, as well as those listed in Subpart P of OSHA 29 CFR 1926; USACE EM 385-1-1, Section 25; and Chapter 28 of the SCI UXO/OE Services Corporate Safety and Health Program. The guidelines below reflect minimum requirements to be followed:

- Prior to initiation of any excavation or trenching activity, the location of underground installations will be determined.
- When the excavation/trench achieves a depth of greater than four feet, a competent person will determine the type of soil being excavated and designate the slope, which will be used.
- The excavation(s) will be inspected daily by a competent individual prior to commencement of work activities. Excavations will be reinspected immediately following every rainstorm or other hazard-increasing occurrence prior to allowing re-entry.

- Evidence of cave-ins, slides, sloughing, or surface cracks will be cause for work to cease until necessary precautions are taken to safeguard workers.
- Excavations 5 feet or deeper, which cannot be sloped at a 1 to 1 ratio, will require a competent individual, with the aid of a registered civil engineer, to design and install a protective system.
- Protective systems shall be selected from OSHA 29 CFR 1926 Subpart P and/or designed by a registered professional civil engineer.
- Spoils and other materials will be placed 2 feet or more from the edge of the excavation.
- Materials used for sheeting, shoring, or bracing will be in good condition.
- Timbers will be sound, free of large or loose knots, and of appropriate dimensions for the excavation.
- Safe access will be provided into the excavation(s) by means of a gradually sloped personnel access/egress ramp, or ladders or stairs will be provided. A competent person must design ramps used solely for employee access/egress, and those ramps also used for access/egress of equipment need to be designed by a competent person qualified in structural design.
- Ladders used will extend 3 feet above grade level and be secured to prevent accidental movement.
- Excavations 4 feet or more in depth will have a means of egress at a frequency such that lateral travel to the egress point does not exceed 25 feet
- Walkways or bridges with standard guardrail will be provided where employees are required or permitted to cross over excavations.
- If the depth of an excavation is greater than 4 feet, it will be inspected by the SSHO to determine if it meets the criteria for a confined space
- If an excavation is determined to be a Confined Space the requirements set forth in the SCI UXO/OE Services Confined Space Entry Program (Chapter 26) will apply
- In accordance with the requirements of OSHA 29 CFR 1926.651(g), if an excavation is greater than 4 feet in depth, and the potential for having a hazardous atmosphere inside the excavation exists, then the atmosphere shall be tested for oxygen deficiency and toxicity prior to entry by site personnel.

6.16.0 LOGS, REPORTS AND RECORD KEEPING

6.16.1 Training Logs

Heavy Equipment Operator Training Certificates will be included in the employee file on site for the duration of project activities. At the conclusion of project activities, it will be transferred to the employee file in the SCI UXO/OE Services Huntsville office.

6.16.2 Daily Safety Inspection Logs

In addition to other inspections, a competent person will inspect all excavations at least on a daily basis, prior to entry. Excavations will also be inspected following any rainstorm, any time

water accumulates in the bottom, or whenever the competent person deems an inspection to be necessary.

7.0 METHOD OF MANAGING AND ACCOMPLISHING WORK – See Chapter 8 of basic work plan

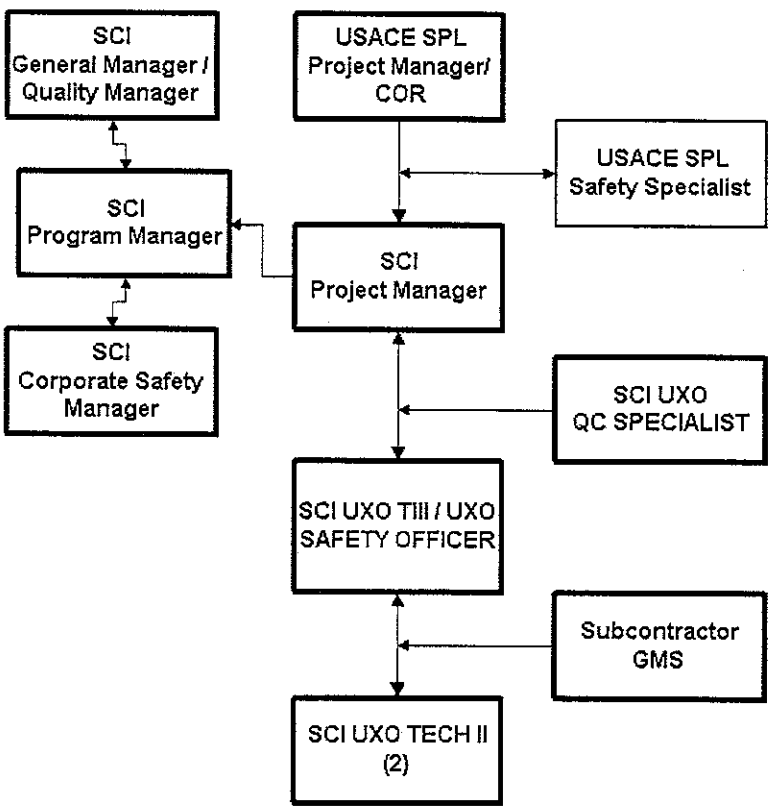
7.1 Work Hours: Personnel will work 5x10s during the geophysical phase of the project. Once digging of anomalies commences, personnel will shift to 4x10s. This will require a ballot and concurrence with site personnel as per paragraph 8.1 of the basic work plan.

7.2 Project Schedule: See timeline at the end of this Addendum.

7.3 Personnel: SCI on-site personnel for this project are identified in Appendix E.

Subcontractor personnel shall have pertinent HAZWOPER documentation on site.

The following organizational chart outlines the reporting and supervisory channels for the Equestrian Center project.



7.4 Deliverables:

7.4.1 Test Strip Spreadsheet – posted to the GMS ftp site within 24 hours

7.4.2 Daily Activities Report: Prepared by the onsite SCI UXO Tech III and emailed to jgferris@bellsouth.net and Billy.J.Allen@usace.army.mil, with courtesy copy to chax@earthlink.net not later than next work day morning.

7.4.2 Weekly Summary Report: Prepared by SCI PM and emailed to Billy.J.Allen@usace.army.mil; lgodard@spl.usace.army.mil; not later than Monday afternoon of following week.

7.4.3 GMS Weekly QC Report to SCI PM – consisting of copied pages of the field book and daily standardization and test strip data, plus that information required by 4.2.4.6.4 of the Scope of Work. Due not later than Monday morning the following week.

7.4.4 Geophysical Deliverables

Electronic copies of the following data will be posted to the Project FTP site, and the USACE notified of their availability (via emailed transmittal letter) for download within three days of data collection. Daily file folders will be established by date-of-collection and all data associated with that date placed in the folder.

Field notes, including sketch map of surveyed area

Standardization documentation (spreadsheet)

Map of data collected-to-date (build map)

ASCII data (digital files:

- Data logger files and/or downloaded raw data
- Edited/corrected data (.EDT files giving x,y State Plane Northing and Easting coordinates, and system response)
- Results of data processing, including ASCII data (digital files) for identified targets (x,y State Plane Northing and Easting coordinates, and system response
- Initial target pick lists, reacquired dig lists, and post-excavation dig results

Copies of all data will be made and sent to the USACE (originals to stay in project files) via parcel delivery service at the close of each field week. This weekly deliverable will include:

- Field notes (including copy of field maps)
- Standardization and QC data
- Digital data
- Color contour plots representing completed traverse segments and an ASCII listing of anomaly identification results

8.0 EQUIPMENT – See Chapter 9 of basic work plan

9.0 SAMPLING AND ANALYSIS – See Chapter 10 of basic work plan

10. QUALITY CONTROL – See Chapter 11 of the basic work plan.

Quality Conformance Inspection (QCI) Schedule

This schedule supersedes the QCI Schedule
in Chapter 11 of the basic work plan.

TASK	100%	DAILY	WEEKLY	BI-WEEKLY	AS NEEDED
Personnel Qualifications	■				
Accident/Incident Reporting	■				
Search Effectiveness	■				
Turn-in of Recovered OE-related Scrap	■				
Preventive Maintenance			■		
Personal Protective Equip.			■		
Medical Support			■		
Communications Effectiveness			■		
Explosives Storage & Accountability			■		
Explosives – UXO Transportation			■		
Physical Security (after hours)				■	
Surveying & Mapping			■		
Brush-Vegetation Removal			■		
Geophysical Detection Operations		■			
Excavation Activities		■			
Dig Effectiveness	■				
UXO Final Disposal	■				
UXO/OE Accountability		■			
Fire Protection - Prevention			■		
Project Administration				■	
Safety & Health Program				■	
Management of SCI Property				■	
Management of Government Furnished Property				■	
Conservation of Utilities				■	
Environmental - Cultural – Historical Resources Practices				■	
Currentness of WP/SSHP				■	
Visitor Briefing					■
Site-Specific Training					■
Hazard Assessment - Risk Analysis					■

Note: The QC Specialist has the authority to deviate from this schedule based on his assessment of on-site operations and conditions.

In addition to the scheduled audits, the SCI General Manager may conduct unannounced field audits during the field effort to ensure compliance with all QC protocols. If the General Manager conducts an audit, a report of his findings will be forwarded to the SCI project manager

11. ENVIRONMENTAL PROTECTION – See Chapter 12 of basic work plan

The City of San Diego owns and manages the land, and in exercising those administrative responsibilities evaluated potential effects attributable to development of this acreage as an equestrian center. That evaluation was published in 2001 as a Final Mitigated Negative Declaration in accordance with the California Environmental Quality Act (CEQA). Construction of the equestrian center itself will necessitate removal of all existing plant assemblages and entail excavation of the existing surface. The CEQA document and appended Biological Technical Report describe and map the existing biotic conditions. They describe also the permanent change of land use, which will be occasioned by construction of the equestrian center.

The CEQA report sets forth fifteen mitigation measures applicable to biological resources, and of those eight in total (#s 1, 3, 7, 8, 9, 10, 11, and 12) pertain to construction of the facility. The Corps will conform explicitly to those mitigation measures throughout the duration of UXO construction support activities. Particular species are the object of some of these eight mitigation measures:

I # 3 - San Diego ambrosia (*Ambrosia pumila*): The Biological Technical Report (April 2001) described a small clusters of these plants (Federally listed as endangered) at a single location. An attempt to locate this cluster again, or any of the individuals, for the explicit purpose of relocating them to a designated refuge, failed to find the plants in April 2002 (an optimal season). The effort to find them again relied on GPS coordinates. An effort of similar intensity to find plants known to grow in an area to the west of the proposed equestrian center was successful. Evidently the population within the project footprint had disappeared.

The Corps would have no effect on a species now not demonstrably present within the area of its UXO activities.

I # 7 - noteworthy native vegetation: Project construction limits will be definitively marked. Native plants within these limits will be removed.

The Corps would not damage any plant, annual or perennial, not already slated for removal by virtue of where it happens to grow.

I #s 8, 9 - Least Bell's vireo (*Vireo bellii pusillus*): No construction activities which generate sounds greater than 60 dB (hourly average), as measured within the nearby Caltrans mitigation site, will occur during the vireo's breeding season; March 15 to September 15.

The Contractor will complete all construction support activities by February 14. No consequences to least Bell's vireo would occur.

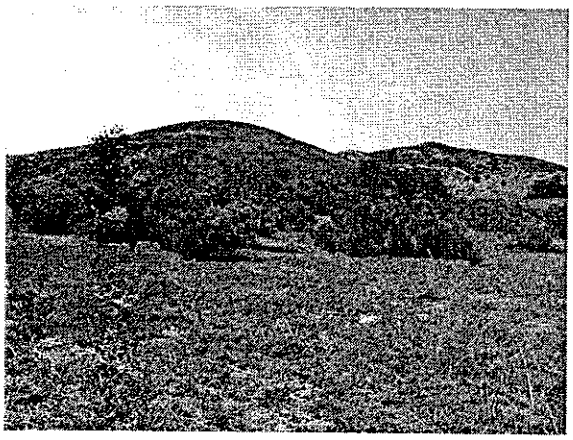
I #s 10, 11 - California gnatcatcher (*Polioptila californica californica*): Also a general concern for sounds greater than 60 dB (hourly average) during this species breeding season; February 15 to August 15.

As above, timing of construction support activities will preclude any effect to gnatcatchers in the area.

I #12 - white tailed kite (*Elanus leucurus*) and red-shouldered hawk (*Buteo lineatus*): Mitigation measure avoids indirect effect to these raptors, which may nest within 500 feet of the construction site, by hindering their access to foraging grounds.

The nearest trees where these species would even attempt to nest are more than 1200 feet away to the west. Corps activities, which carry into December, will be sufficiently far removed to be of no consequence to these species.

No cultural sites were found in the area. For protection of potential cultural sites, an archeologist from the U.S. Army Corps of Engineers will examine all excavations.



12. SCRAP MONITORING AND DISPOSAL – See Chapter 15 of basic work plan

13. COMMUNITY RELATIONS PLAN – See Chapter 16 of basic work plan

14. WILDFIRE CONTROL PLAN – See Chapter 17 of basic work plan

Statement of Work
UXO Support During Construction Activities
Mission Trails Equestrian Center
Mission Trails Regional Park
Former Camp Elliott (East Elliott)
Project No. J09CA006703
San Diego, California
July 10, 2002

1.0 GENERAL

1.1 The work required under this Statement of Work (SOW) involves a combination of construction support, and selective subsurface clearance of potential UXO contamination during construction activities on property previously owned, leased, or otherwise possessed by the United States Department of Defense

1.2 The Contractor, operating as an independent contractor and not as an agent of the Government, shall provide all labor, materials, and equipment necessary to perform this construction support and subsurface clearance in accordance with EP 75-1-2, UXO Support During HTRW and Construction Activities The Contractor shall furnish the required UXO qualified personnel, equipment, instruments, and transportation, as necessary, to accomplish the required services and furnish to the government reports and other data, together with supporting material developed while providing UXO support services. During the implementation of UXO support activities, the Contractor shall provide adequate professional supervision and quality control to ensure the quality, safety, and completeness of the work.

2.0 BACKGROUND

2.1 UXO is a safety hazard that may constitute an imminent and substantial danger to the personnel performing construction activities, nearby residents, and the public in general. UXO contamination must be considered a possibility on all formerly used defense sites (FUDS) and active military installations. The surface danger zone of a range (active or inactive), the target area, impact area, ricochet area and the secondary danger zones may be contaminated with UXO. UXO may be found on the surface and/or subsurface. The varying types of ammunition, angle of fire, and soil types preclude the accurate estimation of the depth of any subsurface UXO

2.2 <u>Location of Work</u>

2.2.1 Mission Trails Regional Park,
off Highway 52 and Mast Blvd., approximately one-quarter mile from the entrance into the park. See Attachment A.

2.3 <u>Site History</u>

2.3.1 The area encompassing Former Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following four general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, Post-World War II (1945 to 1960);
- Camp Elliott closure (1960 to August 1999).

2.3.3 OE has never been reported or found in this location. During the Mission Trails Long-Term Monitoring visit, a partial surface walk-through of area was conducted. The possibility of finding OE is minimal.

2.4 Chemical Warfare Materiel. During a comprehensive review of archival records, no evidence of the potential existence of chemical warfare materiel (CWM) or CWM byproducts on the Former Camp Elliott Area was discovered. In the event suspect CWM is encountered, all work will immediately cease and project personnel will be evacuated along cleared paths upwind from the discovery. A team consisting of a minimum of two personnel shall immediately secure the area to prevent unauthorized access. Reporting procedures will be in accordance with paragraph 6.5.4.

3.0 REGULATORY AND TECHNICAL REQUIREMENTS

3.1 UXO support activities shall be conducted in full compliance with United States Army Corps of Engineers (USACE), Department of Army (DA), and Department of Defense (DOD) requirements regarding personnel, equipment, and procedures. (All UXO operations shall emphasize anomaly avoidance, whenever possible, and be performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] and the National Contingency Plan [NCP]. Therefore, the administrative requirements of Federal, State, or local permits are not required for implementation of any UXO procedures, including on-site destruction of UXO, if required, but the substantive permit requirements must be fulfilled.)

3.2 The provisions of 29 CFR 1910.120 shall apply to all UXO-related actions taken at this site. In addition, UXO personnel involved in performing UXO tasks will be limited to a 10-hour workday and a 40-hour workweek. Two consecutive workweeks shall be separated by a minimum of 48 hours of rest.

4.0 SPECIFIC REQUIREMENTS

4.1 UXO support during construction activities may require only UXO safety support or a complete UXO subsurface clearance response, depending on an assessment of the probability of encountering UXO and the level of confidence associated with the determination. If the probability of encountering UXO is low (e.g., current or previous land use leads to an initial determination that UXO may be present), only UXO safety support will be required. When a

determination is made that the probability of encountering UXO is moderate to high (e.g., current or previous land use leads to a determination that OE was employed or disposed of in the area of concern), UXO qualified personnel must conduct a subsurface clearance of the known construction footprint and remove all discovered UXO. The level of effort for construction support is site/task-specific and will be determined on a case-by-case basis by the project team in coordination with the Los Angeles District, Corps of Engineers, San Diego Resident Office.

4.2 The work elements to be performed under this contract DACA09-01-D-0005, Task Order 0001 are listed below.

4.2.1 Site Visit/Records Review (Task 1). The Contractor shall conduct a site visit (not to exceed 4 days to include travel time), review pertinent records, and interview personnel knowledgeable of site conditions to collect sufficient information to develop a Work Plan and a Site Safety and Health Plan (SSHP) for the planned activities. This task is not intended to be an expanded archival search where new information is located or developed. Prior to conducting a site visit, an Abbreviated Site Safety and Health Plan (ASSHP) must be prepared and submitted to the Contracting Officer for review and approval. Site visit personnel must be accompanied by a UXO qualified technician (UXO Technician II) in areas potentially contaminated with UXO. The Contractor shall ensure that the site visit is fully coordinated and that all members of the site visit team comply with the accepted ASSHP.

4.2.2 Work Plan/Site Safety and Health Plan (Task 2).

a. The Contractor may not commence construction activities on sites with known or potential UXO until a site-specific Work Plan describing proposed UXO support procedures and the equipment to be used is prepared and accepted by the Contracting Officer. The Work Plan shall also include a SSHP specifically addressing UXO considerations. The Work Plan should discuss UXO team composition in accordance with EP 75-1-2. The Work Plan and SSHP shall promote safe and efficient operations while limiting potential exposure to a minimum number of personnel for a minimum time and to the minimum amount of UXO. Construction activities shall only be accomplished following UXO support procedures defined in the accepted Work Plan.

b. The Contractor will submit an Addendum/Appendix to the current East Elliott site-specific Work Plan describing proposed UXO support procedures and the equipment to be used. The Addendum/Appendix shall include any details that are not specifically addressed in the current Work Plan.

4.2.2.1 Explosives Siting Plan. An Explosives Siting Plan (ESP) is required for UXO support during construction activities. The ESP discusses the proposed minimum separation distances for unintentional detonations, intentional detonations, and siting of critical project components. The ESP should describe the basis of design, all design calculations, and proposed hazard mitigation measures to be implemented to protect the public, non-project personnel, and site workers from explosive hazards. The ESP will be reviewed by the project team to ensure that the appropriate minimum separation distance criteria have been applied.

4 2 2 2 Explosives Safety Submission. (An addendum to the approved ESS will be required) Construction activities involving the removal and disposition of UXO may require submittal and approval of an Explosives Safety Submission (ESS). The requirement for an ESS will be determined on a case-by-case basis by the project team in consultation with the OE MCX. The purpose of the ESS is to ensure that all applicable DOD and Army regulations regarding safe and secure handling of ordnance are followed. Detailed information on the content, review and approval procedures, and modification process for the ESS is available in EP 1110-1-18, OE Response.

4.2.2.2.1 Since there has never been a reported OE incident or item in this area, and the fact that Mission Trails Long-Term Monitoring team did not find any indication of OE in this area, a letter notifying the OE MCX and DDESB of additional work to be performed under the existing ESS for East Elliott, within the Mission Trails Regional Park, must be submitted through the Contracting Officer to the OE-MCX (a map showing the additional area will be required).

4.2.2.2.2 When an element of the accepted ESS changes, it must be amended. The contractor will prepare the proposed change and forward it to the Contracting Officer's Representative (COR), who will forward it to the OE MCX for review. The OE MCX will forward the proposed changes to the appropriate agency for approval. For a change that specifies less restrictive requirements (e.g., reduction in exclusion zone), the contractor will comply with the accepted ESS until the change is approved. When changes would be more restrictive (e.g., increase in exclusion zone), the contractor will immediately implement the more restrictive measures.

4.2.3 Safety Support (Task 3). ***Not Required***

4.2.4 Subsurface Clearance in Support of Construction Activities (Task 4). A subsurface clearance of the identified construction footprint is required within the 12-acre construction footprint and the 20-foot buffer zone surrounding the construction footprint. The subsurface clearance process requires close coordination among on-site management personnel of the USACE Representative, construction contractor, and UXO contractor. The UXO team should physically preview the actual construction footprint with other on-site management personnel and discuss visual observations and potential areas of concern. Subsurface clearance actions must be accomplished in strict accordance with the accepted Work Plan, SSHP, ESP, and ESS.

4.2.4.1 The UXO team should be familiar with these plans and should review any archival information available regarding the area of the proposed construction activities. If possible, the UXO team should determine the probable types of UXO that may be encountered and specific safety considerations. Prior to commencing subsurface clearance activities, the UXO team should provide a general work and safety briefing to all on-site personnel. Contractor will investigate all anomalies detected within the identified construction footprint (foundations, utility lines, etc.), as well as a 20-foot buffer on all sides of the construction footprint. All anomalies will be investigated to depth. If the maximum depth of detection of the geophysical instrument is

less than the anticipated construction excavation depth, the contractor shall perform subsurface clearances in lifts until the desired depth of clearance is obtained.

4.2.4.2 Underground Utilities. Utility clearance and/or excavation permits, if required, must be obtained prior to the commencement of any intrusive activities. The UXO team is responsible for verifying that all necessary excavation permits are on-site prior to commencing operations. The contractor is responsible for contacting the appropriate agency (ies) or company (ies) to mark the location of all subsurface utilities in the construction area. In the event subsurface utilities are suspected in an excavation area, the UXO team must attempt to verify their location. All located utilities should be marked by paint, pin flags, or other appropriate means to visually delineate their approximate subsurface routing.

4.2.4.3 Area Preparation. Area preparation includes reduction and/or removal of vegetation that may impede or limit the effectiveness of subsurface clearance actions. Vegetation reduction/removal may be accomplished through manual removal or mechanical removal if required. Selection of the appropriate land clearing strategy should be based on the type and concentration of vegetation, topography, drainage patterns, terrain and soil conditions, and the level of required environmental and natural resource protection.

a. The Contractor shall avoid the spot where San Diego ambrosia (Ambrosia pumila) grows by a radius of 3 feet in all directions, measured from the edge of the colony. Once the City of San Diego (Mission Trails Regional Park) has transplanted these plants, the Contractor shall then be unconstrained in implementing all construction support activities.

b. No removal of brush and small trees within the project area can begin prior to September 15, 2002.

4.2.4.4 Area preparation is not considered a UXO clearance procedure; anomaly avoidance procedures should be followed. The area preparation teams working in areas not previously surveyed for the presence and avoidance of UXO must be accompanied by UXO qualified personnel following procedures described in EP 75-1-2.

4.2.4.5 Surface Clearance. A surface clearance may be required to remove any existing UXO from the surface of the work area. The disposition of recovered UXO is discussed in paragraph 4.2.4.12 of this SOW. In addition, all UXO-related remnants, target materials, and non-UXO related materials which may interfere with a subsurface geophysical survey should be removed from the surface of the work area and staged for later disposition. UXO teams must complete all surface clearance activities.

4.2.4.6 Geophysical Mapping/Analysis. A subsurface geophysical survey shall be conducted to identify and locate all anomalies. The method of collecting geophysical data at this site will be via parallel transect surveys. The Contractor shall furnish all labor, equipment, and materials (except where specified otherwise) necessary to perform the work identified herein. The

Contractor is solely responsible for mobilization onto and demobilizing from the site with his/her equipment, instrumentation, tools, supplies, materials, and personnel.

All work will be conducted in accordance with the approved East Elliott Work Plan.

4.2.4.6.1 Specific Requirements. The required geophysical investigation services at East Elliott will comprise data collection, reduction, and identification of potential UXO anomaly sources. The geophysical investigation will be performed such that detection minima specified below are met. Data resolution should be such that anomaly locations can be identified to within a 0.4-meter radius of the source location.

a. Geophysical Investigation. Selected geophysical instrumentation will be justified, with specific criteria outlined. Approximately 12 acres will be geophysically surveyed to detect and map suspect OE. All reacquired anomalies should be prominently marked with survey flagging or pin flags for subsequent intrusive investigation. Geophysical data will be digitally captured into a file with coordinates recorded relative to the California State Plane, NAD 83, system. A daily log will be maintained by the Contractor that details pertinent activities, transect features, and field conditions encountered in the performance of the geophysical investigation. A field sketch map of surveyed areas will be maintained as the geophysical data collection progresses.

b. The geophysical survey Contractor shall perform continuous tracking, checks, and adjustments of his/her field data for quality control and to establish efficient field procedures. Navigation and instrument position within the investigation area shall be tracked and recorded using precision surveying systems (e.g., state-of-the-art realtime kinematic (RTK) global positioning system instrumentation) and shall be referenced to the North American Datum of 1983 (NAD83) State Plane Coordinates, California Zone 6, U.S. survey feet.

c. Standardization procedures including a Standard Response will be established before any geophysical mapping is performed. This will be accomplished by establishing target and background reference geometry and determining the numerical difference between target-anomaly high and background response of each system. Multiple anomaly-versus-background measurements will be made to allow computation of a mean residual (anomaly response) and calculation of a standard deviation specific to the system. Standardization of each system will be accomplished using a portable target in a fixed geometry with each receiver antenna. The portable target shall be a 3-inch diameter carbon steel solid sphere, or suitable substitute.

d. Standardization comprises comparing the residual anomaly to an acceptance range and recording the values in the daily logs. Acceptance range is specified at +/- 10 percent of the standard response (calculated mean anomaly). The standardization responses and acceptance range shall be recorded in the field logbooks assigned to the mapping team. If a system does not respond within the acceptance range, the standardization measurements are repeated. Three sequential failures will cause the system to be removed from service. Any failed system must be replaced/repaired and a new standard response (with a new standard deviation and acceptance range) calculated before being redeployed to the field.

e. Proper operation and function of the instruments used will be periodically checked and documented in the field log each day. Field tests over a performance verification test plot will be a part of the daily routine. All instrumentation will be deployed to survey a plot and the data reviewed to validate instrument performance prior to use in geophysically investigating any transect area. The standard response will be recalculated and the system/array baseline response re-recorded, whenever any critical component of the instrumentation system is repaired or replaced or as changing survey conditions warrant.

f. Daily standardization measurements and results are to be completely documented in the daily field notes (log). The field logs will also be reviewed each day to verify that data were collected following a continuous progression along the survey lanes. If the survey progression was interrupted for a particular segment because of terrain or vegetation or other considerations, the causes of the deviation and the actual mode of progression shall be fully described in the daily log notes.

4.2.4.6.2. The geophysical field data shall be checked, corrected, and processed into ASCII files. Data shall be corrected for navigation errors, instrument bias, and measurement drift. Data collected by different systems shall be demoded (if necessary) to set background levels for each system equal to the same datum. The data shall be presented in delineated fields as x, y, z where x and y are State Grid Plane Coordinates in East and North and z is the instrument reading. Where multiple instrument values are recorded, the data may be presented as x, y, z1, z2, etc., in the same ASCII file. Each ASCII data file will have an informative header including date of acquisition, machine used, grids surveyed, lane spacing, survey traverse direction, NAD 83 coordinates of southwest corner of starting grid, lane spacing, and processing corrections applied to data. Electronic copies of the downloaded (raw) and edited (processed) data files will be delivered to the USACE within three working days (raw and processed) of data collection.

4.2.4.6.3. Geophysical Data Processing.

a. Data processing and QC/QA will be performed using validated software to perform data quality checks, de-bias data, and make the required plots. An inspection of data will be performed to identify any single point anomalies, steps in response, or incoherent signal/excessive noise bandwidth. All such events will be noted and described in the daily logs. The data volume for each sensor array should be comparable (±1 percent) and the spatial data density (measurements per unit distance) must be representative of the mapping effort described in the daily log. Field notes will be compared to the downloaded digital file data to assure correspondence between lanes searched and lanes recorded. Unusable or incomplete data delivered for any traverse segment will be reacquired at the Contractor's expense.

b. The geophysical field services Contractor will perform data processing to identify and discriminate potential UXO-induced anomalies. The anomaly discrimination will be limited to an assessment of "possible UXO" versus "unlikely to be UXO". The results of the data analyses will be delivered to the USACE Program Manager with the processed data. Dig/Pick lists

provided by the Contractor shall list anomalies in order of dig priority – from most likely to be a UXO to least likely to be a UXO.

c. Data resolution will be such that initial anomaly locations can be identified to within 0.4-meter of the source location and closer after geophysical reacquisition. Processing of digital data will include a symbol posting of centerline locations of the sensor array and production of profile segments along transects. Initial pick lists, final dig lists, and post excavation results will be provided to the USACE Program Manager. Color plots representative of the investigative swath of the survey system will also be provided. Anomaly symbols and identification numbers will be superimposed on these strips. An ASCII format tabulation of the anomalies will also be generated. The table will include: anomaly number, easting and northing (in State Plane Coordinates, U.S. survey feet), and anomaly amplitude.

4.2.4.6.4. Geophysical Quality Control. The geophysical field services Contractor will submit a weekly QC summary to the USACE Project Manager that will include:

a. Precision – A mean deviation from the standard response will be calculated for each instrument used. This will be reported in a progressively updated table.

b. Accuracy – Any discrepancies in positional or locational accuracy of data noted during the field review will be described, including steps taken to correct or resolve any such QC issues.

c. Completeness – The percentage of coverage of each investigated segment will be tabulated. Significant lack of coverage (> 1 percent missed) will be flagged and annotated with steps (to be) taken to resolve the missed coverage. Data drop outs or inexplicable data shortages, if not detected during field review, will be discussed with personnel on site to identify the root problem and steps needed for resolution.

d. Reasonableness – Any variations or results not compatible with prior results or expectations will be reviewed to determine causative features that may be present.

4.2.4.6.5 Geophysical Deliverables. Geophysical investigation data due 3 working days after data collection:

a. Field notes, including sketch map of surveyed area

b. Standardization documentation

c. Posted symbol map of data collected to-date.

d. ASCII data (digital files), as follows:

1. Data logger files and/or downloaded raw data

2. Edited/corrected data (.EDT files giving x,y State Plane northing and easting coordinates, and system response).

3. Results of data processing, including ASCII data (digital files) for identified targets (x,y State Plane northing and easting coordinates, and system response).

4. Initial target pick lists, reacquired dig lists, and post-excavation dig results.

e. Copies of all data will be made and sent to the USACE (originals to stay in project files) via parcel delivery service at the close of each field week. This weekly deliverable will include:

1. Field notes (including copy of field maps)

2. Standardization data

3. Digital data

4. Color contour plots representing completed traverse segments and an ASCII listing of anomaly identification results.

5. Data tracking documentation will be completed each day and included in the transmittal.

4.2.4.6.6 Data Disclosure. The Contractor shall not publicly disclose any data generated or reviewed under this contract. All requests for information concerning site conditions shall be referred to the USACE.

4.2.4.6.7 Personnel Qualifications. The Contractor shall submit resume(s) for staff that will be onsite to perform the geophysical fieldwork (with alternates, as necessary). All Contractor personnel working on-site shall:

a. Be OSHA 40-hour Hazardous Waste Operation qualified, with current annual refresher,

b. Be trained and experienced with the instrumentation to be used, and

c. Read, understand, and acknowledge receipt of the Project Work Plan and Site Specific Health and Safety Plan.

4.2.4.6.8 Instrumentation. Selected geophysical instrumentation will be justified, with specific criteria outlined. Locational survey work shall be performed using DGPS instrumentation with at least 20-centimeter real-time accuracy. The Contractor shall provide an

information package detailing the performance specifications of the geophysical survey and GPS systems to be used. The package should include photographs of the systems, example data output, data representations, an estimate of productivity (acres/day/system), and a listing of previous projects on which the system(s) were used.

4.2.4.6.9. Assumptions:

a. **No excavations can begin prior to September 15, 2002.**

b. Initial survey area comprises approximately 12 acres surveyed in parallel transects with a 2.5 ft width. The ground surface is relatively flat to rolling hills, encised with occasional erosional gullies, and covered with grass and/or sparse low brush and trees. Areas that cannot be mapped without vegetation removal will be avoided and cleared by other methods.

c. OE-of-concern range from 37mm to 75mm projectiles

d. 37mm projectiles are representative of the smallest (hardest to detect) OE expected.

e. Geophysical data will be collected at < 0.2 - meter station intervals.

f. ***Standardization procedures and Standard Response (for each system) will be established before any geophysical mapping of the investigative grids is performed. Standardization of each system will be accomplished before and after each grid block is surveyed. This will be accomplished using a portable target (3-inch diameter carbon steel sphere, or suitable substitute) in a fixed geometry with each receiver sensor***

g. Field tests over a test plot will be a part of the daily routine. All instrumentation will be deployed to survey portions of an existing plot to collect data when initially brought on-line, and the data reviewed to validate instrument performance prior to use. It is important to collect and analyze test plot data using the same equipment, personnel and procedures that are planned for field use.

1. The contractor shall design a "test strip", in accordance with DID OE-005-05. The test strip shall include inert 37mm and 75mm rounds at depths that will evaluate the geophysical equipment to be used in this site-specific OE investigation. A typical layout for the test strip would be to place inert rounds at specific depths and in both horizontal and vertical orientations with approximate 10-foot separations between items along one 50-foot transect line. The specific depths shall be, 37mm at 1 foot and the 75mm at 2.5 feet. Approval of the project WP Amendment shall constitute approval to proceed with the development of the Test Strip. The design and layout of the test strip shall be described in the Work Plan Amendment. An Excel spreadsheet containing the seed items, ID numbers, proposed X, Y, Z locations, proposed inclination and declination (or survey information on the nose, tail, and center point of the item) shall be included. In addition to the known seed items, blind seed items may be buried by CESPL for quality control.

2. After a site has been selected and the surface prepared, pre-seeding geophysical surveys should be performed with each detector type in order to determine and document base-line geophysical conditions at the site. During test strip construction, the contractor shall survey the location of each item and the corner stakes to the nearest 0.1 ft. The contractor shall use UXO avoidance techniques to ensure the location of the excavation for each surrogate and corner is clear of metallic anomalies. The test strip shall be used to demonstrate and document the performance of geophysical/navigation hardware, data analysis system, data transfer system, and contractor Quality Control system. The site-specific test strip shall be geophysically mapped and re-acquired in the same detail and with the same procedures as planned for the remaining project area. The contractor shall utilize the test strip to demonstrate that all aspects of the geophysical mapping and analysis systems are working and the performance of the integrated system is acceptable to the government. Approval of the geophysical mapping and analysis system is expected to occur immediately after the contractor processes the data and evaluates the most appropriate configuration of the equipment.

h. Data downloading will be performed in field.

i. The first day on site for geophysical personnel (other than for project briefs and orientation) shall include establishment of baseline responses over the validation plot and to calculate standardization acceptance ranges for each mapping system deployed.

j. Limited brush trimming may be required to be done by the geophysical Contractor.

k. Geophysical Contractor will provide all instrumentation, equipment, supplies, and data processing software or hardware needed to perform the geophysical investigation and provide the required daily deliverables.

l. The Contractor shall maintain onsite sufficient replacement components to avoid (greater than 24 hours) downtime due to equipment problem/failure.

4.2.4.6.10. Records. The Contractor shall keep accurate records of work (in a daily field logbook or on daily field activities forms) and submit them to the USACE on a daily basis unless scheduled otherwise. The information to be recorded in the field logbook shall be consistent with the work described above.

4.2.4.7. Subsurface geophysical surveys are not considered a UXO clearance procedure; anomaly avoidance procedures should be followed. The geophysical mapping teams working in areas not previously surveyed for the presence and avoidance of UXO must be accompanied by UXO qualified personnel following procedures described in EP 75-1-2. All anomalies should be prominently marked with survey flagging or pin flags for subsequent intrusive investigation.

4.2.4.8. Anomaly Excavation. Anomaly excavation operations are required to intrusively investigate and identify the source of all anomalies located during completion of the subsurface geophysical survey. During excavation operations, only those personnel absolutely necessary for the operation shall be within the exclusion zone. All anomaly excavation operations shall comply with the provisions of 29 CFR 1926 subpart P. All anomalies will be excavated to depth. **No excavations will begin prior to September 15, 2002.**

4.2.4.9. Normally, UXO qualified personnel will manually complete anomaly excavations of less than one foot. If an anomaly is deeper than one foot, earth-moving machinery (EMM) should be used to assist in excavation efforts unless site constraints or accessibility restrict or prohibit use. EMM shall not be used to excavate within 12 inches of an anomaly. When an anomaly excavation gets within approximately 12 inches of an anomaly, the excavation must be completed manually.

4.2.4.10 Only UXO qualified members of a UXO team may conduct manual excavation operations. A non-UXO qualified member of the UXO team may operate EMM used to assist in anomaly excavations. If more than one EMM will be used within the same work area, the team separation distances required for multiple teams as described in EP 75-1-2 must be used.

4.2.4.11 After the probable source of the anomaly is identified and removed, an approved geophysical instrument should be used to validate the process. If the geophysical instrument does not continue to detect an anomaly, then the excavation may be back-filled and restored in accordance with contract requirements.

4.2.4.12 UXO Destruction. The Work Plan shall include procedures for destruction of UXO recovered during construction activities. Destruction of UXO can be accomplished at one of three locations: in-place, on-site, or off-site. The decision regarding which technique to use is based on the risk involved in employing the disposal operation as determined by site-specific characteristics and the nature of the UXO recovered. Additional information on UXO disposal operations can be found in TM60A-1-1-31, Explosive Ordnance Disposal Procedures.

4.2.4.12.1 In-place. As a general rule, in-place demolition (blow-in-place) is the preferred technique unless site conditions warrant transport of safe-to-move UXO to an alternate location. (fuzed and fired munitions will not be moved) Information on recommended destruction procedures for individual UXO items can be found in TM 60A-1-1-31, Explosive Ordnance Disposal Procedures. All detonation-in-place operations shall be conducted by electrical means to ensure maximum control of the site, except in situations where static electricity or electromagnetic radiation (EMR) hazards are present. Non-electrical means may be used when the situation dictates.

4.2.4.12.2 Off-Site Transport. ***Not Required***.

4.2.4.12.2.1 ***Not Required***.

4.2.4.12.2.2 Manifest. A Hazardous Waste Manifest (EPA Form 8700-22) is required when transporting OE over public roads in non-emergency situations. In emergency situations, military EOD will respond. For informational guidance on the Hazardous Waste Manifest, refer to 49 CFR 172.205 and 40 CFR 262.20. For the purposes of transportation and storage, OE will be hazard classified in accordance with TB 700-2, DOD Ammunition and Explosives Hazard Classification Procedures. Government personnel who are tasked to sign shipping papers (including the Hazardous Waste Manifest, if required), must be trained and given signature authority by their agency, in accordance with the requirements of DOD 4500.9-R, Defense Transportation Regulation, Part II, Cargo Movement. ***If Required.***

4.2.4.13 Explosives Management. Explosives used for the destruction of UXO must be acquired and managed in accordance with EP 75-1-2 and applicable federal, state, and local laws and regulations including, but not limited to, the following:

- Bureau of Alcohol, Tobacco, and Firearms Publication (ATF P) 5400.7, Alcohol, Tobacco, and Firearms Explosives Laws and Regulations, and 27 CFR.
- DOD 6055.9-STD.
- 49 CFR.
- 29 CFR 1910 and 1926.

4.2.4.14 Debris/Remnant Management. The Work Plan must include operational and quality control procedures for the processing, demilitarization, and disposition of inert ordnance, target materials, and UXO-related remnants which fall within the classification of Ammunition, Explosives, and Dangerous Articles (AEDA).

4.2.4.15 Quality Control

4.2.4.15.1 The UXO contractor is responsible for the quality control of all surface and subsurface clearance activities and for ensuring that only those procedures and processes conforming to contractual requirements and accepted project plans are implemented. The UXO contractor shall develop a Quality Control Plan (QCP) outlining the quality activities to be used for continually assessing the implementation, effectiveness, compliance, and adequacy of operations.

4.2.4.15.2 A separate UXO Quality Control Specialist is not required on-site full-time for UXO support activities. However, the UXO support contractor must perform quality control reviews of all field activities in accordance with the accepted QCP.

4.2.4.15.3 During the Government's periodic QA inspections, if a UXO, UXO Look-a-Like, OE component, explosive residue, or OE and Non-OE related scrap metal of the size that may be mistaken for the smallest munition on the site (in this case it will be all OE scrap the size or dimension of a 37mm Projectile or larger), grid will be failed. Contractor will be notified of failure at which time grid shall be reswept by the contractor.

5.0 SUBMITTAL REQUIREMENTS

5.1 Format and Content. All plans and reports shall be typewritten on standard size white paper. A front cover sheet shall be provided which includes the contractor's name and address, contract number, delivery order number, name of the project, date of the plan, and title of the plan.

5.1.1 Chapters shall be numbered sequentially. Within each chapter, a decimal paragraphing system shall be used with each paragraph numbered sequentially, starting with the specific chapter number. Within each chapter any figures, tables, and charts shall be numbered sequentially starting with the chapter number. Appendices shall be lettered alphabetically. Within each appendix, each page shall be numbered sequentially starting with the appendix letter. Drawings larger than 8.5 inches by 11 inches shall be folded to this size.

5.1.2 Every page of the plan shall be numbered sequentially starting with the specific chapter number and contain a footer containing the plan date, contract number and delivery order number. When revisions to the plan are required, a revision date and amendment number shall be included in the footer.

5.2 Schedule. The Contractor shall prepare and submit a project schedule of planned activities including plan preparation, submittal, and review; field operations; and reporting. The schedule should identify all critical-path milestones.

5.3 Addressees and Quantities. The following addresses and number of required copies shall be used for all submittals:

ADDRESSEE	QUANTITY
Commander US Army Corps of Engineers, L.A. District ATTN: PPMD (Lloyd Godard) 911 Wilshire Blvd Los Angeles, California	4
Commander US Army Corps of Engineers ATTN: BJ Allen 16885 W. Bernardo Dr. #300-B San Diego, California 92127	1
Commander US Army Corps of Engineers ATTN: Ted Asch 2850 5th Ave	1

Marina, CA 93933

Commander 2
US Army Corps of Engineers, Huntsville Center
ATTN: CEHNC-OE-MCX (Brad McCowan)
P.O. Box 1600
Huntsville, Alabama 35807-4301

Others (As directed by letter) 0

6.0 REPORTS

6.1 Minutes of Meetings. The Contractor shall prepare minutes of all meetings attended and submit them to the Contracting Officer within seven calendar days after the meeting.

6.2 Correspondence. The Contractor shall keep a record of each phone conversation and written correspondence affecting decisions relating to the performance of this [contract] [delivery order]. A summary of the phone conversations and written correspondence shall be submitted monthly to the Contracting Officer.

6.3 After Action Report. Upon completion of the UXO activities, the Contractor must prepare an After Action Report describing the activities completed, significant findings, and lessons learned that may assist development of future project plans. The After Action Report shall be submitted to the district PM with a copy forwarded to the OE MCX.

6.4 Report of Suspect CWM. If suspect CWM is encountered, the following procedures will be followed. All work will immediately cease. Project personnel will withdraw along cleared paths upwind from the discovery. A team consisting of a minimum of two personnel will secure the area to prevent unauthorized access. Personnel should position themselves as far upwind as possible while still maintaining security of the area.

6.4.1 On FUDS project sites, the UXO team will notify the local POC designated in the Work Plan. The local POC will facilitate EOD response and two personnel will secure the site until EOD's arrival. If the local POC designated in the Work Plan is not the local law enforcement agency, the local POC will inform the local law enforcement agency of the discovery. The EOD unit will notify the Technical Escort Unit (TEU) and secure the area until TEU's arrival. After notifying the local law enforcement agencies, the local POC will notify the USAESCH Safety Office to inform them of the actions taken.

6.4.2 The UXO team will prepare a Report of Suspect CWM for the designated POC.

6.5 Mishap Reporting. All mishaps associated with execution of project activities shall be investigated and analyzed. Information reflected on the report forms are the basis to investigate the accident, analyze the cause, and identify what corrective actions may be implemented to

prevent similar occurrences.

6.5.1 All mishaps will be reported in accordance with AR 385-40 Accident Reporting and Records; USACE Supplement, Safety-Accident Reporting and Records, and EM 385-1-1, Safety and Health Requirements Manual. Any mishap will be reported on ENG FORM 3394, Accident Investigation Report.

6.5.2 On FUDS, the Contractor's UXO Safety Officer is responsible for mishap reporting. For contracts under the supervision of the district, mishaps will be reported to the district safety office. An information copy of the accident report will be forwarded to the OE MCX, when directed by the on-site USACE representative. USACE district personnel will report through Command channels to the Headquarters, USACE (HQUSACE) Safety and Occupational Health Office

6.5.3 On active installations, the installation safety officer is responsible for reporting any explosives mishaps.

6.5.4 Incidents involving CWM will be reported in accordance with USACE Supplement to AR 385-40. A site-specific POC will be identified and documented in accordance with the reporting requirements in paragraph 6.5.1.

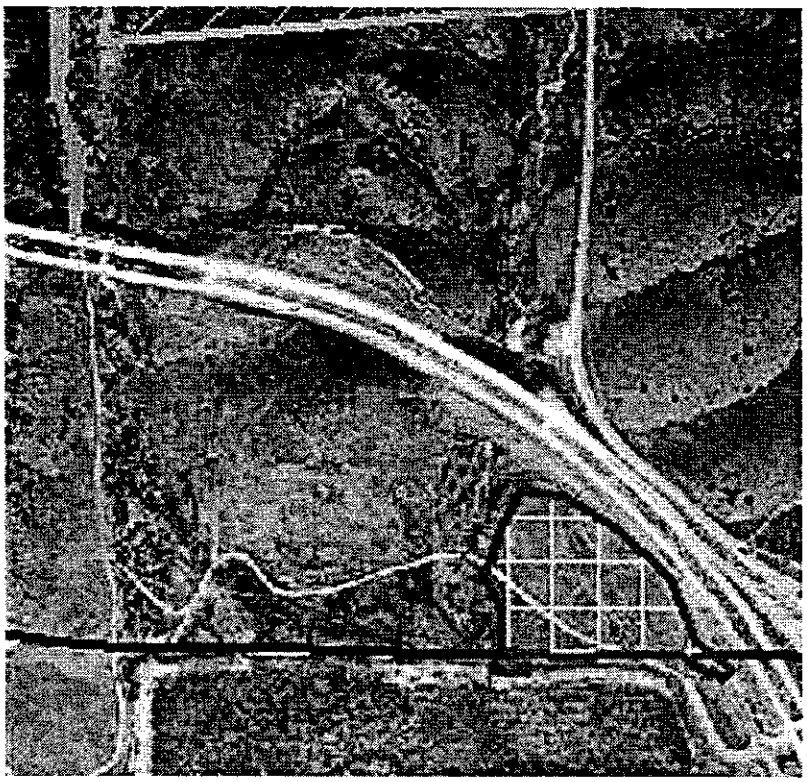
6.6 Investigations. The U.S. Army Safety Center (USASC) maintains the prerogative to investigate Class A or Class B explosive mishaps (as defined in AR 385-40) on active installations. If USASC chooses to investigate, it is the lead agency. If USASC chooses not to investigate, the district is the lead agency.

7.0 PUBLIC AFFAIRS

7.1 The Contractor shall not publicly disclose any data generated or reviewed under this contract. The contractor shall refer all requests for information concerning site conditions to the local USACE district Public Affairs Office, with a copy to USAESCH.

7.2 Reports and data generated under this contract are the property of the DOD and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.

Attachment A



1.0 PURPOSE: This Addendum will describe the proposed Unexploded Ordnance/Munitions and Explosives of Concern (UXO/MEC) procedures and the equipment to be used for the UXO/MEC removal actions during the Landfill Phase at Camp Elliott, (East Elliott) San Diego CA. Please see vicinity map (Figure 1) below and in Appendix B of the approved Work Plan. This Addendum is in response to the Statement of Work dated 3 September 2003 contained at the end of this Addendum and provides those details that are not specifically addressed in the approved Work Plan for the East Elliott Project dated December 7, 2001 and revised February 11, 2002.

1.1 PROJECT DESCRIPTION: The objective of this removal action is to safely and efficiently locate and remove surface and subsurface conventional unexploded ordnance (UXO) from approximately 110+ acres at the former Camp Elliott (East Elliott), Sycamore Canyon Landfill site, San Diego, California. Please see the below map (Figure 2) for this general location. In addition, please see the site map (Figure 3) and the map that is labeled as "Attachment 1" to the Statement of Work (SOW), located at the back of this addendum. This "Attachment 1" shows Sector 2 of the East Elliott Project site. The primary areas involved in this specific removal action are identified as subsections 1 & 2 and are identified as such on these maps. The total landfill site is approximately 493 acres, with the current location of the Sycamore Landfill site occupying approximately 288 acres of the total.

UXO, MEC and MEC scrap will be excavated to its depth and removed. Currently this is open-space property owned by the San Diego Landfill System. Upon the completion of this removal action the San Diego Landfill System is planning on expanding the existing Sycamore Landfill to include most of the project site area as part of the landfill

2.0 BACKGROUND AND SITE HISTORY - See Chapter 1 of the approved Camp Elliott Work Plan.

2.1 LOCATION OF WORK.

The Landfill Phase is located in the East Elliott portion of Camp Elliott off California State Highway 52 and Mast Boulevard, approximately one mile from the entrance into the Sycamore Landfill as identified on the map in appendix B of the approved Work Plan.

UXO/"MEC" [formerly known as Ordnance/Explosives (OE)] has been reported and found in this location. The possibility of finding MEC is considered likely by the Government.

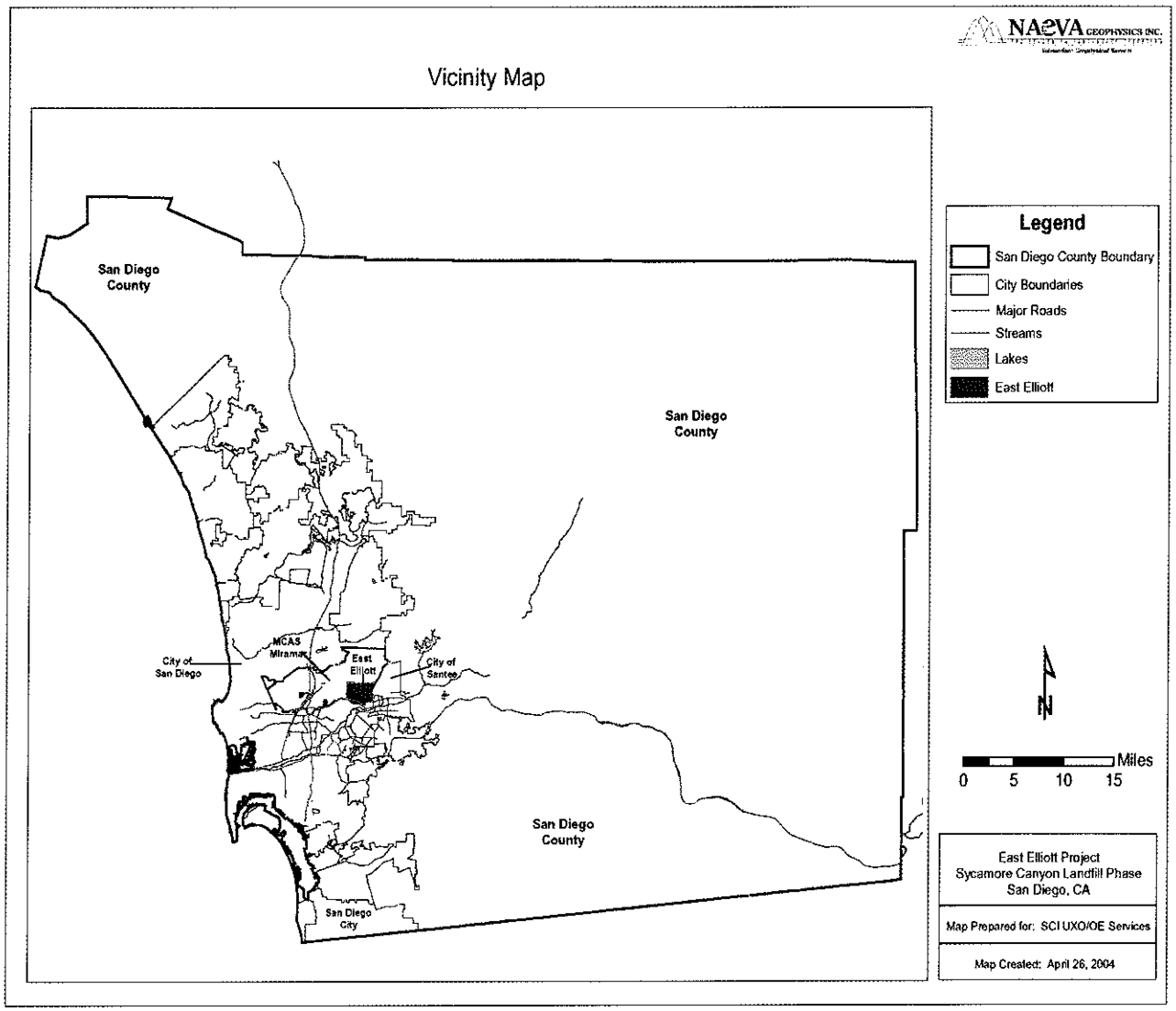


Figure 1: Vicinity of East Elliott site in relation to the surrounding communities

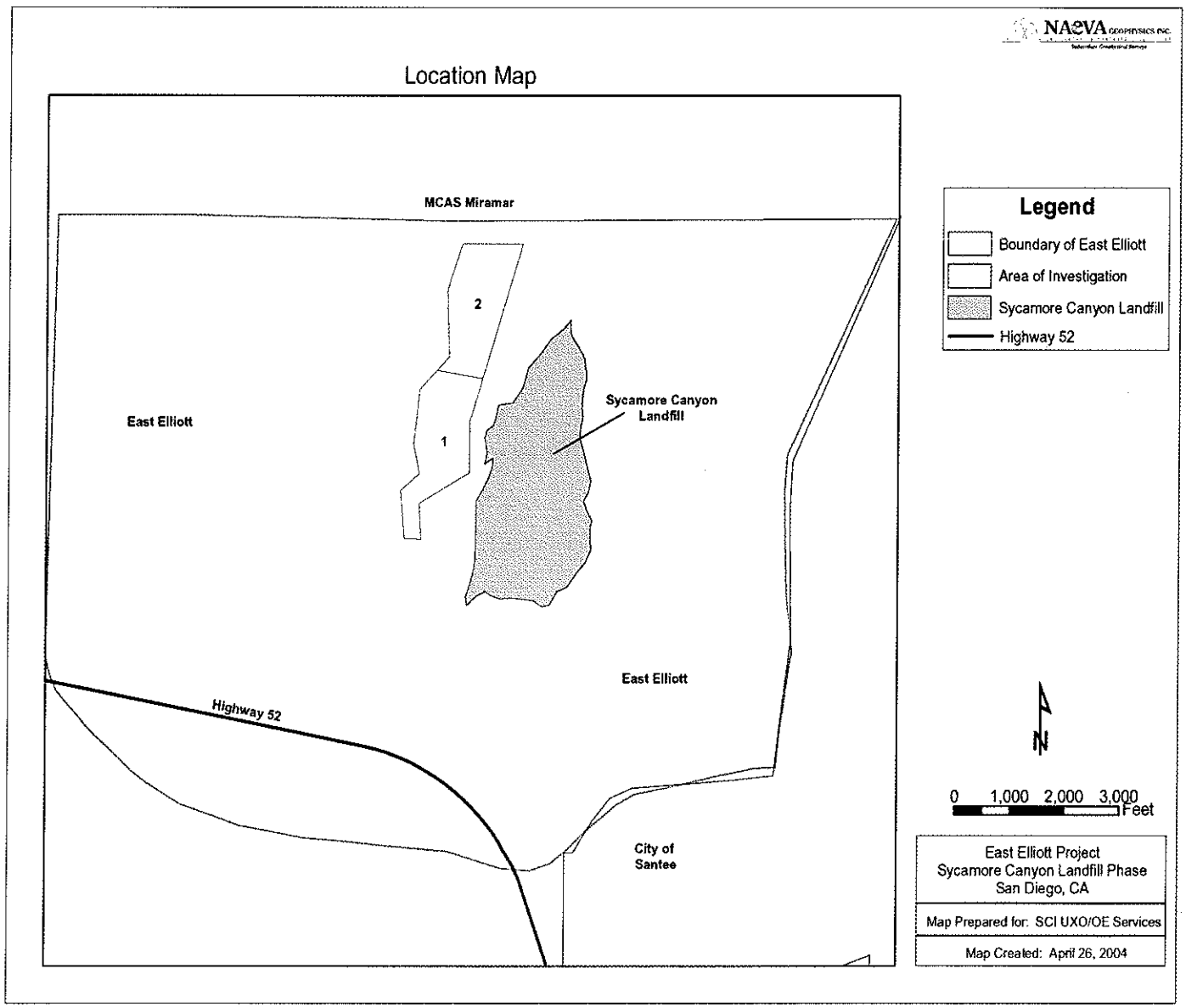


Figure 2: Location of East Elliott site in relation to existing landfill, etc

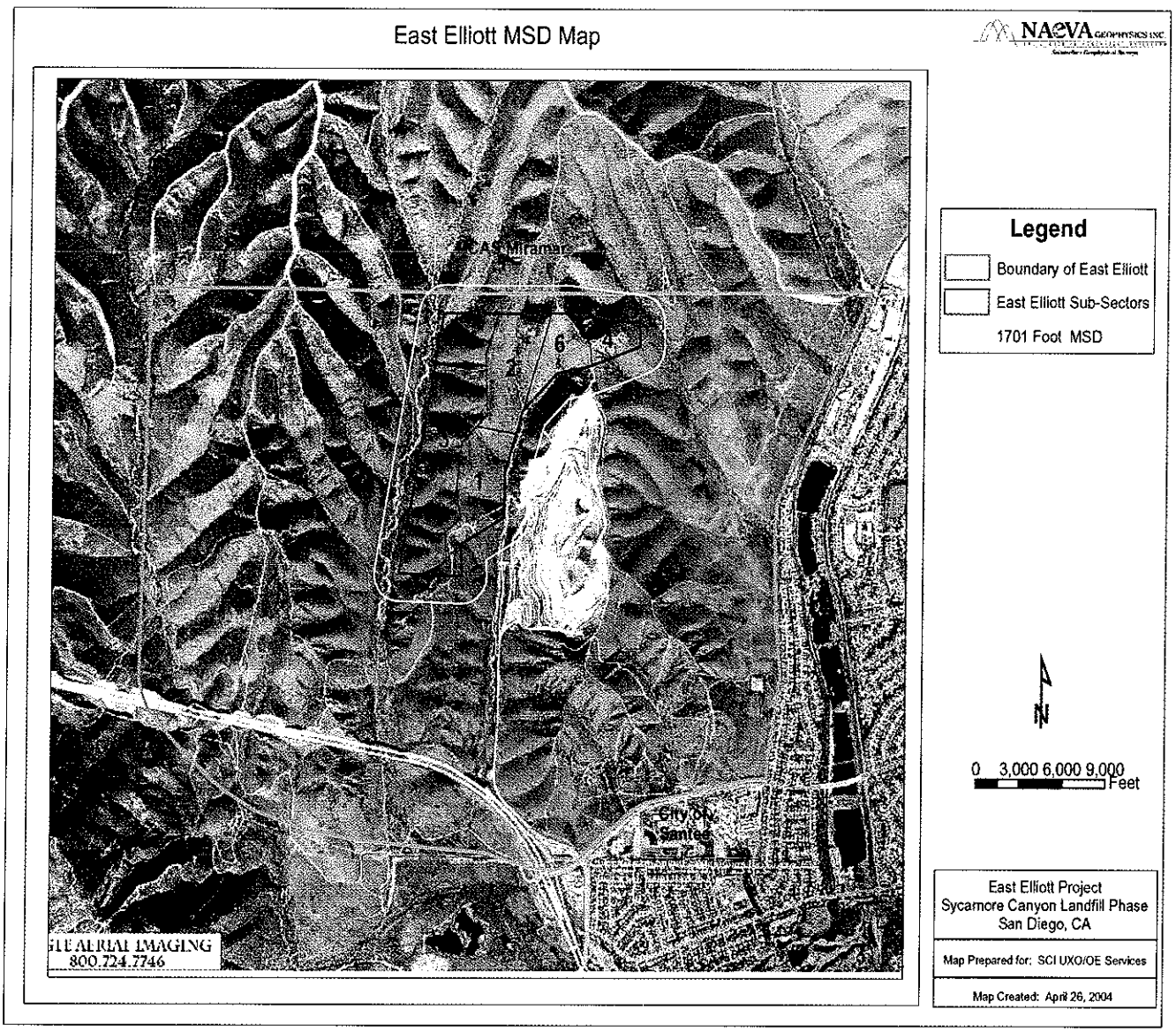


Figure 3: Location of Project Site; East Elliott

3.0 EXPLOSIVES SITING PLAN – See Chapter 4 of the approved Camp Elliott Work Plan

3.1 EXPLOSIVE MANAGEMENT PLAN – See Chapter 3 of the approved Camp Elliott Work Plan

4.0 SUBSURFACE CLEARANCE ACTIVITIES.

4.1 GEOPHYSICAL INVESTIGATION PROGRAM OBJECTIVE

A geophysical investigation (Mag & Flag) will be accomplished using Government provided Schonstedt Model GA-52Cx Magnetometers. The objective is to detect and map geophysical anomalies to determine if the site contains the project's Most Probable Munitions (MPMs). Site MPMs include 37mm projectiles and 75mm projectiles. Detection depth objectives for the MPMs are as follows: 1 foot for 37-mm projectiles and 2.5 feet for the 75mm projectiles. The geophysical investigation is to be performed in a manner to ensure 100% coverage of the 110+ acre site. The investigation will consist of collection, identification of, marking and excavation of UXO-like anomalies. Positional control will be by hand-held GPS instrumentation.

UXO/MEC locations will be recorded on dig sheets. Locations will be logged using GPS instrumentation. All anomalies will be investigated by SCI in accordance with the approved project work plan.

4.2 UNEXPLODED ORDNANCE (UXO) SAFETY

A Survey Crew will be utilized to emplace the 100' x 100' foot grid system that will be used to execute the removal actions. This 100' x 100' foot grid system will be used to control the removal actions by doing a 'by grid' clearance. Each grid will be cleared by the "owning team" in accordance with the procedures outlined in Chapter 2 of the approved Work Plan. The survey crew will include a UXO Technician II (UXO Specialist) or above to conduct visual surveys for surface ordnance prior to the survey crew entering an area potentially containing UXO. A magnetometer survey of each intrusive activity site will be performed to ensure the site is anomaly free prior to the crew setting monuments or driving stakes. Encountered UXO will be avoided by the survey crew and flagged/reported to SCI for later disposition.

4.3 PERSONNEL QUALIFICATIONS

All survey operations will be managed by a qualified professional meeting the requirements listed in Data Item Description DID OE-005-07.01. UXO safety for the survey crew will be provided by a qualified UXO Technician II or greater meeting the requirements listed in DID OE-025 01. UXO Technicians will meet the requirements listed in DID OE 025 01.

4.4 ANTICIPATED UXO AND DEPTHS

Munitions used in the vicinity of East Elliott include 37mm and 75mm projectiles. It is anticipated that the smallest ordnance item will be a 37-mm projectile. The geophysical equipment will be capable of detecting the MPM's at the depths listed in Table 1-1.

Table 1. Munitions and Maximum Detection Depths

Munition	Maximum Depth
37mm Projectile	1 foot
75mm Projectile	2.5 feet

Suspected MEC (OE) items deeper than the depths in Table 1 will be investigated. The time spent investigating these deeper depths will be recorded.

4.5 SITE CONDITIONS

4.5.1 Topography

The terrain is undulating to gently rolling land surfaced by deep sandy and loamy soils that support grasses and coastal scrub. The area of concern is a 240 acre site, which is steep to moderate terrain with thick patches of chaparral and sagebrush, especially in the ravines. However, much of the vegetation was burnt off in the late fall of 2003 when wildfires swept through the southern California area.

4.5.2 Vegetation

The area's vegetation is primarily coastal sage scrub and associated grasses. However, the site does contain some trees and other brush. Much of the brush and grasses were burned away during late fall wildfires that swept through the area. Vegetation located in some portions of the site may hamper the removal actions and may have to be cut.

4.5.3 Geologic Conditions

In the Coastal Plain region, erosion resistant peaks composed of Mesozoic crystalline rocks (such as at Rock Mountain on the north side of Otay Valley, Black Mountain near Rancho Penasquitos, and Cowles Mountain near San Carlos) are at depth to the buried Mesozoic crystalline rock terrain. These basement "highs" poke through the younger Cretaceous and Tertiary sedimentary cover and create topographic relief on the buried landscape of western San Diego County.

The Coastal Plain Region is underlain by a "layer cake" sequence of marine and non-marine sedimentary rock units that record portions of the last 140 million years of earth history. Over this period of time the relationship of land and sea has fluctuated drastically so that today ancient marine rocks are preserved up to elevations around 900 feet above sea level and ancient river deposits as high as 1,200 feet. Faulting related to the local La Nacion and Rose Canyon fault zones has broken up this "layer cake" sedimentary sequence into a number of distinct fault blocks in the southwestern part of the county.

4.5.4 Soil Conditions

The soils contained within the project site range from sandy loam to heavy clays

4.5.5 Shallow Groundwater Conditions

Shallow ground water should not interfere with any removal actions or MAG & Flag survey.

4.5.6 Overall Site Accessibility and Impediments

There are no site accessibility or impediment issues known at this time

4.5.7 Potential Worker Hazards

The terrain does not appear to provide any significant threat or danger to the workers on the site. The site does contain biological factors such as rattlesnakes, rodents (hanta virus) and bees. Other concerns are heat and humidity. Engineering controls for these factors are outlined in the project SSHP. See approved Work Plan and Section 6 of this addendum.

4.5.8 Geophysical Conditions

Site photographs indicate the presence of cultural features that may act as geophysical noise sources. These features include fences and piles of debris containing metal. The potential exists for magnetically susceptible rock ("Hot rock") to be encountered on this project site.

4.5.9 Man-made Features Potentially Affecting Instruments

The main features that affect geophysical data quality are buildings, roads and surface debris that represent physical obstructions or anomaly sources if constructed with metal.

4.6 EQUIPMENT

4.6.1 Geophysical Equipment

The Schonstedt GA-52C*x* Magnetic Locator is a hand-held fluxgate magnetic gradiometer that detects the vertical gradient of the magnetic field. Instrument controls consist of on/off-sensitivity switch with four sensitivity settings and a volume control. It responds to the difference in the magnetic field between two sensors spaced about 20 inches apart. The response is a change in the frequency of the signal emitted by the piezoelectric speaker. The instrument provides audio detection signals when the locator's tip is passed or held directly over the target Since the GA-52C*x* responds only to ferrous objects, it will be used during reacquisition.

4.6.2 Positioning Equipment

4.6.2.1 Garmin GPS 72 Track-Plotter

The selected positioning system for this project for the MAG & Flag operations is the Garmin GPS 72 Track-Plotter which is a hand held Global Positioning System (GPS) instrument.

4.6.2.2 Trimble 4700 Base/4800 RTK GPS Total Station System

Positioning information for the ground survey will be obtained using a Trimble 5700 Base/5700 RTK GPS Total Station System. The GPS will be used to accurately measure survey perimeter coordinates. The open nature of the site lends itself to the use of RTK GPS for positioning. Horizontal accuracy of 10mm and vertical accuracy of 20mm is possible with this system given good satellite visibility and geometry. All horizontal positional data will be referenced to NAD 83 The GPS base station will be setup on pre-existing monuments with horizontal and vertical control of "Class I, Third Order" or better.

4.7 FIELD OPERATIONS

4.7.1 Schedule

Personnel performing the removal actions during the Landfill phase will work four 10-hour workdays per week. Project timeline will be placed at the rear of this Addendum.

4.7.2 Site Preparation

As site preparation is not considered a UXO clearance procedure, UXO avoidance procedures will be followed. Site personnel working in areas not previously surveyed for the presence of UXO will be accompanied by UXO-qualified personnel.

Site preparation will consist of vegetation removal as needed and as described in sections 4.7.3 and 4.7.4 of this document.

4.7.3 Brush Removal

Site vegetation that may impede the subsurface Mag and Flag efforts will be cut prior to the survey. To prevent erosion, vegetation cutting will be limited to only that amount necessary to allow the performance of the geophysical survey and subsurface clearance. Every attempt will be made to minimize damage, especially root damage, to trees. Given the relatively small amount of vegetation to be removed, manual removal methods should be all that is required. Weed eaters and possibly chain saws will be utilized as necessary. All cut plant material will be removed from the site and transported to the Sycamore landfill

4.7.4 Surface Clearance

A surface clearance of some portions of the site may be needed prior to Mag & Flag operations. Any target materials and non-UXO related materials which may interfere with operations will be removed from the surface of the work area and staged for later disposition. The disposition of encountered UXO will be in accordance with the basic Work Plan.

4.7.5 Test Strip Construction

A test strip will be used to demonstrate and document the site-specific performance of the geophysical equipment. The detection capabilities of the Schonstedt will be demonstrated by quantifying the response to known objects buried at known depths and at known orientations. The assessment will entail the establishment of a standardization area and the acquisition of background readings along a test transect that is free of buried metal objects. The metal detecting instruments (e.g., Schonstedt GA 52 magnetometers) will be used to scan the standardization area and test strip locations to ensure they are free of buried metal. Once a suitable background location is determined, a "Test Strip" will be constructed and seeded with USACE-provided inert 37mm and 75mm projectiles. These items will be buried at depths of 1 ft and 2.5 ft Below Ground Surface (BGS), respectively. The depth will be measured from the ground surface to the item's top (first encounter). Two each of each item (one placed vertically and one placed horizontally at the specified depths) will be placed in the Test Strip with no less than 5-ft separation between items. Figure 3.1 shows a conceptual diagram of the Test Strip.

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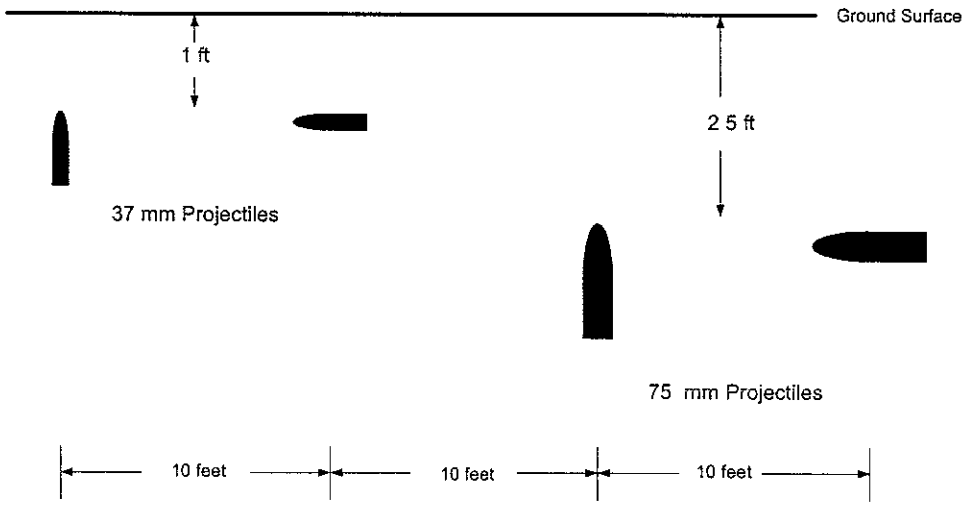

Figure I-4-1, Test Strip Schematic.

4.7.5.1 Initial Assessment

After functional checks and standardization procedures have been performed at the established standardization area, the equipment may be used for daily operations. Functional Test results will be recorded by the UXOQC Specialist listing instrument type, date, and time.

Initial assessment procedures are summarized below:

1. Select an area for the standardization area/test strip locations.
2. Survey selected area with geophysical instruments to ensure the area is free of buried metals.
3. Mark extents of test strip and standardization area.
4. Bury inert ordnance items along test strip; record item's location, depth and orientation.
5. Perform GPS check to document test strip and ordnance item locations.
6. Perform daily function tests of all equipment, UXOQCS documents results.

4.7.6 Positioning

Survey positioning information will be obtained using a Trimble 5700 Base / 5700 RTK GPS Total Station System. The GPS will provide geographic coordinates and will be used to obtain survey perimeter coordinates. The open nature of the site lends itself to the use of RTK GPS for positioning. All horizontal positional data will be referenced to NAD 83 California Zone 6 State Plane coordinates, in US Survey Feet to the accuracy and precision standards outlined in the Project SOW.

4.7.6.1 Satellite Availability

Due to the relative size of the site, radio communication is not anticipated to be a problem. However, the site does contain trees and some brush, which could present a problem for the positioning system. To minimize these problems, the RTK lock will be monitored by the surveyor element of the team. In cases where RTK lock is lost, the collection process will be paused until re-initialization of the system is achieved. The survey field crew will use Trimble Geomatics Office Planning software to anticipate PDOP spikes occurring during the workday and plan their breaks, battery changes and data downloads during these periods.

4.8 ESTABLISHMENT AND MAINTENANCE OF GIS

4.8.1 General

NAEVA Geophysics will establish a GIS for the East Elliot project, based on digital, geo-referenced maps provided by the US Army Corps of Engineers. The GIS will incorporate all new data collected for the current mapping effort, as well as all events performed by the U.S. Army Corps of Engineers to include previous investigations, EE/CA, removal actions, construction support, Time Critical Removals, etc. The Corps of Engineers will supply data concerning previous investigations to NAEVA. The GIS will be maintained IAW DID OE-005-14.01.

This GIS Plan outlines the tools and methodologies used for the efficient and accurate completion of mapping and GIS operations. The plan identifies the various hardware, software, data, personnel and methods required to implement a fully functioning GIS.

4.8.2 GIS Hardware

The GIS hardware for the project will consist of the following:

- GIS workstations
- Large format color inkjet plotter (HP DesignJet 750 C Plus)

All of the GIS data, map files, metadata, and user manuals will be stored on a GIS workstation. Archiving and delivery will be accomplished using the PC CD-ROM format. The GIS workstations will be high-end computers with large monitors designed for the intense computing and display requirements of GIS. The inkjet plotter will be capable of high speed plotting of E size (34 inch x 44 inch) maps

4.8.3 GIS Software

The following software will be used specifically for the Project GIS:

- ESRI ArcView 8.3 (with appropriate extensions);
- AutoCAD (R14 or higher)
- Geosoft's Oasis Montaj.

Maps generated for the project will be created using either ArcView or Oasis Montaj. Vector GIS data will be created, modified, and analyzed using ArcView and its extensions. AutoCAD will be used in the process of converting historical GIS files, which are currently in AutoCAD .dwg format, into ArcView compatible formats. All MicroStation .dgn files must be converted to AutoCAD dwg or dxf files prior to inclusion in the GIS.

4.8.4 File Formats and Requirements

All GIS data for the project will be submitted in accordance with DID OE-005-14.01.

4.8.5 General Map Requirements

Maps will be created in a variety of sizes (e.g 8 ½ x 11, 11 x 17, 22 x 34) depending upon the cartographic standards required to present the chosen data. Each sheet/set will have a size/type standard border, title block, complete index sheet layout (if appropriate), scale bar, legend, north arrow, and date Different sizes and layouts will be used to best illustrate and describe the data and/or analysis being presented.

4.8.6 Quality Control

Procedures for quality control of GIS data will be implemented. The positional accuracy of the data will be tested in order to derive the degree of difference between the objects actual ground location and the location according to the project data set. The data and maps will be tested for completeness, in order to establish that all features and data sets are visible and available. The final maps and data sets will undergo a review process in order to establish that all specifications are met. A specification checklist will be implemented before the project begins, which will contain all known requirements. All changes and stages of work will be tracked on a daily basis and will be maintained in a database. All stages of work will be documented and available for review.

4.9 Production Survey Procedures

Daily field surveying will follow a systematic approach for quality control and data acquisition. First, functional tests and base station setup will be performed as required After reviewing the

performance test data to ensure equipment is operating properly, surveying will begin. The margins of site areas not accessible for the survey (not surveyed) due to physical obstructions will be mapped and annotated in the field log. The boundaries of any uninvestigated areas will be recorded and mapped within the GIS

4.9.1 Survey Field Logbook

NAEVA's survey/mapping team will perform continuous tracking and checks of their field data for quality control and to establish/maintain efficient field procedures. A logbook detailing pertinent activities, transect features and field conditions encountered in the performance of the survey will be kept in the field logbook. The log will be updated daily with position information from a checkpoint, established at the beginning of the survey. Sketched maps to explain features will be included as required.

5.0 ANOMALY INVESTIGATION

All anomalies will be hand-excavated. The results of each anomaly investigation will be recorded on the SCI Grid Information form. Should the excavation result in a UXO/MEC this information will be entered on the SCI prepared Daily Activities Report (DAR) A copy of the completed Grid Information form will be forwarded to NAEVA for updating of the site UXO/MEC database. UXO and/or MEC-related scrap will be addressed as outlined in Chapters 2 and 15 of the basic work plan.

6.0 ADDENDUM TO SITE SAFETY AND HEALTH PLAN – This paragraph is numbered to supplement the paragraphs in Chapter 6 of the basic work plan.

6.1 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

Work on the Landfill Phase is located off Highway 52 and Mast Blvd., approximately one mile from the entrance into the Sycamore Landfill. This work will involve approximately 110+ acres. The ground surface is relatively flat to rolling hills, with occasional gullies, and covered with grass and/or sparse low brush and trees. The UXO/MEC items in this location range from 37mm to 75mm projectiles.

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6.2 HAZARD ANALYSIS AND RISK ASSESSMENT

6.2.1 Activity Hazard Analysis

ACTIVITY HAZARD ANALYSIS		
ACTIVITY: Vegetation Reduction/Removal	**ANALYZED BY/DATE: C. M. Riordan 03/30/04**	
PRINCIPLE STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Determine areas where vegetation clearance will be required. • Identify spot where San Diego Ambrosia is growing and avoid within 3 feet of colony until it has been transplanted. Biologist report being unable to relocate this cluster of plants. • Perform a surface clearance of UXO. • Using chain saws, weed wackers, etc. performs vegetation clearance	1. UXO/OE hazards 2. EMR for Electric Fuzes 3. Uneven working surfaces – slip, trip, fall hazards. 4. Muscle strain carrying instruments 5 Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, mosquitoes, rodents, and snakes. 7. Cuts and abrasions from use of equipment and flying debris. 8 Eye injuries from flying debris. 9 Noise	1. Training on UXO/OE on site 2. Controlled use of radios and cell phones. 3. Be observant while walking. 4. Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5. Heat stress monitoring, drinking water, work-rest schedule, and acclimatization 6 Training in biological hazards avoidance; PPE. (CSHP Chap 21) 7. Training in procedures for safe use of equipment and PPE. 8. PPE 9. Noise monitoring and PPE.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2 Appropriate geophysical equipment. 3 Footwear with ankle support and non-slip soles. 4 Back braces (optional) 5. Communications to determine WBGT Index, drinking water 6-9 Appropriate clothing and PPE to include headgear, face shields, protective eyewear, noise protection, leather gloves and leg chaps. 7. Chain saws, weed wackers	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training. 1. Equipment inspected daily prior to use. 2. PPE inspected daily prior to use	1,2. UXO personnel will be EODS graduates 1,2. Site specific UXO training will be presented to all site personnel 3. Site specific training/terrain. 4. Site specific training/lifting techniques. 5. Heat Stress symptoms and prevention. 6 Site specific flora/fauna to include first aid. 7,8. Safe operation of equipment 9 Noise protection training. 10. All site personnel will have current HAZWOPER training.

ACTIVITY: Excavation Operations with EMM	ANALYZED BY/DATE: C. M. Riordan 03/30/04	
PRINCIPAL STEPS	**POTENTIAL SAFETY/HEALTH HAZARDS**	**RECOMMENDED CONTROLS**
• Inspect equipment prior to use. • Go to spots where pin-flags indicate buried anomaly. • Using geophysical equipment, determine depth of buried anomaly. • If depth is 12 inches or less below ground surface, it will be excavated by hand • If depth is in excess of 12 inches, heavy equipment will excavate to within 12 inches of anomaly and remainder will be excavated by hand • Geophysical equipment will be used again for each 2 feet of depth to assure location and depth of anomaly • Ground guide will be used to direct heavy equipment operations. • Spoil material will be placed at least 2 feet from edge of excavation • At end of operation, heavy equipment will be stored with bucket down.	1 UXO/OE hazards 2. EMR for Electric Fuzes 3. Uneven working surfaces -- slip, trip, fall hazards. 4. Muscle strain carrying instruments 5. Heat Stress 6. Biological hazards - poisonous plants, bees, wasps, ticks, mosquitoes, rodents, and snakes. 7 Mechanical hazards from EMM 8. Noise 9. Cave-in of excavation	1. Training on UXO/OE on site. 2. Controlled use of radios and cell phones. 3. Be observant while walking 4. Follow appropriate lifting/ carrying procedures. (CSHP Chp21) 5. Heat stress monitoring, drinking water, work-rest schedule, and acclimatization 6 Training in biological hazards avoidance; PPE (CSHP Chap 21) 7 Training in procedures for safe use of equipment and PPE (CSHP Chap 27) 8. Noise monitoring and PPE. 9. Competent person inspecting excavation, training in excavation safety (CSHP Chap 28)
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1 & 2 Appropriate geophysical equipment. 3 Protective footwear with ankle support, composite toe, and non-slip soles. 4. Back braces (optional) 5. Communications to determine WBGT Index, drinking water 6-8. Appropriate clothing and PPE to include hard hat, protective eyewear, noise protection, leather gloves 7. Backhoe	**Supervisor/UXOSO** will assure that all controls are being followed; all equipment is being utilized and that all personnel have received appropriate training 2 Equipment inspected daily prior to use. 2. PPE inspected daily prior to use	1, 2. UXO personnel will be EODS graduates 1, 2 Site specific UXO training will be presented to all site personnel 3 Site specific training/terrain. 4 Site specific training/lifting techniques. 5. Heat Stress symptoms and prevention. 6. Site specific flora/fauna to include first aid. 7, 9. Safe operation of equipment Experienced EMM operators. 8. Noise protection training. 10. All site personnel will have current HAZWOPER training.

6.3 TRAINING

6.3.1 Heavy Equipment Operator Training

All personnel who will operate heavy equipment on site will be trained on each piece of heavy equipment to be operated. Training will include classroom instruction on safe heavy equipment operations and excavation safety, in addition to operator hands-on demonstration of proficiency in use of the equipment. Certificates of this training will remain in the employee's file on site for the duration of project activities, at which time the file will be transferred to the employee's official file in the SCI UXO/OE Services Huntsville office.

6.4 PERSONAL PROTECTIVE EQUIPMENT

6.4.1 Level D PPE

The following PPE will be added to the list of Level D PPE to be used on site, when working in the vicinity of heavy equipment operations:

- Composite toe safety boots
- Hard hats

6.4.2 Head Protection

When working in the vicinity of heavy equipment operations a hard hat will be required.

6.4.3 Foot Protection

When working in the vicinity of heavy equipment, composite toe safety footwear is required. Steel toe footwear would interfere with magnetometer operations.

6.5 STANDARD OPERATING PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES

6.5.1 Mosquitoes

Mosquitoes are responsible for transmitting diseases such as malaria and West Nile Virus through bites to the skin. While malaria is much more contagious, it is not normally found in North America West Nile virus is commonly found in Africa, West Asia and the Middle East. In recent years, West Nile virus has been increasingly found in the continental United States. It is most common in late summer or early fall, which is the active season for mosquitoes, but in warmer southern climates where the temperatures are milder, West Nile virus can be transmitted year round.

Mosquitoes become infected with the virus when they feed on infected birds, which may circulate the virus in their blood for a few days. Infected mosquitoes can then transmit the virus to humans and animals while biting to take blood. The virus is located in the mosquito's salivary glands, and may be injected into the animal or human, where it may multiply, possibly causing illness. Even in areas where the virus is circulating, few mosquitoes are infected with the West

Nile virus. Even if the mosquito is infected, less than 1% of people who get bitten and become infected will get seriously ill.

The majority of cases of West Nile virus have been identified in birds, it has also been found in horses, cats, bats, chipmunks, skunks, squirrels, and domestic rabbits.

6.5.1.1 Symptoms

West Nile virus is an encephalitis, which causes an inflammation of the brain. Following transmission by an infected mosquito, West Nile virus multiplies in the person's blood system and crosses the blood-brain barrier to reach the brain. The virus interferes with normal central nervous system functioning and causes inflammation of the brain tissue. Fatality rates range from 3%-15% of persons who develop severe illness and rates are highest among persons over 50 years of age. This disease is not transmitted from person-to-person, so touching or working in the vicinity of someone with the disease will not increase the risk.

The incubation period for West Nile virus is normally 3-15 days. Most infections are mild, and symptoms include fever, headache, and body aches, occasionally with skin rash and swollen lymph glands. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death.

If symptoms develop, seek medical attention immediately.

6.5.1.2 Preventive Measures

Prevention and control of West Nile virus is most effectively accomplished through vector management programs. Be alert for dead animals on the site, particularly birds. If a dead bird or other animal is found on site, barehanded contact should be avoided. Using gloves or double plastic bags, wrap animal and call the Health Department. If the Health Department wants to test the bird, they will come and pick it up. If they are not testing the bird, it should remain wrapped in the plastic and disposed of according to established practices.

Other ways of reducing risk of becoming infected with West Nile Virus include:

- Implement mosquito control measures on the site.
- Make sure that there are no open containers of standing water on the site in which mosquitoes can breed.
- Wear long sleeved shirts and long pants while outdoors.
- Stay indoors at dawn, dusk, and in the early evening when mosquitoes are most active.
- Spray clothing with repellants containing permethrin or DEET.
- Apply insect repellant sparingly to exposed skin. An effective repellant will contain 35% DEET. Higher concentrations provide no additional protection. Always read the manufacturer's directions on the repellant prior to applying it to the skin.

6.5.2 Africanized Honey Bees:

Africanized honey bees are a subspecies of the familiar European honey bees that are used to produce honey and pollinate crops. They are the result of interbreeding between European bees and bees from Africa that were inadvertently released in Brazil in the 1950's They have been spreading ever since and are now commonly found in Southern California, as well as other states bordering Mexico Africanized honey bees have also been referred to as "Killer Bees" because of their extremely defensive behavior.

Africanized honey bees look just like European honey bees to the naked eye. They are about 3/4 inch long, brownish, and a little fuzzy. Their nests are normally hidden in cavities They can be distinguished from European honey bees by measurements under a microscope and/or by analysis of their DNA. As the Africanized honey bees are the more dangerous species, it will be assumed that any honey bees identified on the site are Africanized honey bees, and appropriate actions will be taken accordingly.

6.5.2.1 Symptoms

Africanized honey bees defend their colonies much more vigorously than European bees. The colonies are more easily disturbed, and attacks can be provoked just by being near the nest. When they sting, many more bees tend to participate, so there is a danger of receiving multiple stings. This can make them life threatening, especially to people who are allergic to bee stings, or with limited capacity to escape (the young, old and handicapped) Once disturbed, the Africanized honey bees will continue to attack for long distances. The symptoms of bee stings and anaphylactic shock have already been described in the Site Safety and Health Plan. These conditions are exacerbated by the fact that stings tend to be in multiples with this species of bees. Known fatalities from Africanized bee stings have occurred in people with between 40 and over 1,000 stings. Africanized bees are more likely to swarm, increasing the risk of multiple stings, and they nest in places European bees did not, including small cavities near the ground like water meter boxes or overturned flower pots.

6.5.2.2 Preventive Measures

- Be Alert – look before disturbing vegetation. Many bees coming and going from a single spot may indicate a nest.
- SCI will not attempt to remove a bee colony – a local vendor will do this, if required
- If stung – first, get away, run to shelter of a vehicle and stay there even if some bees come in with you. Once safe, remove stings from your skin as quickly as possible to reduce the amount of venom they inject. If stung many times, seek medical attention.
- Do not swat at bees and don't freeze in place – move away. Once you are in a safe location, remove stingers from your skin as quickly as possible to reduce the amount of venom they inject. Venom continues to be injected up to 10 minutes after the sting occurs, if the stinger remains in the skin.

- There is an alarm pheromone emitted at the base of a honey bee's sting which makes other bees more likely to sting, and aids them in locating the victim. This is particularly important with Africanized bees, as they are more likely to respond to the release of alarm pheromone with large numbers of stings. As a result, getting to safety is more important that removing stings immediately, but stings should be removed as soon as possible once a person is away from the stinging bees.
- If any person on the site is allergic to bees, he/she must keep medicine on them at all times and let the SUXOS, UXOSO, and co-workers know where the medicine is and how to administer it in an emergency. Just because you have been stung by a bee in the past without experiencing an allergic reaction does not mean that it will not happen the next time. Bee stings are sensitizers, and allergies to them develop over time and experience with bee stings. For this reason, it is especially important to take a victim of multiple stings for medical attention immediately.

6.5.3 Heavy Equipment Operation

Heavy equipment utilized on site will be operated under strict adherence to the applicable OSHA regulations found in OSHA 29 CFR 1910, OSHA 29 CFR 1926, the requirements of USACE EM 385-1-1, and the SCI UXO/OE Services Corporate Safety and Health Program. The procedures and requirements listed below will be followed as a minimum:

- The operation of heavy equipment will be limited to authorized personnel specifically trained in its operation.
- The operator will visually inspect heavy equipment daily prior to operation, and report any abnormalities/deficiencies to the SSHO.
- The operator will use the safety devices provided with the equipment, including seat belts, backup warning indicators and horns, which will be operable at all times.
- While in operation, all personnel not directly required in the area will keep a safe distance from the equipment
- The operator's cab will be kept free of all non-essential items and any loose items will be secured.
- Personnel will avoid moving into the path of operating equipment, and areas blinded from the operator's vision will be avoided.
- When heavy equipment must negotiate in tight quarters, or if operators of earth moving equipment cannot see the bucket, a secondary person will be stationed to guide the operator. Only one person will be permitted to direct the operator at any time.
- Additional riders will not be allowed on equipment unless it is specifically designed for that purpose, i.e., there is an additional seat with a seat belt.
- When equipment is not in use, all buckets, blades, etc. will be lowered to ground level and the motor turned off.
- The operator must never leave a piece of heavy equipment with the engine still running.

6.5.3.1 Excavations

Site personnel will comply with the general safety precautions, listed below, as well as those listed in Subpart P of OSHA 29 CFR 1926; USACE EM 385-1-1, Section 25; and Chapter 28 of the SCI UXO/OE Services Corporate Safety and Health Program. The guidelines below reflect minimum requirements to be followed:

- Prior to initiation of any excavation or trenching activity, the location of underground installations will be determined.
- When the excavation/trench achieves a depth of greater than four feet, a competent person will determine the type of soil being excavated and designate the slope, which will be used.
- The excavation(s) will be inspected daily by a competent individual prior to commencement of work activities. Excavations will be reinspected immediately following every rainstorm or other hazard-increasing occurrence prior to allowing re-entry.
- Evidence of cave-ins, slides, sloughing, or surface cracks will be cause for work to cease until necessary precautions are taken to safeguard workers.
- Excavations 5 feet or deeper, which cannot be sloped at a 1 to 1 ratio, will require a competent individual, with the aid of a registered civil engineer, to design and install a protective system.
- Protective systems shall be selected from OSHA 29 CFR 1926 Subpart P and/or designed by a registered professional civil engineer.
- Spoils and other materials will be placed 2 feet or more from the edge of the excavation.
- Materials used for sheeting, shoring, or bracing will be in good condition.
- Timbers will be sound, free of large or loose knots, and of appropriate dimensions for the excavation.
- Safe access will be provided into the excavation(s) by means of a gradually sloped personnel access/egress ramp, or ladders or stairs will be provided. A competent person must design ramps used solely for employee access/egress, and those ramps also used for access/egress of equipment need to be designed by a competent person qualified in structural design.
- Ladders used will extend 3 feet above grade level and be secured to prevent accidental movement.
- Excavations 4 feet or more in depth will have a means of egress at a frequency such that lateral travel to the egress point does not exceed 25 feet.
- Walkways or bridges with standard guardrail will be provided where employees are required or permitted to cross over excavations.
- If the depth of an excavation is greater than 4 feet, it will be inspected by the SSHO to determine if it meets the criteria for a confined space.
- If an excavation is determined to be a Confined Space the requirements set forth in the SCI UXO/OE Services Confined Space Entry Program (Chapter 26) will apply.

- In accordance with the requirements of OSHA 29 CFR 1926.651(g), if an excavation is greater than 4 feet in depth, and the potential for having a hazardous atmosphere inside the excavation exists, then the atmosphere shall be tested for oxygen deficiency and toxicity prior to entry by site personnel.

6.6 LOGS, REPORTS AND RECORD KEEPING

6.6.1 Training Logs

Heavy Equipment Operator Training Certificates will be included in the employee file on site for the duration of project activities. At the conclusion of project activities, it will be transferred to the employee file in the SCI UXO/OE Services Huntsville office.

6.6.2 Daily Safety Inspection Logs

In addition to other inspections, a competent person will inspect all excavations at least on a daily basis, prior to entry. Excavations will also be inspected following any rainstorm, any time water accumulates in the bottom, or whenever the competent person deems an inspection to be necessary.

7.0 METHOD OF MANAGING AND ACCOMPLISHING WORK – See Chapter 8 of the approved work plan

7.1 Work Hours: Personnel will work 4 x 10's during the digging of anomalies. This will require a ballot and concurrence with site personnel as per paragraph 8.1 of the basic work plan.

7.2 Project Schedule: See timeline at the end of this Addendum.

7.3 Personnel: SCI on-site personnel for this project will be identified in the USACE Database. Subcontractor personnel shall have pertinent HAZWOPER documentation on-site.

The following organizational chart outlines the reporting and supervisory channels for this project:

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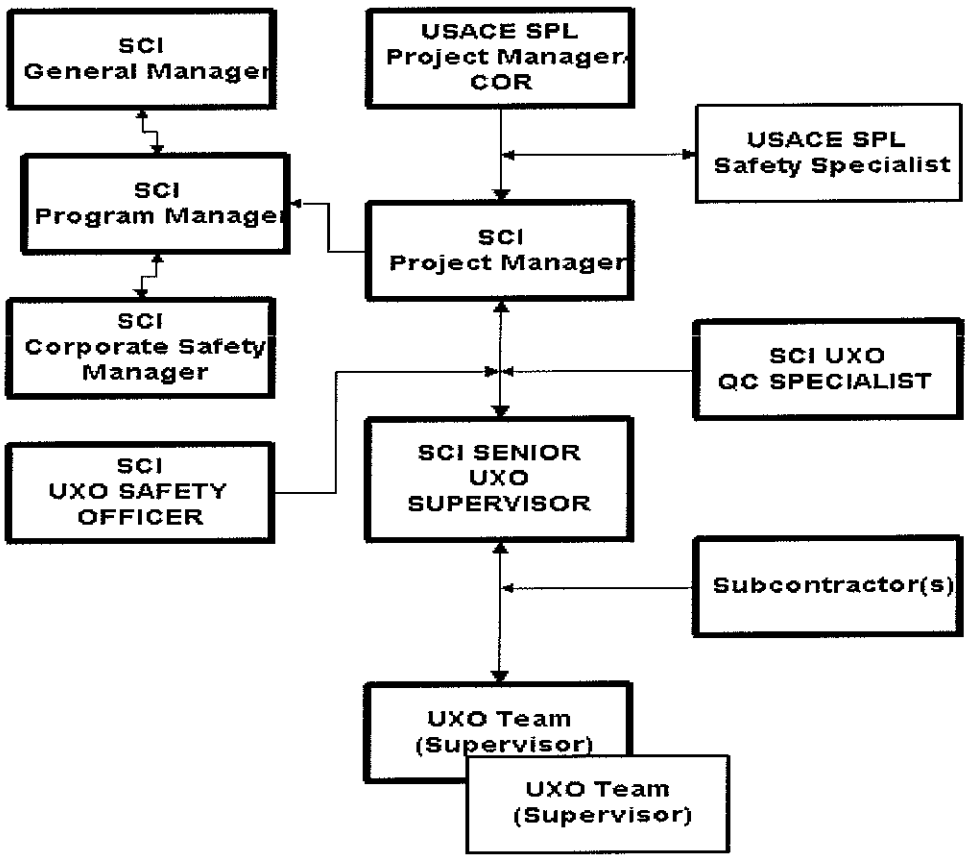


7.4 Deliverables:

7.4.1 Daily Activities Report: Prepared by the onsite SUXOS and emailed to RParadine@bellsouth.net and Billy.J.Allen@spl01.usace.army.mil, no later than 0900 of the morning following the day's activities.

8.0 EQUIPMENT – See Chapter 9 of basic Work Plan

9.0 SAMPLING AND ANALYSIS – See Chapter 10 of basic Work Plan

10. QUALITY CONTROL – See Chapter 11 of the basic Work Plan.

Quality Conformance Inspection (QCI) Schedule

This schedule supersedes the QCI Schedule
in Chapter 11 of the basic work plan.

TASK	100%	DAILY	WEEKLY	BI-WEEKLY	AS NEEDED
Personnel Qualifications	v				
Accident/Incident Reporting	v				
Search Effectiveness	v				
Turn-in of Recovered OE-related Scrap	v				
Preventive Maintenance			v		
Personal Protective Equip.			v		
Medical Support			v		
Communications Effectiveness			v		
Explosives Storage & Accountability			v		
Explosives – UXO Transportation			v		
Physical Security (after hours)				v	
Surveying & Mapping			v		
Brush-Vegetation Removal			v		
Geophysical Detection Operations		v			
Excavation Activities		v			
Dig Effectiveness	■				
UXO Final Disposal	v				
UXO/OE Accountability		v			
Fire Protection - Prevention			v		
Project Administration				v	
Safety & Health Program				v	
Management of SCI Property				v	
Management of Government Furnished Property				v	
Conservation of Utilities				v	
Environmental - Cultural – Historical Resources Practices				v	
Currentness of WP/SSHP				v	
Visitor Briefing					v
Site-Specific Training					v
Hazard Assessment - Risk Analysis					v

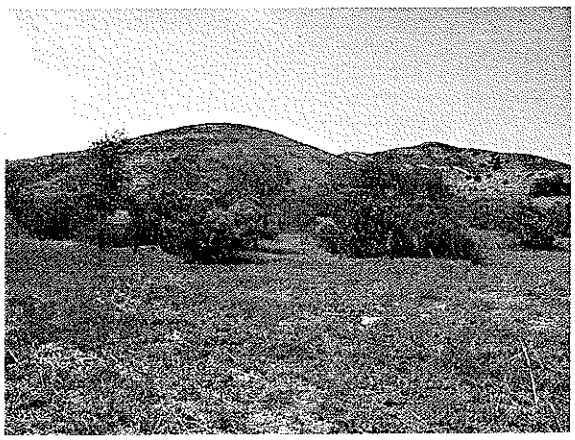
Note: The QC Specialist has the authority to deviate from this schedule based on his assessment of on-site operations and conditions

In addition to the scheduled audits, the SCI General Manager may conduct unannounced field audits during the field effort to ensure compliance with all QC protocols. If the General

Manager conducts an audit, a report of his findings will be forwarded to the SCI project manager.

11. ENVIRONMENTAL PROTECTION – See Chapter 12 of basic Work Plan

No cultural sites were found in the area. The area of potential effects has been surveyed by qualified archeologists. For protection of potential cultural sites, an archeologist from the U.S. Army Corps of Engineers may examine excavations. Please see Chapter 12 of the approved Work Plan for procedures on conducting UXO excavations and the requirement for notification of the Staff Archeologist should potential artifacts be uncovered.



12. SCRAP MONITORING AND DISPOSAL – See Chapter 15 of basic Work Plan

13. COMMUNITY RELATIONS PLAN – See Chapter 16 of basic Work Plan

14. WILDFIRE CONTROL PLAN – See Chapter 17 of basic Work Plan

Revised
STATEMENT OF WORK
Modification R00106
DACA09-01-D-0005
East Elliott Project
San Diego, CA
3 September 2003

1.0 OBJECTIVE:

For clarification purposes, this SOW will address changes to the original SOW dated 21 Dec 2000 and the Revised SOW dated 13 Nov 2001. This SOW will be in a new format and will address all areas in the original and revised SOWs. Any portion of the original and revised SOW not changed, deleted, revised will remain in force.

The objectives of this Revised Statement of Work are for the Contractor to safely and efficiently locate and remove surface and subsurface conventional unexploded ordnance (UXO) from approximately 110 acres at the former Camp Elliott, East Elliott site, San Diego, California.

2.0 BACKGROUND:

2.1 UXO is a safety hazard that may constitute an imminent and substantial danger to the personnel performing construction activities, nearby residents, and the public in general. UXO contamination must be considered a possibility on all formerly used defense sites (FUDS) and active military installations. The surface danger zone of a range (active or inactive), the target area, impact area, ricochet area and the secondary danger zones may be contaminated with UXO. UXO may be found on the surface and/or subsurface. The varying types of ammunition, angle of fire, and soil types preclude the accurate estimation of the depth of any subsurface UXO.

2.2 Location of Work

2.2.1 Currently the project is divided into 4 different sectors; this Task Order will encompass those areas of Sectors 2 as detailed below.

2.2.2 Sector 2, North Central section of the project. It is bordered on the west by sector 1, the east by sector 4 and the south by sector 3. This sector surrounds the Sycamore Landfill and is characterized by steep to moderate terrain and thick patches of chaparral and sagebrush. Previous clearances and evaluations encountered 37 mm and 75 mm projectiles and other related scrap in this 650-acre area.

Of the approximate 650 acres, 170 acres is occupied by the current landfill and an additional 53.3 acres was cleared in 1996, leaving about 423 acres to be cleared. Portions of this sector are being absorbed into the Mission Trails Regional Park. For this tasking, only Sub-sectors 1 and 2, the portions that lie between the ridge top overlooking Spring Canyon to the west, the eastern bank of Little Sycamore Canyon to the east, Miramar MCAS to the north and Sector 3 to the south will be cleared. Priority will be given to sub-sector 1 (approximately 50 acres), then sub-sector 2 (approximately 46 acres). See attachment 1.

2.3 Site History

2.3.1 The area encompassing Former Camp Elliott has been used by the military since World War I. The past uses of Camp Elliott have been divided into the following general periods:

- Camp Kearney, World War I (1917 to 1940);
- Camp Elliott, World War II (1940 to 1945);
- Camp Elliott, Post-World War II (1945 to 1960);

2.4 Chemical Warfare Materiel. During a comprehensive review of archival records, no evidence of the potential existence of chemical warfare materiel (CWM) or CWM byproducts on the Former Camp Elliott Area was discovered. In the event suspect CWM is encountered, all work will immediately cease and project personnel will be evacuated along cleared paths upwind from the discovery. A team consisting of a minimum of two personnel shall immediately secure the area to prevent unauthorized access. Reporting procedures will be in accordance with paragraph 6.5.4.

3.0 SPECIFIC REQUIREMENTS

3.1 **(Task1) Technical Project Planning (TPP):** The contractor shall attend 4 public/stakeholder meetings. This includes taking minutes, preparing and producing display charts and maps. The contractor will prepare a project fact sheet for the project. Coordination of these activities will be with Mr. Lloyd Godard, 213-452-4014 or Mr. Calvin Cox, 213-452-4031.

3.2 **Site Visit:** Not Required, this was completed under the original SOW.

3.3 **Community Relations Plan (CRP):** Not Required, this task is covered in Task Order 002.

3.4 **Geophysical Prove-Out:** Not Required, however, geophysical instruments will be used during this project. Geophysical instruments being used shall be field-tested daily to ensure they are operating properly. This shall be accomplished by using an established test plot located at the

site or an approved alternate method. The instrument should be able to locate a ferrous object having the equivalent mass or signature of a 75mm projectile, buried at 2.5 ft. If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

3.5 **Explosive Safety Submission:** Not Required, this was completed under the original SOW.

3.6 **(Task 2) - Work Plan:** The existing Work Plan (WP) will be used and appendices will be added to cover additional requirements by this SOW.

3.7 **(Task 3) - Location Surveys And Mapping.** This task will be accomplished in accordance with CEHNC Data Item Description (DID) OE-005-07 01.

3.7.1 The following areas will be surveyed and mapped:

a. The entire East Elliott Project site, detailing the boundaries of MCAS Miramar, The Cities of San Diego and Santee, the County of San Diego, the current landfill and it's boundaries and Highway 52.

b. The current project site boundaries.

c. Establish a master grid (100'x100') system that ties the entire project site into the areas previously completed. Only the current project site will have grids surveyed.

3.7.2 Items and data to be submitted as part of this task are as follows:

a. Control Points List. A tabulated list of all control points showing the adjusted coordinates established and/or used for this survey

b. Grid Corners List. A tabulated list of all grid corners shall be provided

c. Description Cards. A "Report of Establishment of Survey Mark" (Description Card) on each control point established and/or used for surveying. The Description Cards shall be 5" X 8" (12.7mm X 20.3mm) with one description per card. In addition to the name or ID number of the control points, the cards should show the adjusted coordinates, a written description for locating the control points, and a sketch showing how to locate the control points. Installation of concrete monuments will not be required; existing monuments will be described and referenced on the survey drawing.

d. Drawings. All maps shall be drawn at a scale no smaller than 1 inch = 400 feet (1:2400), referenced to the North American Datum of 1983 (NAD83), and provided on both reproducible (Mylar) drawings and in a digital format. One original and two blue line prints of each final drawing shall be delivered to the Government. English units will be used.

d. As required by paragraph 8.8, EM 1110-1-4009.

3.8 **(TASK 4) - Establishment and Management of GIS.** This task will be accomplished in accordance with CEHNC Data Item Description (DID) OE-005-14.01.

3.8.1 The GIS should include all events performed by the U.S. Army Corps of Engineers to include previous investigations, EE/CA, removal actions, construction support, Time Critical Removals, and etc.

3.9 **(TASK 5) - Brush Clearing.** All brush, grass and trees will be cut/grubbed as needed.

3.10 **(Task 6) - OE Removal Action**

3.10.1 The Contractor shall provide all necessary personnel and equipment to find and recover all [ferrous]/ [metallic] UXO, OE and OE-Scrap to its depth and all anomalies will be investigated within the area identified in Attachment 1 and 2.

3.10.2 Only UXO personnel approved by the contracting officer shall perform OE-related tasks. See DID OE-025.01.

3.10.3 Geophysical instruments being used shall be field-tested daily to ensure they are operating properly. This shall be accomplished by using an established test plot located at the site or an approved alternate method. The instrument should be able to locate a ferrous object having the equivalent mass or signature of a 75mm projectile, buried at 2.5 ft. If the standard indication cannot be attained, the instrument shall be re-calibrated, repaired or replaced.

3.10.4 If an excavation is required in an area of an endangered/ protected plant/animal, or known/suspected historical site, excavation shall proceed only after coordination through the on-site OE Safety Specialist.

3.10.5 All access/excavation/detonation holes shall be back-filled. A before and after photo of the holes may be required by the USACE OE Safety Specialist or SPL Archeologist. The archeologist may also require examination of the detonation hole prior to back-filling. This will be coordinated in advance.

3.10.6 During seasonal environmental concerns, some areas may be off limits until such time as released by Fish & Wildlife or LA District Biologist.

3.10 7 Artifacts unrelated to OE material or operations will not be disturbed/removed by the Contractor.

3.10.8 The Corps archeologist will clear the proposed locations for equipment staging and OE disposal except for Blow-in-Place items.

3 10 9 Final Disposition of AEDA / Range Residue/ OE Scrap. The Contractor shall furnish all necessary personnel and equipment to make final disposition on all recovered AEDA/Range Residue/OE Scrap. The methodology to accomplish this task shall be proposed in the Work Plan. The Corps archeologist will examine the all scrap material prior to Final Disposition.

3.10.9.1 The Contractor shall follow the provisions of DOD 4160.21-M when making final disposition of AEDA/Range Residue. The Contractor shall complete a DD Form 1348-1A. In the event that DRMO does not accept scrap or is not locally available, the Contractor shall arrange in advance for local scrap contractor to accept the scrap. The DRMO or local scrap dealer shall be identified in the Work Plan. The contractor will also include in the Work Plan the written direction from DRMO if directed to a local scrap dealer and a written statement from the dealer that the scrap will be processed through a smelter or furnace prior to resale or release. These documents are required even if The AEDA/Range Residue/OE Scrap is conveyed to a local scrap dealer rather than DRMO.

3.10.9.2 The UXO contractor shall ensure that this property is 100% properly inspected IAW the inspection procedures specified in the Work Plan. Qualified UXO personnel shall perform the inspection. UXO contractor personnel responsible for certifying AEDA/Range residue must meet the qualification requirements specified in DID 0E-025 01. *AEDA/Range residue certification will be entered on the DD 1348-1A as follows.*

"This certifies that the AEDA residue, Range Residue, and/or Explosive Contaminated Property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

3 10.9.3 All certificates must clearly show the typed/printed name, organization, signature, and phone number of the person certifying the inspection.

3.10 9.4 Material, which cannot be certified as above, shall be returned to the range and detonated and then re-inspected.

3.10.9.5 These procedures shall apply to AEDA/Range Residue turned into DRMO or a local scrap dealer. Once the inspection is completed, the contractor shall ensure the

inspected AEDA/Range Residue is not mixed with other types of material. The contractor shall implement adequate controls to ensure that mixing does not occur.

3.10.9.6 Disposal documentation receipts shall be submitted as a component of the Removal Report.

3.11 Quality Control. The Contractor shall develop a Quality Control (QC) Program that shall ensure a quality product from all aspects of the project to include any work performed by a subcontractor on the project. The Contractor shall develop QC procedures in accordance with DID OE-005-11.01 and submit those procedures, for all phases and types of work, in the project work plan(s). The contractor shall ensure that documentation is maintained and provided in the final report that supports the QC process. In addition to the QC process by the contractor, the Government may perform Quality Assurance (QA) on all phases and types of work performed. Any work that fails the Government QA process shall be re-done by the contractor, at no cost to the Government. The Contractor shall provide full documentation detailing what fail the QA process, why it failed and how the problem was corrected.

3.11.1 Corrective Actions. If the Government, through its Quality Assurance (QA) process, encounters any UXO, OE (UXO like), or hazardous OE Scrap in any grid, then the Government will not accept that grid and that grid will need to be re-cleared. The Contractor shall perform corrective actions, as the Government deems necessary, to achieve performance standard. If more than 5% of the project grids fail initial Government QA checks, the Contractor will not be paid "fee" (profit) for corrective action activities on grids that subsequently fail. The terms of the basic contract pursuant to FAR 52.246-6 remain in force.

3.12 **(TASK 7) - Soil Sampling and Chemical Analysis.** The contractor will take before and after soil samples of each disposal operation. The before samples will be taken as close as possible to the OE item that can safely be taken and the after samples will be taken in the destruct hole. Samples will be performed on three items of each type of OE discovered. The contractor may be required to perform further sampling depending on results. This will be conducted in accordance with the current approved Work Plan.

3.13 **(TASK 8) - Prepare Removal Report.** The contractor shall prepare a Final Report in accordance with DID OE-030.01. This report shall be submitted as Draft and Final versions according to section 4.0 of this SOW.

4.0 SUBMITTALS AND CORRESPONDENCE

4.1 Format and Content of Engineering Reports. The Final Report shall be prepared in accordance with DID OE-030.01. In addition to the Final Report, a video tape with narrations of field operations shall be included, which shall be a minimum of 45 minutes in length and prepared in accordance with DID OE-030.01.

4.2 Review Comments: Various reviewers will have the opportunity to review submittals made by the Contractor under this Contract. The Contractor shall review all comments received through the CESPL Contracting Officer's Representative (COR) and provide responses to all comments. The Contractor shall not non-concur with any comment without coordinating with the COR. If the COR, is unavailable, then the Contractor shall resolve the comment through the CESPL-PM. The Contractor shall also note in the response to comments when text is moved within the document.

4.3 Draft Reports. Each page of draft reports shall be stamped "DRAFT". Submittals shall include incorporation and notation of all previous review comments accepted by the Contractor.

4.4 Presentations. The Contractor shall make presentations of work performed as required. Each presentation shall consist of a summary of the work accomplished and anticipated followed by an open discussion among those present.

4.5 Correspondence. The Contractor shall keep a record of each phone conversation and written correspondence affecting decisions relating to the performance of this T.O. A summary of the phone conversations and written correspondence shall be submitted with the monthly status report to the CO.

4.6 Weekly Status Reports. The Contractor shall submit weekly status reports in accordance with DID OE-085.01

4.7 Monthly Status Reports. The Contractor shall submit monthly status reports in accordance with DID OE-080.01.

4.8 Daily Status Report. The Contractor shall submit a daily status reports in accordance with DID SPL-OE-001

4.9 On-Site Coordination. The Contractor shall keep the CO's on-site representative informed of day-to-day field activities occurring on site. Where Contractor activities are likely to require coordination with various other activities at the site, the Contractor shall notify the point of contact (POC) identified by the COR sufficiently ahead of time to allow for coordination activities to take place.

4.10 Computer Files. All final text files generated by the Contractor under this contract shall be furnished to the CO in Microsoft Word 6.0 or higher software, IBM PC compatible format and Microstation 95 format. All meta data shall be in FGDC Standard Format. All GIS data shall be in ESRI (Arcview/Arcinfo) format. All electronic data shall be provided on CD-R media. The CD-R disks shall be placed in a plastic 3-ring folder insert that will be placed in the back of work plans or final reports. Arrange all the documents on the CD into folders that correspond to the

chapter where they are found in the Work Plan. Title each folder Chapter 1, Chapter 2, . to Appendix H. The cover Page, Document Control Page, Title Sheet, and table of contents shall be in a folder titled "Beginning Pages". Also, convert the whole document into one Adobe Acrobat document and place the file into a folder called "Entire Document.

4.11 Public Affairs. The Contractor shall not make available or publicly disclose any data generated or reviewed under this contract or any subcontract unless specifically authorized by the Contracting Officer, the U.S. Army Engineer District Los Angeles, PAO. When approached by any person or entity requesting information about the subject of this contract, the Contractor shall defer to the PAO for response. Reports and data (including all digital data) generated under this contract shall become the property of the Department of Defense and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.

4.12 Submittals.

4.12.1 The Contractor shall furnish copies of the plans and reports to each addressee listed below in the quantities indicated. One copy of all contract submittals, review comments and review comment responses shall be sent to the Project Manager on CD-ROM in an acceptable format in addition to the number of hard copies identified below. The Contractor shall use express mail services for delivering these plans and reports. Following each submission, comments generated as a result of their review shall be incorporated.
4.12.2 The contractor will be required to provide extra copies of any or all submittals, in either CD-ROM or Hard Copy format, to outside entities as directed by the Contracting Officer, Project Manager or on-site representative.

* HC = Hard Copy * CD = CD-ROM Addressee	Draft WP	Final WP	Draft ESS	Final ESS	Draft Removal Report	Draft Final Removal Report	Approved Final Removal Report	Other Submittals
Commander U.S. Army Corps of Engineers, Los Angeles ATTN: CESPL-PM-M (Lloyd Godard) 911 Wilshire Blvd Los Angeles, CA 90017	4 - HC 4 - CD	4 - HC 4 - CD	***	***	4 - HC 4 - CD	4 - HC 4 - CD	4 - HC 4 - CD	IAW DIDs

Commander U.S. Army Corps of Engineers, Los Angeles San Diego Project Office ATTN: OE Safety (B.J. Allen) 16885 W. Bernardo Drive #300-B San Diego, CA 92127	1 - HC	1 - HC			1 - HC	1 - HC	1 - CD	IAW DIDs
** The contractor may be directed to forward additional copies to outside agencies as needed and await response. *** The ESS was previously completed.								

4 12.3 Submittals and Due Dates

SUBMITTAL	DUE DATES
Draft Work Plan (changes due to this modification)	14 days from NTP
Final Work Plan (changes due to this modification)	7 days after comments
Conventional Explosives Safety Submittal	Completed
Daily QC/Safety Inspection Report	IAW DID SPL OE-001
Accident/Incident Report	IAW DID SPL OE-002
Report/Minutes Record of Meeting	IAW DID OE-045
Telephone Conversation Correspondence	IAW DID OE-055
Weekly Status Report	IAW DID OE-085
Draft Removal Report	30 days from completion of removal action
Draft Final Removal Report	14 days after receipt of comments
Final Removal Report	14 days after receipt of comments

5.0 REFERENCES:

5.1 DOD Manual 4160.21.M, Defense Utilization and Disposal Manual.

5.2 AR 200-1, Environmental Protection and Enhancement.

5.3 AR 385-40 with USACE Supplement.

5.4 AR 386-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat.

5.5 EM 385-1-1, CE Safety and Health Requirements Manual.

5.6 DA PAM 385-64, Ammunition and Explosive Safety Standards.

5.7 EP 385-1-95a, Basic Safety Concepts and Considerations for Ordnance and Explosives Operations, 29 June 2001.

5.8 DoD 6055.9 Std. DoD Ammunition and Explosive Safety Standards

5.9 TM 60A 1-1-31, Explosive Ordnance Disposal Procedures

5.10 National Contingency Plan, 40 CFR 300.

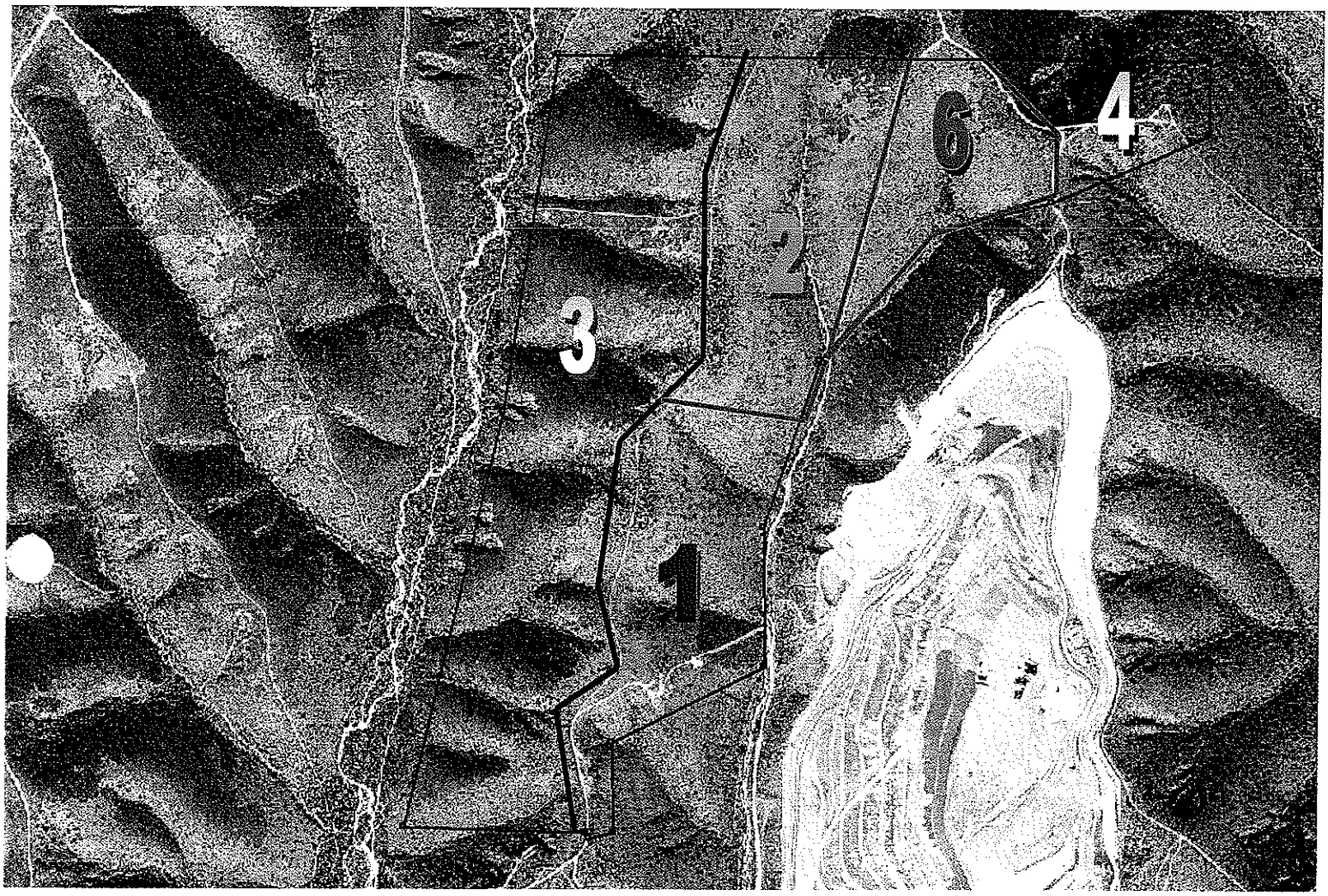
5.11 Federal Acquisition Regulation, F.A.R. Clause 52.236-13: Accident Prevention.

5.12 Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910 and Construction Industry Standards, 29 CFR 1926; especially 196.120/29CFR1926.65-Hazardous Waste Site Operations and Emergency Response

5.13 NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985. (DHHS (NIOSH) Publication No. 85-115)

5.14 CEHNC (dated Oct 2002) and SPL Data Item Descriptions (DID)

	Data Item Description (DID)
OE-005-01.01	Type II Work Plan
OE-005-02.01	Technical Management Plan
OE-005-03.01	Explosives Management Plan
OE-005-04.01	Explosives Sitting Plan
OE-005-05.01	Geophysical Investigation Plan

OE-005-05A.01	Geophysical Prove-out (GPO) Plan and Report
OE-005-06.01	Site Safety and Health Plan
OE-005-07.01	Location Surveys and Mapping Plan
OE-005-08.01	Work, Data, and Cost Management Plan
OE-005-09.01	Property Management Plan
OE-005-10 01	Sampling and Analysis Plan/Environmental Sampling and Analysis Plan
OE-005-11.01	Quality Control Plan
OE-005-12.01	Environmental Protection Plan
OE-005-13.01	Investigative Derived Waste Plan
OE-005-14.01	Geographic Information System Plan
OE-015.01	Accident/Incident Reports
OE-025.01	Personnel/Work Standards
OE-030.01	Site Specific Final Report
OE-040.01	Disposal Feasibility Report
OE-045.01	Report/Minutes, Record of Meetings
OE-055.01	Telephone Conversation/Correspondence Records
OE-060.01	Conventional Explosives Safety Submission
OE-080.01	Monthly Status Report
OE-085.01	Weekly Status Report/Project Status Report
SPL-OE-001	Daily Status Report
SPL-OE-002	Accident/Incident Reports

Attachment 1