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Naval Facilities Engineering Command
Contracts Department
1220 Pacific Highway, Building 127, Room 112
San Diego, CA 92132-5190

CONTRACT NO. N68711-98-D-5713
CTO No. 0022

FINAL
IMPLEMENTATION PLAN
August 7, 2001

VEGETATION CLEARING
AT INSTALLATION RESTORATION SITES 2 AND 17
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

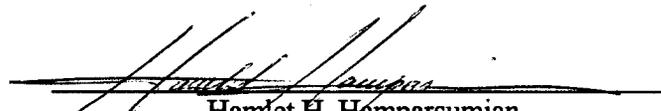
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- Attachment 1 Department of Navy Letter to the U.S. Fish and Wildlife Service
 Dated May 2, 2001
- Attachment 2 Activity Hazard Analyses (AHAs) for Clearing and De-Vegetation

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ABBREVIATIONS AND ACRONYMS

AHA	Activity Hazard Analysis
APHO	Aerial Photograph Anomaly
BRAC	Base Realignment and Closure
CQC	Contractor Quality Control
CSS	coastal sage scrub
CTO	Contract Task Order
DoN	Department of the Navy
DOT	Department of Transportation
Earth Tech	Earth Technology, Inc.
FWENC	Foster Wheeler Environmental Corporation
IRP	Installation Restoration Program
MCAS	Marine Corps Air Station
OSHA	Occupational Safety and Health Administration
PjM	Project Manager
RAC	Remedial Action Contract
RCRA	Resource Conservation and Recovery Act of 1976
RPM	Remedial Project Manager
SHSO	Site Health and Safety Officer
SHSP	Site-Specific Health and Safety Plan
SWDIV	Southwest Division Naval Facilities Engineering Command
USFWS	United States Fish And Wildlife Service

1.0 INTRODUCTION

This Implementation Plan describes the procedures for clearing and removal of vegetation at Installation Restoration Program (IRP) Sites 2 (Communications Station Landfill) and 17 (Magazine Road Landfill), and disposal or recycling of the ensuing green waste. This project was authorized by the Department of the Navy (DoN), Southwest Division Naval Facilities Engineering Command (SWDIV), under Contract Task Order (CTO) No. 0022 of the Remedial Action Contract (RAC) program, Contract No. N68711-98-D-5713. This project is being conducted to prepare IRP Sites 2 and 17 and Aerial Photograph Anomaly (APHO) 44 for an upcoming radiological assessment. The project involves removal of ruderal vegetation and sub-standard native vegetation from these sites in accordance with the provisions in the DoN's letter submitted to the U.S. Fish and Wildlife Service (USFWS) dated May 2, 2001. The letter is concerning the potential adverse effects to the federally-listed species from activities incidental to the remediation of the IRP Sites 2 and 17 landfills and the upcoming vegetation clearing and radiological survey. The letter is attached to this document as Attachment 1. The issue discussed in the letter is the potential for impacts to the coastal sage scrub (CSS) vegetation, which is habitat for the federally threatened coastal California gnatcatcher. The letter provides results of recent gnatcatcher survey efforts and recent mapping that was conducted during the late winter and early spring of 2001 and accurately documents the vegetation being proposed for advance clearing.

The Final Site-Specific Health and Safety Plan (SHSP) prepared earlier as part of the Final Project Work Plan for the Pre-Design Activities at IRP Sites 1 and 3 by Foster Wheeler Environmental Corporation (FWENC) (FWENC, 2000), will be used to support this Implementation Plan. Since clearing of vegetation was not part of the original scope of work for the pre-design activities, the Final SHSP did not address or include specific health and safety issues with regards to clearing and removal of vegetation. Therefore, an Activity Hazard Analysis (AHA) for vegetation clearing activities was prepared and attached to this Implementation Plan.

Following approval of the Implementation Plan by the DoN, FWENC will proceed with the field work. As part of the vegetation clearing, a biological clearance survey of the sites will be performed prior to and during the fieldwork.

2.0 SITE HISTORY AND BACKGROUND

This section presents a summary description of the site history and background. This information has been extracted mainly from the Final Work Plan, Pre-Design Investigation for Remedial Design Installation Restoration Program (IRP) Site 2 and IRP Site 17 [Earth Technology Inc. (Earth Tech), 2000].

2.1 SITE DESCRIPTION

Marine Corps Air Station (MCAS) El Toro is located in a semi-urban, agricultural area of southern California, approximately 8 miles south of Santa Ana and 12 miles northeast of Laguna Beach (Figure 1). MCAS El Toro covers approximately 4,740 acres (Figure 2). Land northwest of the MCAS is used for agricultural purposes. Land use around the MCAS includes commercial, light industrial, and residential.

Historical activities on the MCAS included aircraft maintenance and repair. These activities generated waste oils, solvents, paint residues, hydraulic fluid, used batteries, and other wastes. MCAS El Toro was closed on July 2, 1999 as part of the Base Realignment and Closure (BRAC) Act. Brief descriptions and operational histories of IRP Sites 2 and 17 are presented below.

2.1.1 Site 2 (Magazine Road Landfill)

IRP Site 2, Magazine Road Landfill, is located in the foothills of the Santa Ana Mountains in the northeastern portion of MCAS El Toro (Figure 3). IRP Site 2 occupies approximately 27 acres and is situated at the lower end of the Borrego Canyon drainage basin. Borrego Canyon Wash enters IRP Site 2 from the east and exits at the south end of the site onto the Tustin Plain. A tributary channel enters the site from the west and joins the main Borrego Canyon Wash in the southern half of IRP Site 2. Site 2 is bounded on the west by Magazine Road and on the south and east by a dirt road.

Solid waste generated at MCAS El Toro and a portion of the solid waste from MCAS Tustin was disposed in the Site 2 operational landfill. The landfill was used from the late 1950s until about 1980. The types of waste could include construction debris, municipal waste, batteries, waste oil, hydraulic fluid, paint residue, transformers, and waste solvents (Earth Tech, 2000). It is also possible that equipment painted with radium paint, or other low-level radiological materials consistent with MCAS operations, could have been placed at IRP Site 2.

IRP Site 2 consists of six waste disposal areas. These areas are identified as Areas A, B, C₁, C₂, D₁, and D₂ (Figure 4). Areas A and B are considered the main operational areas of the landfill. A fill cover of unknown thickness has been placed over Areas A and B. Areas D₁ and D₂ include scattered surface debris and waste piles that were dumped at these locations. An unlined drainage

channel (man-made) that trends northeast southwest bisects the site between Areas A and B. Clearing of vegetation will occur at Areas A, B, C₁, C₂, and D₂.

The site is fenced and drainage improvements were constructed as part of a time-critical removal action during 1997 to mitigate site erosion.

2.1.2 Site 17 (Communications Station Landfill)

IRP Site 17, Communications Station Landfill (Figure 3), occupies approximately 11 acres (Earth Tech, 2000). It is located in a small canyon between Borrego Canyon Wash and Aqua Chinon Wash in the northeast portion of MCAS El Toro (west of the Magazine Road Landfill). It extends beyond the canyon mouth onto a flat, weed-covered field that was formerly used for agriculture (Figure 5).

IRP Site 17 served as an active MCAS-wide disposal facility from 1981 to 1983. However, aerial photographs indicate that landfilling probably began during 1970 and continued through 1986. Suspected waste types that the landfill received include domestic waste and rubble, cooking grease, oils and fuels from sumps, and empty drums (Earth Tech, 2000). It is also possible that equipment painted with radium paint, or other low-level radiological materials consistent with MCAS operations, could have been placed at IRP Site 17.

Because of the steep terrain and dense sensitive vegetation in many of the areas of this site, only the lightly vegetated and flat portions of the site will be cleared. The total size of the areas that could be cleared is approximately 2.5 to 3 acres.

3.0 PLANNED FIELD ACTIVITIES

This section describes the specific activities and procedures involved in preparation for, and field implementation of, the vegetation clearing activities at IRP Sites 2 and 17.

3.1 SUBCONTRACTING/PROCUREMENT

All field activities will be self-performed by FWENC. The procurement of appropriate vendors and other required services and materials will be performed in a manner consistent with the terms of the contract and applicable Federal Acquisition Regulations.

3.2 PREPARATORY ACTIVITIES

At least 2 days prior to mobilization and commencement of the field activities, the appropriate DoN personnel, including the Remedial Project Manager (RPM) and the MCAS Caretaker, will be notified about the planned schedule for mobilization and field activities. A kick-off meeting will be held between the DoN RPM, FWENC Project Manager (PjM), Project Superintendent, and MCAS Caretaker personnel. The purpose of this meeting is to develop a mutual understanding of the construction activities, administration of onsite work, and coordination of the construction management and production.

3.3 MOBILIZATION

Mobilization activities include site preparation, movement of equipment and materials to the site, and training and site orientation of field personnel. Mobilization of temporary facilities will involve the establishment of a suitable staging area to support the project activities. The support facilities to be installed in the staging area will include necessary sanitary facilities including portable toilets and potable water for construction personnel, equipment lay-down area, and waste stockpile area. The support facilities will be located in an area determined by the MCAS Caretaker.

Equipment mobilization will be initiated with site preparation activities. In order to minimize storage requirements, equipment and materials will be mobilized to the site on an as-needed basis. A dedicated lay-down area will be used for short-term storage of equipment and materials. All construction equipment will be delivered to the site in a clean condition.

3.4 CLEARING AND VEGETATION REMOVAL ACTIVITIES

Vegetation removal and clearing activities involve removal and disposal of weeds and overgrown bushes and shrubs at IRP Sites 2 and 17, and picking, gathering, and stockpiling of rock and large size stones from these areas. To the extent possible, the areas to be cleared will be selected in accordance with the Draft Final Radiological Survey Plan, MCAS El Toro (Roy F. Weston, Inc., 2000). Specific vegetation to be cleared was determined in the letter prepared by the Navy and submitted to the USFWS on May 2, 2001 (see Attachment 1).

IRP Sites 2 and 17 are overgrown with shrubs and bushes, some of which consist of coastal sage brush (CSS). CSS provides habitat for the gnatcatcher, which is on the federal list of threatened bird species. A full-time biologist would be present at Sites 2 and 17 prior to and during the field activities to monitor the work area and its surroundings in order to minimize any impact or disturbance to the gnatcatcher and the CSS community. Section 4 of this Work Plan briefly discusses the existing biological resources at IRP Sites 2 and 17 and the proposed monitoring activities to be conducted at these sites.

Clearing will be conducted using laborers and light mechanical equipment. A Kubota 40 Hp tractor with mower or equivalent machinery will be used for mowing overgrown weeds in the flat areas and gently sloped surfaces. The majority of the areas at IRP Site 2 are easily accessible and can be cleared by mechanical means. These areas include the mostly flat surfaces in Areas A, B, C₁, and C₂ (Figure 4). Because of dense CSS cover, only limited portions of the Area D₂ at IRP Site 2 could be available for clearing. Clearing in this area will be conducted by laborers and hand equipment. Areas that can not be mowed with the tractor due to access limitations, unsafe steep slopes, or impracticality, will be cleared by laborers using gas operated weed cutters and chain saws, if necessary.

A Kubota 40 Hp tractor or equivalent will be used for collecting rocks and stones. One or two laborers will be used to assist the tractor operator during rock picking and collection operations. The collected rock and stones will be stockpiled at a designated location within each site.

In general, and as much as practically possible, the vegetation will be mowed down to 4 to 6 inches above the ground surface. In the areas with sparse vegetation growth, the waste from mowing operations will be evenly spread and left over the ground. In areas where the vegetation is denser, the waste will be raked, collected, loaded onto a dump truck and hauled offsite for disposal. Cleared vegetation material, trees, large bushes and brush remnants will be hauled off for disposal or recycling at an approved waste disposal and/or green waste recycling facility.

3.5 DEMOBILIZATION

Demobilization consists of removal of all construction equipment, material, and personnel; cleaning the project site; inspection; and certification of completion. An inspection of the sites will be conducted with the RPM and the MCAS Caretaker at the completion of the field work. A punch list of items will be prepared for any work deemed incomplete by the RPM and/or the MCAS Caretaker. Any deficiencies identified and noted on the punch list will be completed. A final walkthrough of the sites will be conducted with the RPM and the MCAS Caretaker following the completion of all the punch list items.

3.6 DUST CONTROL

A 2,000-gallon water truck will be mobilized to the site to be used for emergency fire hazards and dust control. The water truck will remain at the site at all times during clearing and vegetation removal activities, stockpiling, and loading operations.

3.7 DISPOSITION OF WASTE MATERIAL

Green waste generated from the clearing activities will be hauled offsite for recycling or disposal. Green waste will be placed in trucks and covered with tarp in order to prevent spillage on streets or adjacent areas. An adequate number of trucks with sufficient capacity will be used for transporting the waste offsite. Offsite transportation will be conducted in compliance with all pertinent local, state, and federal regulatory requirements with regards to handling, transportation, and disposal of waste materials.

3.8 WORKER HEALTH AND SAFETY

All activities will be performed in accordance with Occupational Safety and Health Administration (OSHA) requirements for worker safety. The SHSP (refer to the Final SHSP for Site 1) and the attached AHAs provide requirements and guidelines that will be utilized in the field to protect the health and safety of workers and field personnel. A Site Health and Safety Officer (SHSO) will provide full-time oversight of activities during construction to ensure compliance with OSHA and the SHSP. The work will be performed in Level D personal protective equipment.

During the clearing work, the SHSO will continuously evaluate the condition of the areas being cleared and take immediate action to protect all personnel working in and around the site.

All personnel will be required to wear Level D protection consisting of gloves, steel toe and shank boots, safety glasses, and hard hats.

Clearing and removal of vegetation at IRP Site 2 is estimated to be completed within 15 working days and at IRP Site 17 within 10 working days.

4.0 ENVIRONMENTAL PROTECTION PLAN

This section describes the existing biological resources at IRP Sites 2 and 17, and the planned biological monitoring to be conducted during the clearing activities, in order to prevent and minimize damage to the existing sensitive habitat and wildlife at these sites.

4.1 EXISTING BIOLOGICAL RESOURCES

The following paragraphs summarize the historical environmental or biological resources within the vicinity of the MCAS El Toro and the general area of IRP Sites 2 and 17.

4.1.1 Vegetation

IRP Sites 2 and 17 landfills are overgrown with shrubs and grasses, and are no longer in use. The predominant vegetation on the uplands of those sites consists of Venturan/Diegan transitional CSS and ruderal vegetation, while mule fat scrub and freshwater marsh (Gray and Bramlett, 1992) dominate the drainage areas. Additional information on specific types of vegetation at these sites is included in Attachment 2.

The CSS at IRP Sites 2 and 17 is scattered in many locations and dominated by California sagebrush (*Artemisia californica*). A variety of other shrub species also occur within the sage scrub community. The number and cover of annual species are limited, however, because of the relatively dense and tall cover of the shrub component. CSS is considered a sensitive habitat by several resource agencies because it supports a number of state- and federally-listed endangered, threatened, and rare vascular plants as well as several bird and reptile species that are federally listed or are candidate species for federal listing. The coastal California gnatcatcher (*Poliopitila californica*), is of particular importance because it is federally- and state-listed as a threatened species of concern.

Ruderal vegetation, including black mustard (*Brassica* sp.), ripgut grass (*Bromus diandrus*), brome species (*Bromus* spp.), wild oat (*Avena* sp.), and filaree (*Erodium* spp.) occurs over disturbed portions. Ruderal vegetation is not considered sensitive (FWENC, 1999).

The mule fat plant community is dominated by mule fat (*Baccharis salicifolia*). Minor plant associates include black willow (*Salix goodingii*), coyote brush (*Baccharis pilularis*), and tree tobacco (*Nicotiana glauca*). Mule fat scrub is considered a sensitive plant community by the resource agencies because it is a riparian habitat (FWENC, 1999).

Freshwater marsh typically includes cattails (*Typha* sp.), spike sedge (*Eleocharis* sp.), rush (*Uuncus* sp.), and umbrella sedge (*Cyperus* sp.). This community occurs in three small isolated pockets in a side tributary to Borrego Canyon Wash and is dominated by cattails. Like mule fat

scrub, freshwater marsh is considered sensitive by the resource agencies because it is a riparian habitat (FWENC, 1999).

4.1.2 Wildlife

MCAS El Toro supports a wide variety of wildlife species, including representatives from nearly all major vertebrate groups (reptiles, amphibians, birds, and mammals). Undoubtedly, the diversity of invertebrate species is at least commensurate.

Several sensitive species are known to exist at MCAS El Toro, but only one, the coastal California Gnatcatcher, that is federally-listed is being affected by the project is of prime concern (FWENC, 1999).

The coastal California Gnatcatcher is a permanent resident of the CSS below 2500 feet of elevation. This gnatcatcher utilizes low CSS in arid washes, on mesas and slopes. CSS vegetation composed of relatively low-growing drought-resistant plant species, such as California sagebrush (*Artemisia californica*), black sage, purple sage (*S. leucophylla*), white sage (*S. apiana*), laurel sumac (*Malosma laurina*), coast encelia (*Encelia californica*), California buckwheat (*Erigonium fasciculatum*), and yellow-flowered bush penstemon (*Keckiella antirrhinoides*).

4.1.3 Biological Assessment

A significant population of the coastal California gnatcatcher occurs within MCAS El Toro along with its habitat (Venturan/Diegan transitional CSS). Sweetwater Environmental Biologists, Inc. conducted protocol surveys during 1994 for the gnatcatcher, and a non-protocol-level survey during June 1996, to address the gnatcatcher nesting status in the context of response actions planned for the IRP. The non-protocol-level survey was completed to provide the Navy with constraints analysis for the proposed work at MCAS El Toro. The biological surveys were conducted primarily to detect the coastal California gnatcatcher and identify landfill project impacts to the gnatcatcher and its habitat. In June 1996, the coastal California gnatcatcher location information was updated by KEA Environmental during a protocol survey (OHM, 1998).

A biological assessment of the coastal California gnatcatcher and its habitat was also conducted during 1997 (Helix Environmental Planning, Inc., 1997) to support the time-critical removal actions at IRP Sites 2 and 17. The USFWS issued a *Biological Opinion* to initiate formal consultation on the emergency actions and continuing action (Earth Tech, 2000).

4.2 BIOLOGICAL MONITORING

Waste management activities at IRP Sites 2 and 17 and APHO 44 may impact CSS habitat. No waste management activities at IRP Site 2 will be conducted directly in the coastal California gnatcatcher breeding sites.

During the implementation of the waste management activities at IRP Sites 2 and 17 and APHO 44, FWENC will take all necessary precautions to avoid damage to CSS and to minimize the effect of fieldwork on the coastal California gnatcatcher. A qualified wildlife biologist will be at IRP Sites 2 and 17 during the clearing activities to monitor and ensure that any damage or impact to the sensitive vegetation is minimized. The biologist will also conduct presence and absence surveys for coastal California gnatcatchers in all project impact areas that contain suitable coastal sage scrub habitat. These surveys are to occur before construction begins to determine occupancy, and to establish a no-disturbance buffer zone around each active nest site. In addition, the following measures will be taken to protect the coastal California gnatcatcher and their habitat:

- Prior to field activities, coastal California gnatcatcher awareness training will be conducted; in addition, a qualified biologist will confirm the distribution of CSS at both sites. A qualified biological monitor (provided by the DoN), familiar with the ecology of the gnatcatcher and processing a federal 10(a) permit for this species, will clearly identify areas to be brushed and will be present for all vegetation clearing and brushing activities. The DoN-provided biological monitor will conduct a pre-construction briefing on sensitive resources for the FWENC field personnel that would be involved in vegetation clearing activities in the field.
- Impacts to CSS and coastal California gnatcatcher will be avoided to the maximum extent possible. The DoN will conduct a general biological survey of the areas to be cleared several days prior to the clearing activities, in order to avoid or minimize the incidental loss of nests of migratory bird species in these areas.
- Ingress and egress of equipment and personnel will be restricted to a single route when possible.
- Staging areas for equipment and personnel will be located at a sufficient distance from coastal California gnatcatcher breeding areas. The DoN biological monitor will have the authority to suspend any activities on the site that have the potential to adversely affect nesting gnatcatchers. Such activities may be postponed if they are found to occur within 200 feet of an active nest and will not resume until authorized by the DoN biological monitor.

5.0 PROJECT MANAGEMENT

The project management team will be responsible for all technical and administrative aspects of the upcoming field activities. The project management responsibilities also include developing and monitoring the project schedule, staffing, and reporting.

5.1 PROJECT SCHEDULE

Fieldwork is anticipated to start in August 2001. Field activities for this project will begin upon approval of the Implementation Plan by SWDIV. The approximate duration for field work is 4 weeks.

5.2 PROJECT RESPONSIBILITIES

FWENC will have overall responsibility for the implementation of this project under the direction of the SWDIV staff and MCAS El Toro Caretaker Office. The following is a list of names and phone numbers for SWDIV, FWENC, and other personnel involved with the project.

PROJECT POINTS OF CONTACT

Agency	Contact	Project Title
Southwest Division Naval Facilities Engineering Command 1230 Columbia Street, Suite 870 San Diego, CA 92101	Content Arnold (619) 532-0790	Lead RPM
Southwest Division Naval Facilities Engineering Command 1230 Columbia Street, Suite 870 San Diego, CA 92101	Don Whittaker (619) 532-0791	RPM
Southwest Division Naval Facilities Engineering Command 1220 Pacific Highway San Diego, CA 92132	John Lovio (619) 532-1166	Biologist
Caretaker Site Office MCAS El Toro Building 368 El Toro, CA	Scott Kehe (949) 726-0506	MCAS Caretaker Site Office Engineer

Agency	Contact	Project Title
Foster Wheeler Environmental Corporation Southwest Division RAC Site Trailer Gardeners Road and Industrial Road Naval Weapons Station Seal Beach 800 Seal Beach Boulevard Seal Beach, CA 90740	Jamshid Sadeghipour (562) 598-6150 ext. 5880	Deputy Program Manager
Foster Wheeler Environmental Corporation 1940 E. Deere Ave., Suite 200 Santa Ana, CA 92705	Hamlet Hamparsumian (949) 756-7520 Office (805) 501-0267 Cell Phone	PjM
Foster Wheeler Environmental Corporation 1940 E. Deere Ave., Suite 200 Santa Ana, CA 92705	Glenn Nardin (714) 822-4691 Cell Phone	Site Superintendent
Foster Wheeler Environmental Corporation 1940 E. Deere Ave., Suite 200 Santa Ana, CA 92705	Carl Jones (949) 756-7538 Office (714) 354-0290 Pager	SHSO

FWENC will be responsible for construction activities, project management, health and safety, and preparation of a project report. FWENC will also directly coordinate and supervise the activities of the subcontractors.

5.3 PROJECT AND PERSONNEL TRAINING REQUIREMENTS

FWENC personnel training requirements and inspection programs applicable to the field construction activities at the IR Sites at MCAS El Toro are described below.

5.3.1 Personnel Training/Certification Requirements

- The SHSO must have OSHA 40-hour Health and Safety/Emergency Response Hazard Communication and Resource Conservation and Recovery Act of 1976 (RCRA) training and current 8-hour refresher training.
- Site personnel performing Department of Transportation (DOT) functions (including selecting, packaging, marking, labeling, preparing shipping papers, and loading) must be trained in accordance with the requirements of HM-126F. Subcontractors performing DOT functions must supply proof of training.
- All project personnel (subcontractors and FWENC) will be trained according to FWENC Compliance Policies and Procedures. FWENC personnel records will be verified along with the subcontractors training records prior to project activities.

- All project personnel performing waste management will be certified under FWENC Waste Management Training Programs.

5.3.2 Inspection and Audit Procedures

Site inspections and audits may occur during the field activities to assure compliance with the applicable state and federal regulations and the SHSP.

5.4 MEETINGS AND REPORTS

Project status meetings will be held weekly in the field during the field construction activities. The PjM, Project Superintendent, SHSO, and other selected individuals will be required to attend these meetings with the DoN RPM, and the MCAS Caretaker. The agenda of the progress meetings will include the following:

- Review and approval of minutes of previous meeting
- Review of work progress
- Field observations, problems, and conflicts
- Problems that impede construction schedule and proposed corrective actions
- Review of delivery schedules
- Corrective measures and procedures to regain projected schedule
- Revisions to construction schedule
- Forecast of progress for next succeeding work period
- Coordination of schedules
- Review of submittal schedules, if any
- Review of quality/health and safety programs
- Pending changes and substitutions
- Review of proposed changes and their effects on construction, completion date, and other aspects of the project
- Other business

Daily reports will be prepared by the Project Superintendent and submitted to the DoN.

6.0 REFERENCES

- Earth Tech, Inc. (Earth Tech). 2000. Final Work Plan, Pre-Design Investigation for Remedial Design IRP Site 2-Magazine Road Landfill, IRP Site 17-Communications Station Landfill, Marine Corps Air Station El Toro, California. Honolulu, Hawaii. March.
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- United States Department of the Interior, Fish and Wildlife Service. 1997. Biological Opinion on the Remediation Program at MCAS El Toro, Orange County, California (1-6-97-F-14). Carlsbad, California. June.
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- Roy F. Weston, Inc. 2000. Radiological Survey Plan, Marine Corps Air Station, El Toro. November.

FIGURES

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DATE: 08/07/01

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APPROVED BY: HH

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CTO #022

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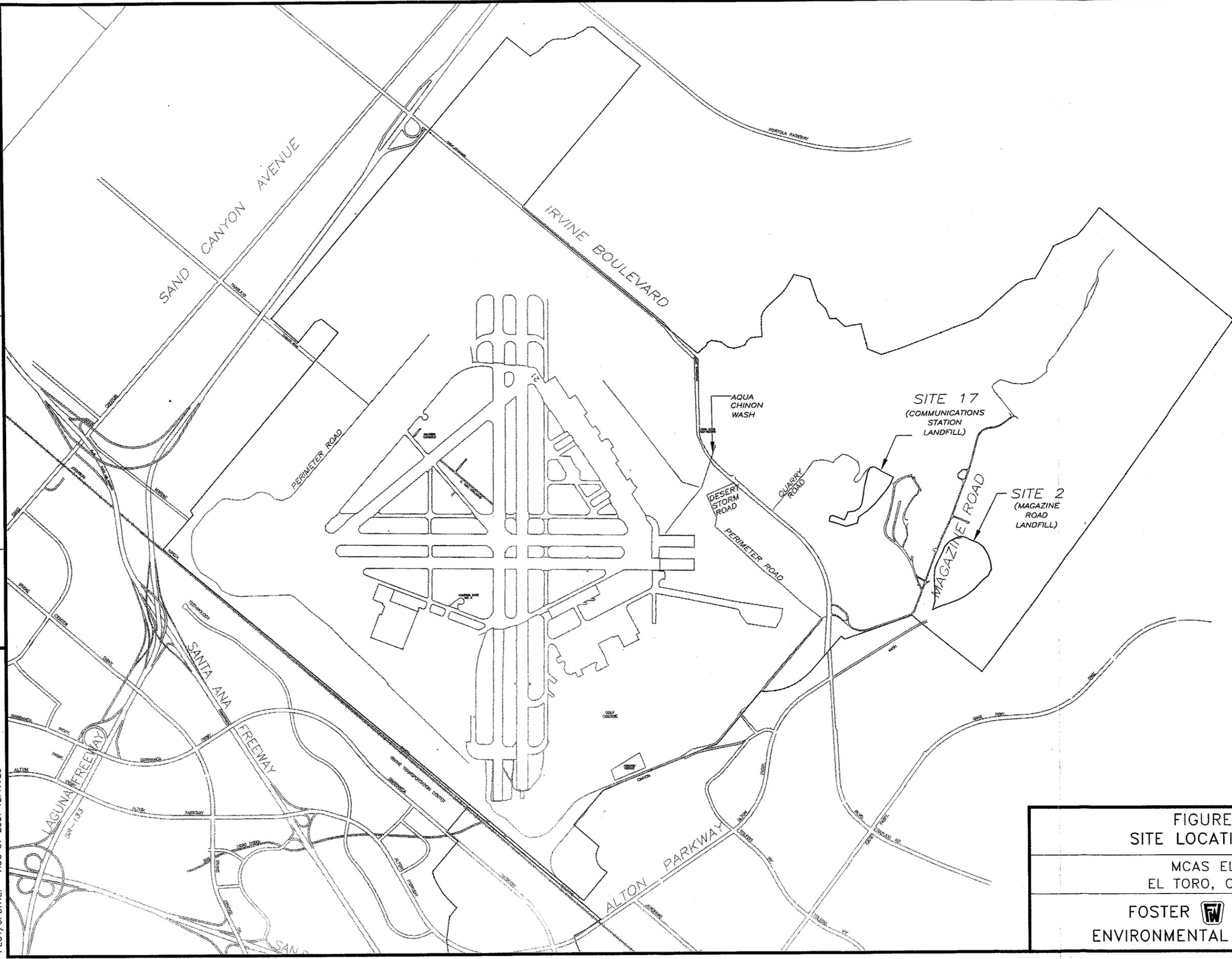
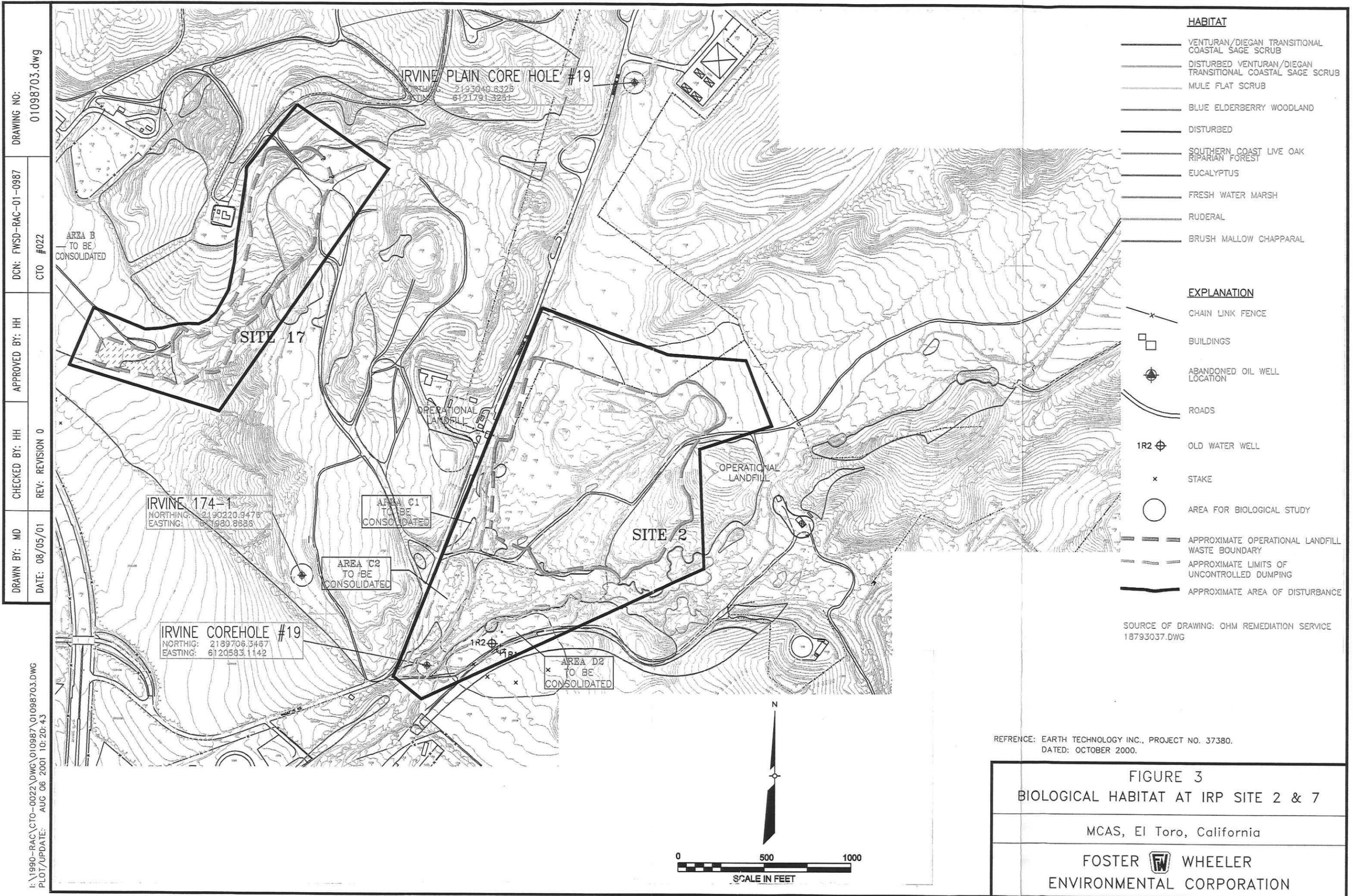


FIGURE 2
SITE LOCATION MAP
MCAS EL TORO
EL TORO, CALIFORNIA
FOSTER  WHEELER
ENVIRONMENTAL CORPORATION



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 DCN: FWS-D-RAC-01-0987
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 APPROVED BY: HH
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 REV: REVISION 0
 DRAWN BY: MD
 DATE: 08/05/01

- HABITAT**
- VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
 - DISTURBED VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
 - MULE FLAT SCRUB
 - BLUE ELDERBERRY WOODLAND
 - DISTURBED
 - SOUTHERN COAST LIVE OAK RIPARIAN FOREST
 - EUCALYPTUS
 - FRESH WATER MARSH
 - RUDERAL
 - BRUSH MALLOW CHAPPARAL
- EXPLANATION**
- X — CHAIN LINK FENCE
 - BUILDINGS
 - ⊙ ABANDONED OIL WELL LOCATION
 - ROADS
 - 1R2 ⊕ OLD WATER WELL
 - X STAKE
 - AREA FOR BIOLOGICAL STUDY
 - — — APPROXIMATE OPERATIONAL LANDFILL WASTE BOUNDARY
 - — — APPROXIMATE LIMITS OF UNCONTROLLED DUMPING
 - — — APPROXIMATE AREA OF DISTURBANCE

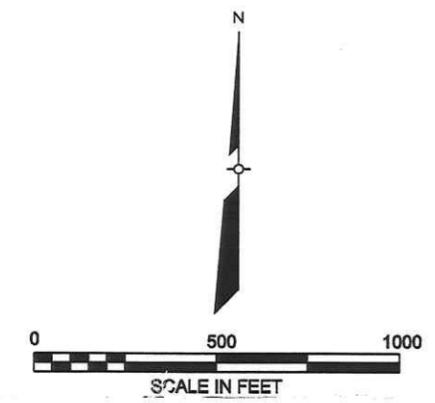
SOURCE OF DRAWING: OHM REMEDIATION SERVICE
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REFERENCE: EARTH TECHNOLOGY INC., PROJECT NO. 37380.
 DATED: OCTOBER 2000.

FIGURE 3
BIOLOGICAL HABITAT AT IRP SITE 2 & 7

MCAS, El Toro, California

FOSTER WHEELER
ENVIRONMENTAL CORPORATION



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DCN: FWSO-RAC-01-0987
CTO #022

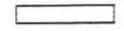
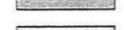
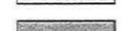
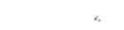
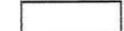
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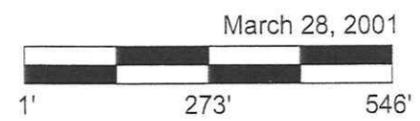
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REV: REVISION 0

DRAWN BY: MD
DATE: 08/05/01

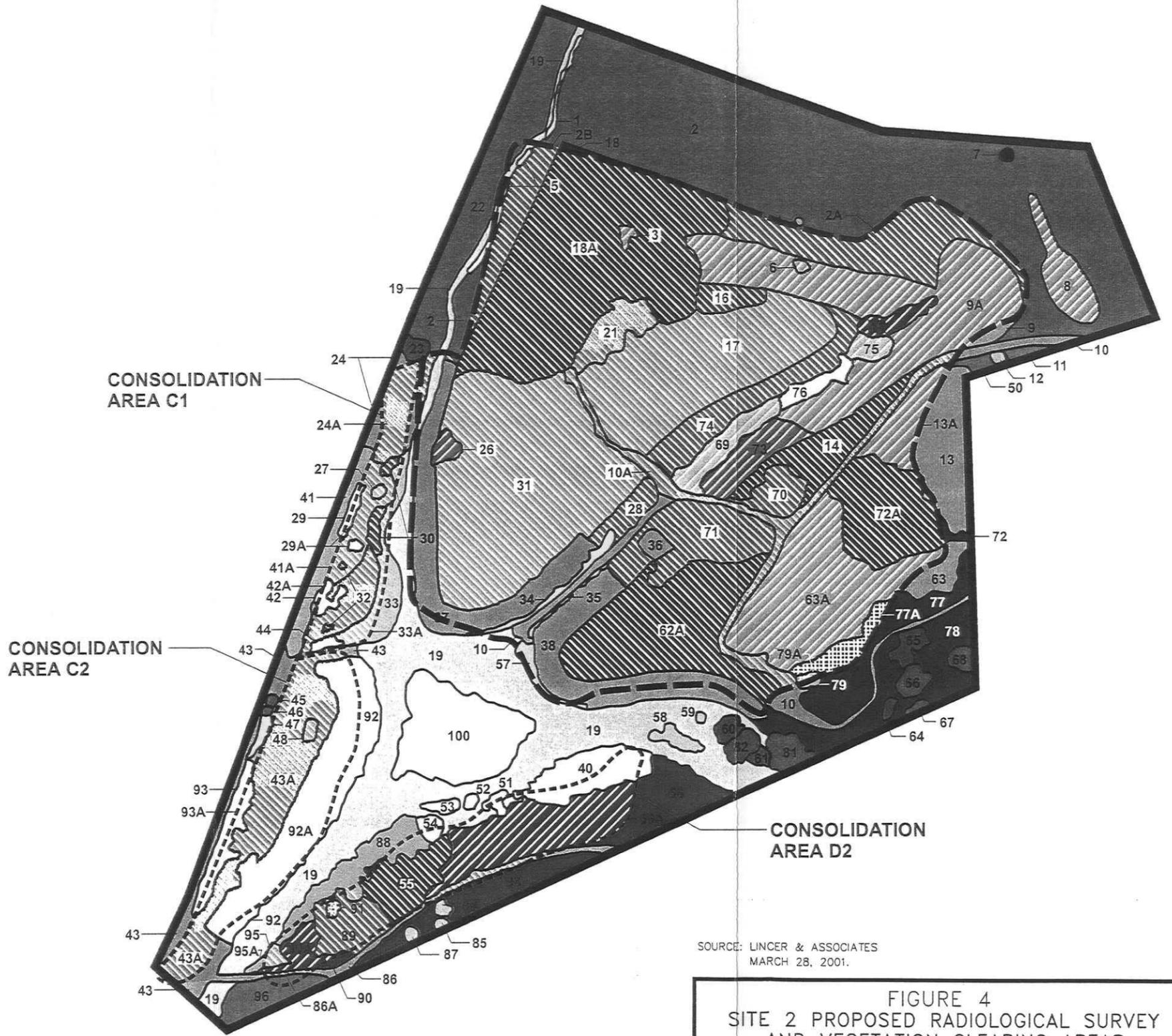
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LEGEND

-  VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  DISTURBED VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  MULE FAT SCRUB - DENSE
-  MULE FAT SCRUB - SPARSE
-  MULE FAT SCRUB - MIXED (MFS, BEW and/or WNN)
-  BLUE ELDERBERRY WOODLAND
-  UNVEGETATED
-  SOUTHERN COAST LIVE OAK/ SYCAMORE RIPARIAN FOREST
-  EUCALYPTUS
-  FRESHWATER MARSH
-  RUDERAL - <10% CSS
-  RUDERAL - NO CSS
-  WOODY NON-NATIVE
-  INDIVIDUAL *M. laurina* BUSHES
-  SANDY WASH
-  ESTIMATED LIMIT OF HISTORIC LANDFILL
-  MAXIMUM LIMITS OF REMEDIATION IMPACTS
-  Subject to brushing (as needed) and tractor-trailer testing.
-  Tractor-trailer radiation testing with avoidance of discrete native vegetation patches.
-  Subject to hand-held equipment testing (due to habitat or topography)
-  No radiation testing (no pattern)



March 28, 2001



SOURCE: LINCER & ASSOCIATES
MARCH 28, 2001.

FIGURE 4
SITE 2 PROPOSED RADIOLOGICAL SURVEY AND VEGETATION CLEARING AREAS
MCAS, El Toro, California
FOSTER  WHEELER
ENVIRONMENTAL CORPORATION

DRAWING NO:
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DCN: FWSO-RAC-01-0987
CTO #022

APPROVED BY: HH

CHECKED BY: HH
REV: REVISION 0

DRAWN BY: MD
DATE: 08/05/01

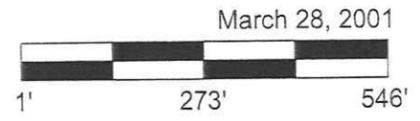
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LEGEND

-  VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  DISTURBED VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  MULE FAT SCRUB - DENSE
-  MULE FAT SCRUB - MIXED (MFS, BEW and/or WNN)
-  UNVEGETATED
-  EUCALYPTUS
-  RUDERAL - <10% CSS
-  RUDERAL - NO CSS
-  WOODY NON-NATIVE
-  INDIVIDUAL *M. laurina* BUSHES
-  SANDY WASH

-  ESTIMATED LIMIT OF HISTORIC LANDFILL
-  MAXIMUM LIMITS OF REMEDIATION IMPACTS

-  Subject to brushing (as needed) and tractor-trailer testing.
-  Tractor-trailer radiation testing with avoidance of discrete native vegetation patches.
-  Subject to hand-held equipment testing (due to habitat or topography)
-  No radiation testing (no pattern)



SOURCE: LINCER & ASSOCIATES
MARCH 28, 2001.

FIGURE 5
SITE 17 AND APHO 44 PROPOSED RADIOLOGICAL SURVEY AND VEGETATION CLEARING AREAS
MCAS, El Toro, California
FOSTER  WHEELER ENVIRONMENTAL CORPORATION

ATTACHMENT 1
DEPARTMENT OF NAVY LETTER TO THE
U.S. FISH AND WILDLIFE SERVICE
DATED MAY 2, 2001



DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

11015
Ser 5GPN.JL/242
May 2, 2001

Mr. James Bartel
Field Supervisor
U.S. Fish and Wildlife Service
2730 Loker Ave. West
Carlsbad, CA 92008

Dear Mr. Bartel,

This letter concerns potential adverse effects to federally listed species from activities incidental to the remediation of landfills on the former Marine Corps Air Station (MCAS) El Toro in southern Orange County (Figure 1). The remedial actions are pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), in connection with the closure and transfer of MCAS El Toro. The Department of the Navy (DoN) hereby requests concurrence from the U.S. Fish and Wildlife Service (USFWS) on brushing of unoccupied, sub-standard listed species habitat in advance of formal consultation, as detailed below.

At issue is the potential for impacts to coastal sage scrub (CSS) vegetation, habitat for the federally threatened coastal California Gnatcatcher (*Poliioptila californica californica*). The habitat in question is part of the El Toro Natural Habitat Area, which has been designated as critical habitat for the gnatcatcher (50 CFR Part 17 65(206): 63680-63743). DoN is currently preparing a Biological Assessment (BA) as a prelude to formal consultation with the USFWS on the final landfill remediation activities under section 7(a)(2) of the Endangered Species Act. A previous Biological Opinion (BO) issued by your office (1-6-97-F-14), dated 12 June 1997, addressed minor habitat losses associated with interim removal action activities relating to containing exposed wastes. The new BA will include mitigation of the habitat loss that will occur during the remedial action as well as the loss that occurred during the removal action, as required by the previous Biological Opinion.

Representatives of the Ecological Services and Refuges divisions of your agency met in the field with DoN staff at MCAS El Toro on 20 September 2000 to inspect the sites, the vegetation, and to discuss the work required for radiological testing and landfill remediation. It is the intent of this letter, its associated figures, data, and descriptions to supplement the 20 September 2000 field meeting with the USFWS. This letter provides results of recent gnatcatcher survey efforts and of recent mapping that accurately documents the vegetation being proposed for advance clearing. This new information will provide the basis for discussion of planned mitigation efforts.

SITE DESCRIPTIONS

Installation Restoration (IR) Site 2 (Magazine Road Landfill) and IR Site 17 (Communication Station Landfill) comprise approximately 38 acres of the roughly 900-acre Natural Habitat Area, which occupies the eastern-most 20% of MCAS El Toro. The landfills are located in the

southwestern portion of the Habitat Area (Figure 2). Refuse disposal at the two former landfills occurred between the 1950's and the 1980's. The types of waste deposited include construction debris, municipal waste, batteries, waste oil, hydraulic fluid, paint residue, transformers, and waste solvents (BNI 2000). It is also possible that equipment painted with radium paint, or other low-level radiological materials, consistent with MCAS operations, could have been placed at both sites.

Site 2 occupies approximately 27 acres and consists of the operational landfill Areas A and B (Figure 2). A fill cover of unknown thickness was placed over the operational landfill. An unlined drainage channel (man-made) that flows southwest bisects the site, between Areas A and B. In addition, during the operational life of the landfill, unauthorized surface disposal occurred intermittently in Areas C1, C2 and D2.

Site 17 occupies approximately 11 acres (BNI 2000). It is located in a small canyon between Borrego Canyon Wash and Agua Chinon Wash, northwest of the Magazine Road Landfill (Figure 2). It extends beyond the canyon mouth onto a flat, weed-covered field that was formerly used for agriculture. The landfill is covered with various amounts of fill and refuse that is visible at some locations. In addition, some unauthorized disposal of construction debris occurred intermittently within the limits of Aerial Photograph Anomaly (APHO) 44 (Figure 2).

As part of a time-critical removal action during 1996-1997, both sites were fenced, drums and other surface debris removed, and drainage improvements constructed to mitigate site erosion.

GNATCATCHER SURVEYS AND MONITORING

Despite the major historical disturbance to the area, several small, disjunct (IR Site 2) or continuous (IR Site 17) patches of mature CSS have survived within the landfill boundaries. These areas of CSS are the primary subjects of DoN's imminent Section 7 consultation, as some of the mature CSS will be lost due to the required extent of the landfill caps. These relatively small CSS patches are surrounded by extensive CSS acreage on parts of the Habitat Area.

A substantial amount of gnatcatcher survey work has been conducted on Sites 2 and 17 since 1992. As a result, a significant population segment of this listed species has been documented within MCAS El Toro. The USFWS carried out surveys for gnatcatchers in 1992 (U. S. Fish and Wildlife Service 1993). Protocol surveys were carried out in 1994 by Sweetwater Environmental Biologists, Inc. as part of Orange County's Natural Communities Conservation Planning program (State of California) (SEB 1994). In June of 1996, SEB conducted a non-protocol level survey, which addressed the gnatcatcher's nesting status in the context of three types of response actions planned for the IR Program (IRP) (SEB 1996). The purpose of that report was to provide OHM Remediation Services and the Navy with a constraints analysis for the proposed work. The focus of the biological surveys for the report was primarily to detect the coastal California gnatcatcher and identify landfill project impacts to the gnatcatcher and its habitat. All vegetation was mapped and sensitive habitat areas were identified. In 1996, KEA Environmental Services updated the above gnatcatcher location information with a protocol survey (KEA 1996; updated by KEA 1998). This survey formed the basis for the original BA analysis of take during the time-critical removal actions (Helix 1997a).

Since 1996, additional gnatcatcher monitoring and surveys have been conducted on Sites 2 and 17. Construction monitoring of the time-critical removal action was conducted from March 20 to August 21, 1997, during which 21 survey visits were conducted to assess the status of gnatcatchers on and around the construction sites (Helix 1997b). During the period April 12-24, 2000, the gnatcatchers were once again monitored while pre-design investigations, in the form of localized, exploratory trenching, were being conducted (Lincer & Associates 2000).

Since the 1997 BA, the IRP process has progressed to the final remedy phase. A separate BA will be required to address the impacts of the final remedy. This new BA will build on the original BA and is being prepared in accordance with the requirements set forth under Section 7 of the Endangered Species Act of 1973, (19 U.S.C. 1536(c), 50 CFR 402). Additional gnatcatcher surveys, specifically in support of the new BA, have been completed and are reported on below.

The results of current gnatcatcher surveys on Site 2 show consistent use of the vicinity by gnatcatchers. Current gnatcatcher surveys (Lincer & Associates, in prep.) suggest that one pair of gnatcatchers likely nests beyond the operational landfill, roughly two to three hundred feet south of Consolidation Area D2 (Figure 3). A second location, discovered during the first three of the nine recent protocol surveys, has been of a single individual just within the "estimated limit of historical landfill." This bird was observed utilizing both DCSS and RUD-C habitat (Figure 5). However, this bird has not been seen during the last six surveys (2/9, 2/16, 2/22, 3/7, 3/15, and 3/22/01). This is the same area where two or three gnatcatchers were observed by J. Lincer (Lincer and Associates) and J. Lovio (SWDIV Natural Resource Office) in the winter of 2000-2001. Since the positive sightings were made early in the season, it is very possible that this individual was simply foraging in winter habitat (CSS recovering from a fire a few years ago) and has since moved to better habitat for breeding.

The results of current gnatcatcher surveys on Site 17 also show a very consistent use of the area by gnatcatchers over time. Although no brushing of CSS is proposed for Site 17, current gnatcatcher investigations (Lincer & Associates, in prep.) indicate a total of six pairs of gnatcatchers within or close enough to Site 17 to be addressed in any impact assessment (Figure 4). Two other pairs have been observed far enough south of this site so as not to be an issue relative to potential disturbance or other impact. Of the above six pairs, two pairs likely nest between the limits of the historic landfill and maximum limits of remediation impacts (Figure 6). Three more pairs likely nest within a few hundred meters outside the maximum limits of remediation impacts and another pair likely nests just east of Consolidation Area C.

VEGETATION MAPPING

DoN has recently re-mapped all current vegetation and other cover types within the estimated perimeters of the final landfill caps and the potential maximum impact areas as part of the preparation of the BA (Figures 5 and 6). Table 1 provides a summary of the acreage by vegetation type. Habitat that is potentially suitable for gnatcatcher occupation, especially during the breeding season, includes both CSS and some phases of disturbed CSS. Three disturbed native vegetation categories are unsuitable for gnatcatcher occupation: 1) very sparsely vegetated by recovering CSS (generally less than 5% cover; see Figures 5 and 6); 2) more dense, colonizing CSS growth strongly dominated by deerweed (*Lotus scoparius*); and 3) isolated, atypically located, non-CSS vegetation that has responded to disturbed soil and presumably

higher local moisture levels (e.g., non-wetland stands of mulefat and elderberry; see Figures 5 and 6). The determination of unsuitability of these areas for gnatcatchers based on vegetation structure is supported by a lack of recorded sightings throughout the survey history of the area, as detailed above.

Table 1- Total Acreage by Vegetation Type - Site 2 and 17

Vegetation Type	Acreage Site 17 ¹	Acreage Site 2 ¹
Blue Elderberry Woodland (BEW)		0.076
Coastal Sage Scrub (CSS)	12.769	2.545
Disturbed Coastal Sage Scrub (DCSS)	0.828	12.196
Eucalyptus (EUC)	0.171	0.059
Fresh Water Marsh (FWM)		0.552
Mule Fat Scrub (BLF) /BEW		0.017
MFS/Woody Non-Native (WNN)		0.028
MFS/WNN/BEW		0.519
MFS-Disturbed	0.949	3.723
MFS-Sparse		0.753
Individual <i>M. laurina</i> Bushes (ML)	0.598	0.016
Ruderal (RUD) -C (less than 10 percent CSS)	0.299	5.957
RUD-NC (no CSS)	6.619	12.609
Southern California Oak/Sycamore Riparian Forest (SCLOW)		0.509
Sandy Wash (SW)	0.230	8.471
Unvegetated	2.417	6.575
WNN	0.119	0.395

Note

¹ - Acreage of vegetation within the anticipated maximum extent of impact during the planned remedial action.

Although all of these transitional vegetation types may be categorized as “primary constituent elements” under the definitions in the gnatcatcher critical habitat rule, the loss of these small and presently unsuitable areas will not likely impair the normal reproduction and dispersal of gnatcatchers on the Habitat Area because of the proximity of mature CSS in sufficient amount to sustain the gnatcatcher population segment on El Toro and the presence of numerous alternative routes for movement of birds within the area. Regardless of the final disposition of the landfill caps with respect to vegetation cover, these areas will remain undeveloped and will retain nearly the same ecological value to gnatcatchers that they now have.

PROPOSED ACTIONS

The remediation process for the landfill sites consists of a series of investigations which, depending on their findings, may alter the nature and timelines of subsequent steps. All the investigations will ultimately contribute to the final design of the landfill caps. One of the final steps is an assessment of the presence and distribution of any radioactive materials in the landfill deposits.

The radiological surveys will be conducted using a combination of the following three Global Positioning System (GPS) survey system configurations:

a. Tractor-trailer survey system: This configuration (Figure 7) utilizes a four or eight radiation detector array mounted on a small GPS trailer. The four-wheeled trailer wheelbase is approximately four feet wide and the eight-detector array (detector rack) is approximately six feet wide. The trailer survey detector array clearance above the ground is 3 to 4 inches. The entire tractor-trailer assembly is approximately 24 feet long. The surveys are conducted at a speed of approximately one mile per hour. The tractor is a model B2150 Kubota 24 hp, four-cylinder, diesel-powered vehicle. The noise level at the tractor cab is 85 - 90 dB, but attenuates to ambient level within 30 feet of the engine. The tractor exhaust stack is approximately six feet above the ground and is equipped with a spark arrestor.

b. Push-cart survey system: This configuration (Figure 8) utilizes one to three radiation detectors mounted on a small three-wheeled GPS cart that is pushed or pulled by hand. The overall dimensions of the cart are about two feet wide by approximately four feet long (including handle). The push-cart survey detector array clearance above the ground is 3 to 4 inches and the cart speed is less than one mile per hour. The weight of the cart varies from approximately 70 pounds when using one detector to approximately 140 pounds when using three detectors. Operation of this system is essentially noiseless, except for radio communications between the push-cart operator and the data collection station.

c. Backpack hand-held survey system: This system (Figure 9) utilizes a GPS backpack carried by one individual with a single radiation detector hung from a sling. The detector is hung within three inches of the ground and swung slowly "side-to-side" through an approximately two-foot arc while the operator walks slowly over the survey site.

The most efficient and cost-effective radiological survey will involve the maximum use of the tractor-trailer configuration, which will require the clearing of all vegetation and other obstructions taller than four inches. However, loss of potential gnatcatcher habitat will be avoided by use of the push-cart or hand-held configurations in areas suitable for this species. Hand-held equipment will be also be used for supplemental testing in steep or densely vegetated areas. Figures 5 and 6 show the maximum areas subject to brush clearing to accommodate tractor-mounted sensors, although clearing may be less extensive than this. These areas will be cleared using tractor-drawn mowers or hand-held bush-whackers, as determined by terrain.

Tables 2 and 3 provide summaries of the acreages of CSS, DCSS, and other native vegetation elements that will be subject to different brushing and radiological survey treatments at Sites 2 and 17, respectively.

Table 2 - Estimated Acreage of Coastal Sage Scrub within Proposed Radiological Survey Boundary at Site 2

Vegetation	Polygon #	Total Acreage	Handheld	Tractor-trailer with avoidance	Acreage Impacted by Brushing for Tractor - Trailer Survey
CSS	15	0.137	0.137	0	0
CSS	16	0.173	0.173	0	0
CSS	56A	0.936	0.936	0	0
CSS	90A	0.175	0.175	0	0
CSS	91	0.020	0	0.020	0
Subtotal		1.441	1.421	0.020	0
DCSS	3	0.029	0.029	0	0
DCSS	8	0.372	0.372	0	0
DCSS	9A	2.386	2.386	0	0
DCSS	13A	0.384	0.384	0	0
DCSS	17	2.253	0	0	2.253
DCSS	31	3.521	0	0	3.521
DCSS	41A	0.260	0	0	0.260
DCSS	63A	1.741	1.741	0	0
Subtotal		10.946	4.912	0.000	6.034
Total (CSS & DCSS)		12.387	6.333	0.020	6.034
RUD-C	14	0.64	0	0	0.64
RUD-C	18	1.24	0	0	1.24
RUD-C	55	0.49	0	0	.49
RUD-C	62A	1.97	0	0	1.97
RUD-C	72A	0.98	0	0.0	0.98
RUD-C	77A	0.416	0	0.416	0
Total (RUD-C)		5.736	0	0.416	5.320
MFS	95A	0.027	0.027	0	0
MFS	93A	0.212	0.212	0	0
MFS	48	0.035	0.035	0	0
MFS	33A	0.221	0.221	0	0
MFS	42A	0.079	0.079	0	0
MFS	29A	0.062	0.062	0	0
MFS	6	0.035	0.035	0	0
MFS	76	0.106	0.106	0	0
Total (MFS)		0.778	0.778	0	0

Table 3 - Estimated Acreage of Coastal Sage Scrub within Proposed Radiological Survey Boundary at Site 17

Vegetation	Polygon #	Total Acreage	Handheld	Tractor-trailer with avoidance	Acreage Impacted by Brushing for Tractor - Trailer Survey)
CSS	10A	5.399	5.399	0	0
CSS	11	0.017	0.017	0	0
CSS	12	0.035	0.035	0	0
CSS	23	0.253	0.253	0	0
CSS	35	0.056	0.056	0	0.000
CSS	48	0.165	0.165	0	0
CSS (APHO 44)	54A	0.099	0.099	0	0
Total CSS		6.024	6.024	0.000	0.000
RUD-C	6	0.056	0	0	0.056
RUD-C	36	0.042	0	0	0.042
RUD-C	37	0.126	0	0	0.126
RUD-C	40	0.075	0	0	0.075
Total (RUD-C)		0.299	0	0.0	0.299
MFS	15A	0.026	0.026	0	0
MFS	Area of consolidation C	1.078	1.078	0	0
MFS	22	0.124	0.124	0	0
MFS	53A	0.203	0.203	0	0
Total (MFS)		1.432	1.432	0.0	0.0

Brushing and Radiological Survey Schedule

Table 4 provides the anticipated schedule for the brushing and radiological survey. DoN will initiate brush clearing at the subject sites on or about June 11, 2001. Radiological surveys at locations on MCAS El Toro lacking sensitive habitat will begin on May 14, 2001. The survey effort at Site 17 is scheduled to start on July 31, 2001. DoN has scheduled the survey of these sites toward the end of the radiological survey period to allow time for USFWS review of the proposed actions and to minimize possible adverse effects to nesting gnatcatchers (Table 4).

Table 4 - Brushing and Radiological Survey Schedule

Site	Dates	
	Brushing	Radiological Survey
IR Site 1	Not required	July 2-12, 2001
IR Site 2	June 18 - July 6, 2001	July 13 - 30, 2001
IR Site 17/APHO 44	July 9 - July 16, 2001	July 31 -August 10, 2001

POTENTIAL IMPACTS AND ASSURANCES

DoN is proposing to remove ruderal vegetation and sub-standard native vegetation, as described above and as indicated in Figures 5 and 6. As summarized in Table 2, 6 acres of DCSS will be brushed at Site 2, with no CSS being brushed. No brushing of CSS or DCSS will occur at Site 17 (Table 3). Vegetation removal will be confined to relatively level areas that are conducive to radiological testing with the tractor-trailer apparatus. This method will not pose a significant indirect effect to adjacent suitable habitat because it cannot stray from prescribed and cleared testing areas. In addition, the associated noise levels will be limited to less than 65dB within 50 feet of any active nest. Areas too steep, rugged, or heavily vegetated will be surveyed by hand-held radiological testing equipment as described above.

DoN finds that these actions may affect, but are unlikely to adversely affect the gnatcatcher if the following avoidance and minimization measures are taken:

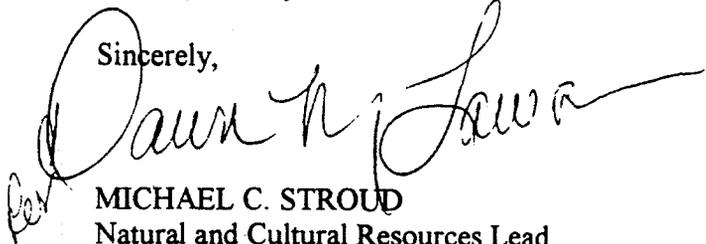
- DoN will ensure that qualified biological monitors, familiar with the ecology of the gnatcatcher and possessing a federal 10(a) permit for this species, will clearly delimit areas to be brushed and will be present for all vegetation brushing and radiological testing activities.
- The biological monitors will conduct a pre-construction briefing on sensitive resources for the brushing sub-contractor.
- Hand-held radiological equipment operators will be observed by monitors to ensure minimal effects to sensitive habitat. Areas of suitable gnatcatcher habitat to be hand-tested within the landfill remediation boundaries will be subject to gnatcatcher monitoring so as to assess whether nesting efforts in proposed survey areas are underway.
- The biological monitor will have the authority to suspend any activities on the site that have the potential to adversely affect nesting gnatcatchers. Such activities will be postponed if they are found to occur within 200 feet of an active nest and will not resume until young have fledged and are sufficiently mobile to readily follow their parents.
- A report of monitoring activities and results will be prepared and submitted to the USFWS.

Furthermore, the incidental loss of nests of migratory bird species in the areas to be cleared, which is prohibited by the Migratory Bird Treaty Act, will be avoided or minimized by a general survey of these areas within several days prior to the activity.

DoN will address the loss of suitable gnatcatcher habitat from the landfill remediation in the forthcoming BA. This document will propose mitigation ratios for suitable and unsuitable gnatcatcher habitat, whether occupied or not, and whether or not cleared in advance of consultation.

DoN looks forward to resolving this urgent issue soon in the interest of the effective and timely remediation of the landfills and of the proper avoidance and minimization of adverse effects to listed species. We request a written response to this request for advance removal of vegetation within 2 weeks of receipt of this letter so that the remediation timeline may not be unduly delayed. We further suggest an informal conference call early in the week of 14 May, 2001 to address any questions or concerns of your staff. Thank you for your consideration.

Sincerely,



MICHAEL C. STROUD
Natural and Cultural Resources Lead
By direction of the Commander

Encl.:

(1) Figures 1 through 9

Copy to:

United States Environmental Protection Agency, Region IX, Hazardous Waste Management Division (SFD 8-2), Attn: Ms. Nicole Moutoux, 75 Hawthorne Street, San Francisco, CA 94105-3901

Ms. Triss Chesney, California Environmental Protection Agency, Department of Toxic Substances Control, 5796 Corporate Avenue, Cypress, CA 90630-4700

Ms. Patricia Hannon, California Regional Water Quality Control Board, Santa Anna Region 3737 Main Street, Suite 500, Riverside, CA 92501-3339

Ms. Polin Modanlou, El Toro Master Development Program, 10 Civic Center Plaza, Second Floor, Santa Ana, CA 92701

Mr. Ken R. Smith, Public Facilities & Resources Department, 8th Floor, 300 North Flower Street Santa Ana, CA 92703-5000

Mr. Gregory F. Hurley Esq., Restoration Advisory Board Co-Chair, Kutak Rock, 620 Newport Center Drive, Suite 450

Ms. Marcia Rudolph, Restoration Advisory Board Subcommittee Chair, 24922 Muirlands #139, Lake Forest, CA 92630

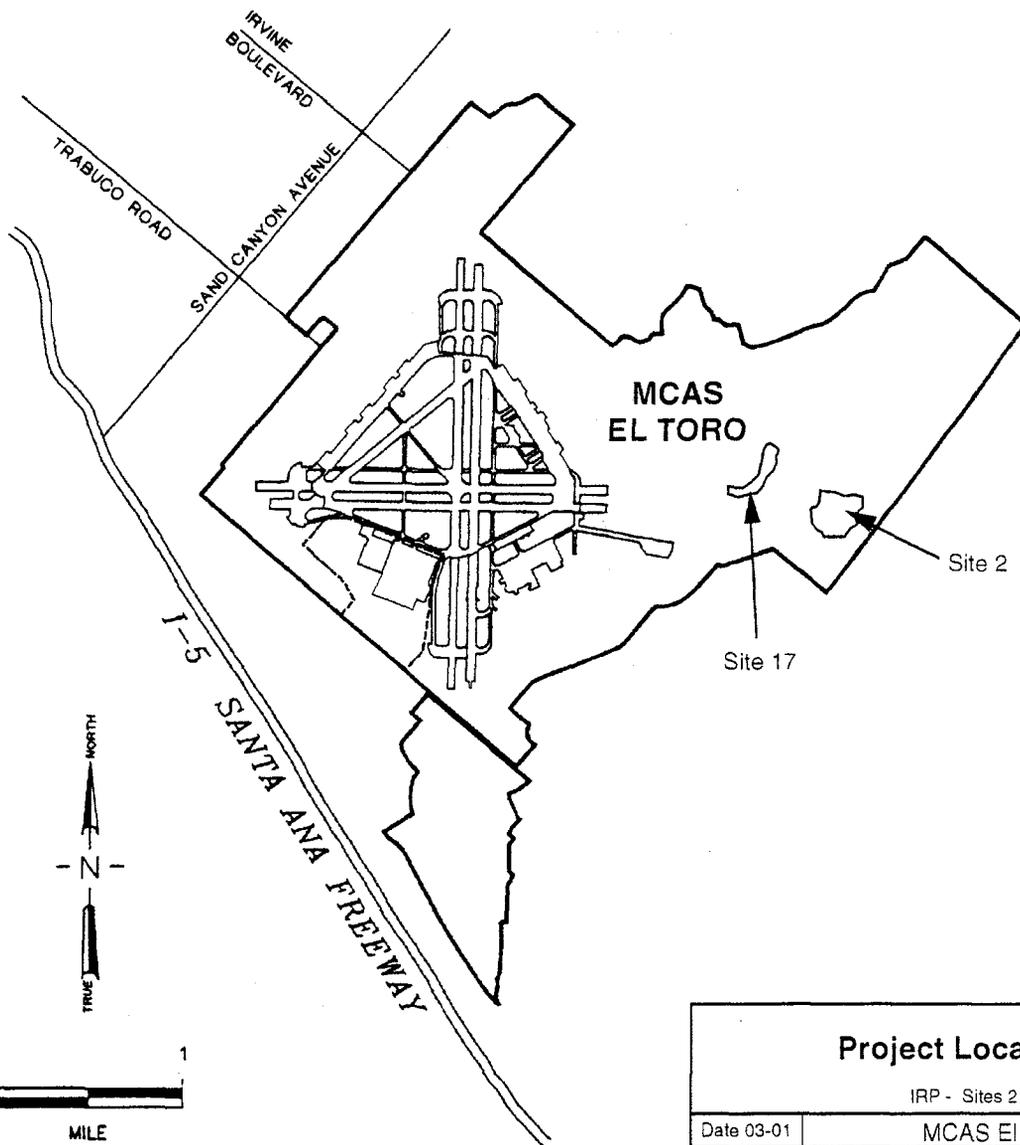
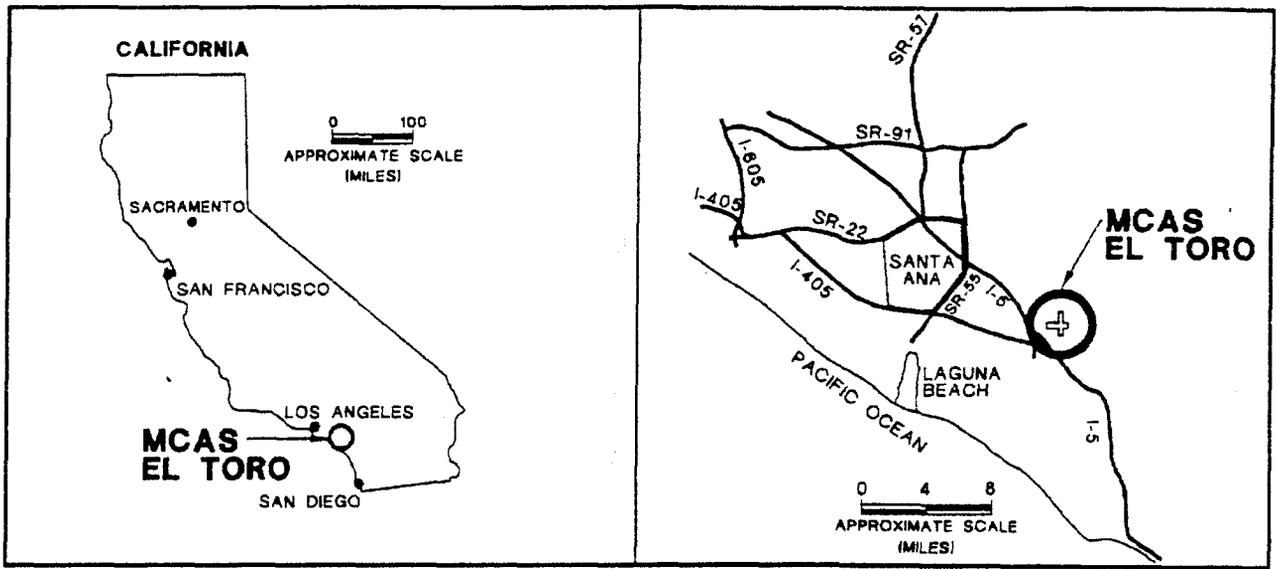
Mr. Crispin Wanyoike, Earth Tech Inc., 100 West Broadway, Suite 5000, Long Beach, CA 90802

Ms. Charly Weimert, Logistics Systems Analyst, P.O. Box 51718, Irvine, CA 92619-1718

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Project Location Map		
IRP - Sites 2 and 17		
Date 03-01	MCAS El Toro	
Project No. 37380	EARTH  TECH <small>A TNCB INTERNATIONAL LTD. COMPANY</small>	Figure 1

37380.00.01.02

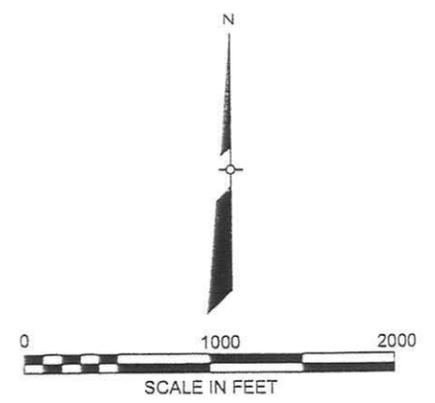


NOTE

TOPOGRAPHIC DATA WAS PROVIDED BY THE COUNTY OF ORANGE (DATE OF SURVEY, APPROXIMATELY 1997). AERIAL PHOTOGRAPHY DATED JULY, 2000 PREPARED BY SAN-LO AERIAL SURVEY.

LEGEND

- IRP SITES
- FAA PARCEL PER RECORD OF SURVEY 98-1077 BY JOHN CANAS L.S. 4408. DATE OF SURVEY: NOVEMBER, 1998
- - - - PROPOSED WILDLIFE REFUGE
- STATION BOUNDARY
- ~~~~ STREAMS



HABITAT AREA

IRP Sites 2 and 17

MCAS El Toro California

Date 04-01

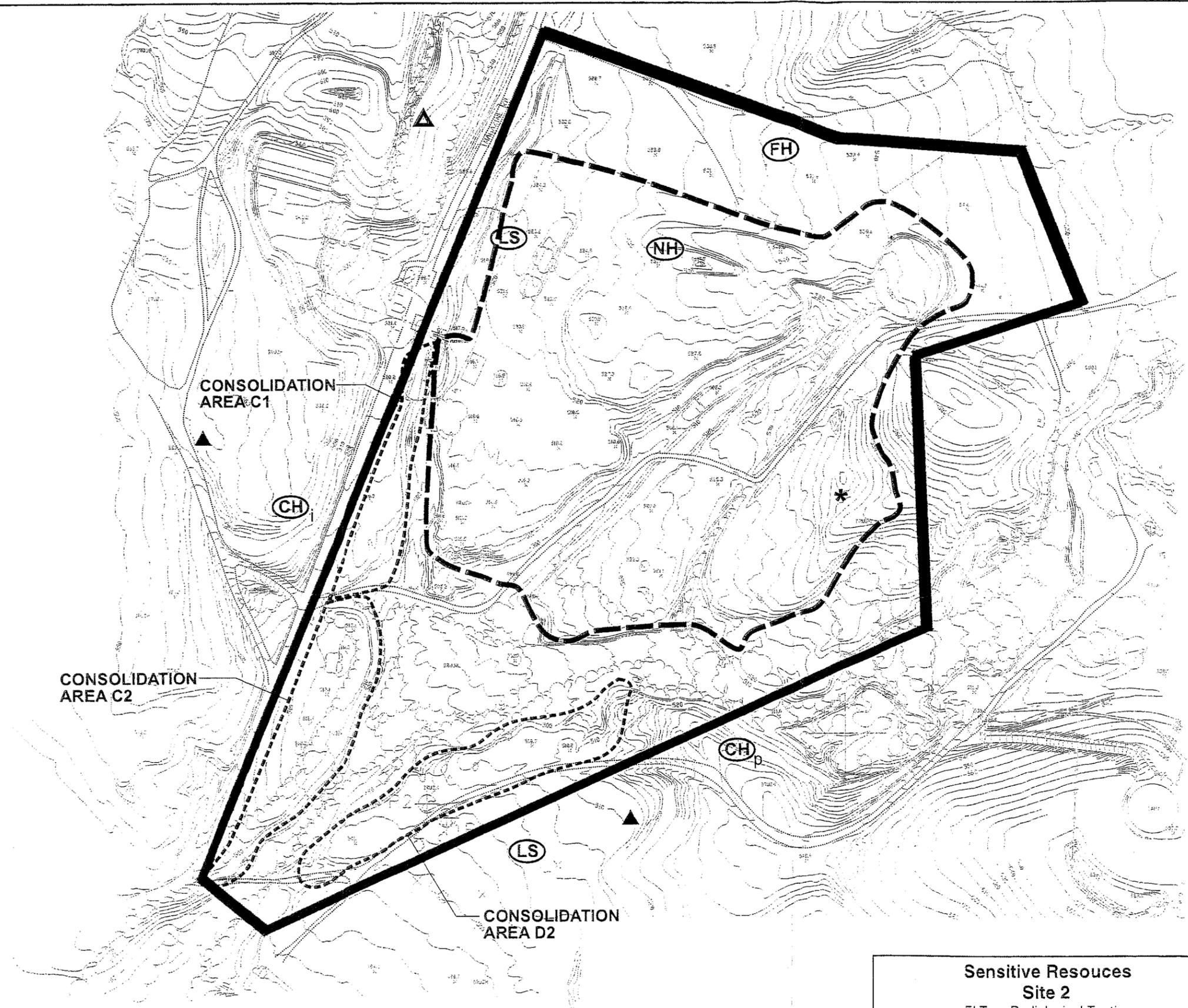
Project No.

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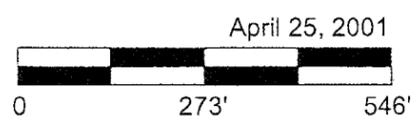
Figure

2



Explanation

- ESTIMATED LIMIT OF HISTORIC LANDFILL
- █ MAXIMUM LIMITS OF REMEDIATION IMPACTS
- * Gnatcatcher Winter Use Area
- ▲ Coastal California Gnatcatcher (pair)
- △ Coastal California Gnatcatcher (defending male)
- (LS) Loggerhead Shrike
- (CH)_p Cooper's Hawk (pair)
- (CH)_i Cooper's Hawk (immature)
- (NH) Northern Harrier
- (FH) Ferruginous Hawk

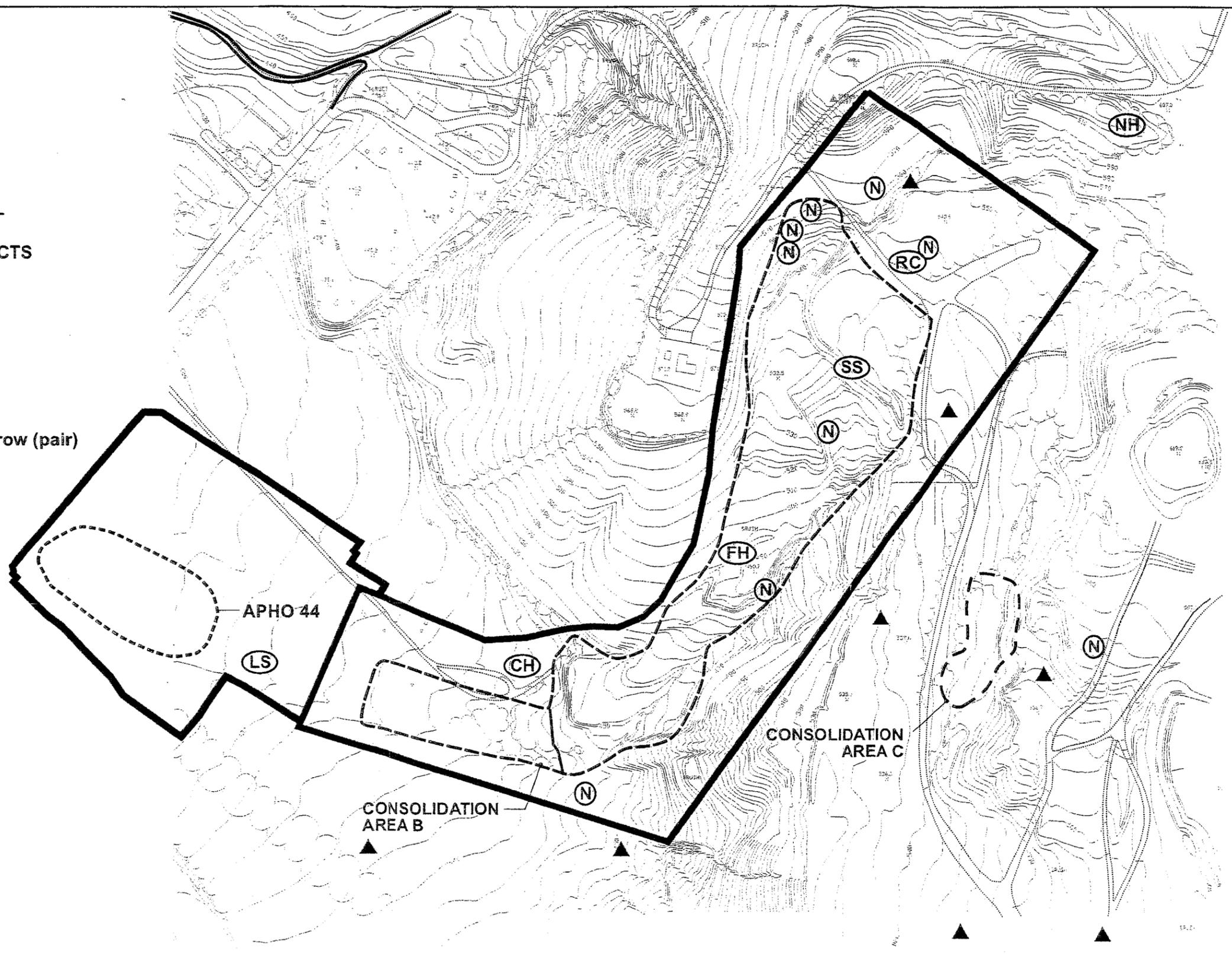


Sensitive Resources Site 2		
El Toro Radiological Testing		
Date 4-01	MCAS El Toro California	Figure 3
Project No. 37380	EARTH TECH	

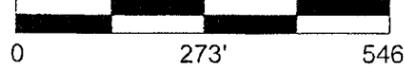
37380.30.00.02 El Toro

Explanation

-  ESTIMATED LIMIT OF HISTORIC LANDFILL
-  MAXIMUM LIMITS OF REMEDIATION IMPACTS
-  Coastal California Gnatcatcher (pair)
-  Neotoma Nest
-  Northern Harrier
-  Ferruginous Hawk
-  Loggerhead Shrike
-  Southern California Rufous-crowned Sparrow (pair)
-  Sharp-shinned Hawk
-  Cooper's Hawk



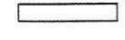
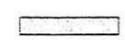
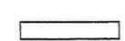
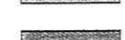
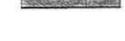
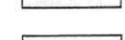
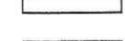
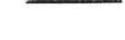
April 25, 2001

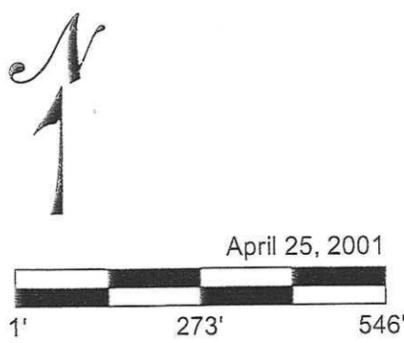
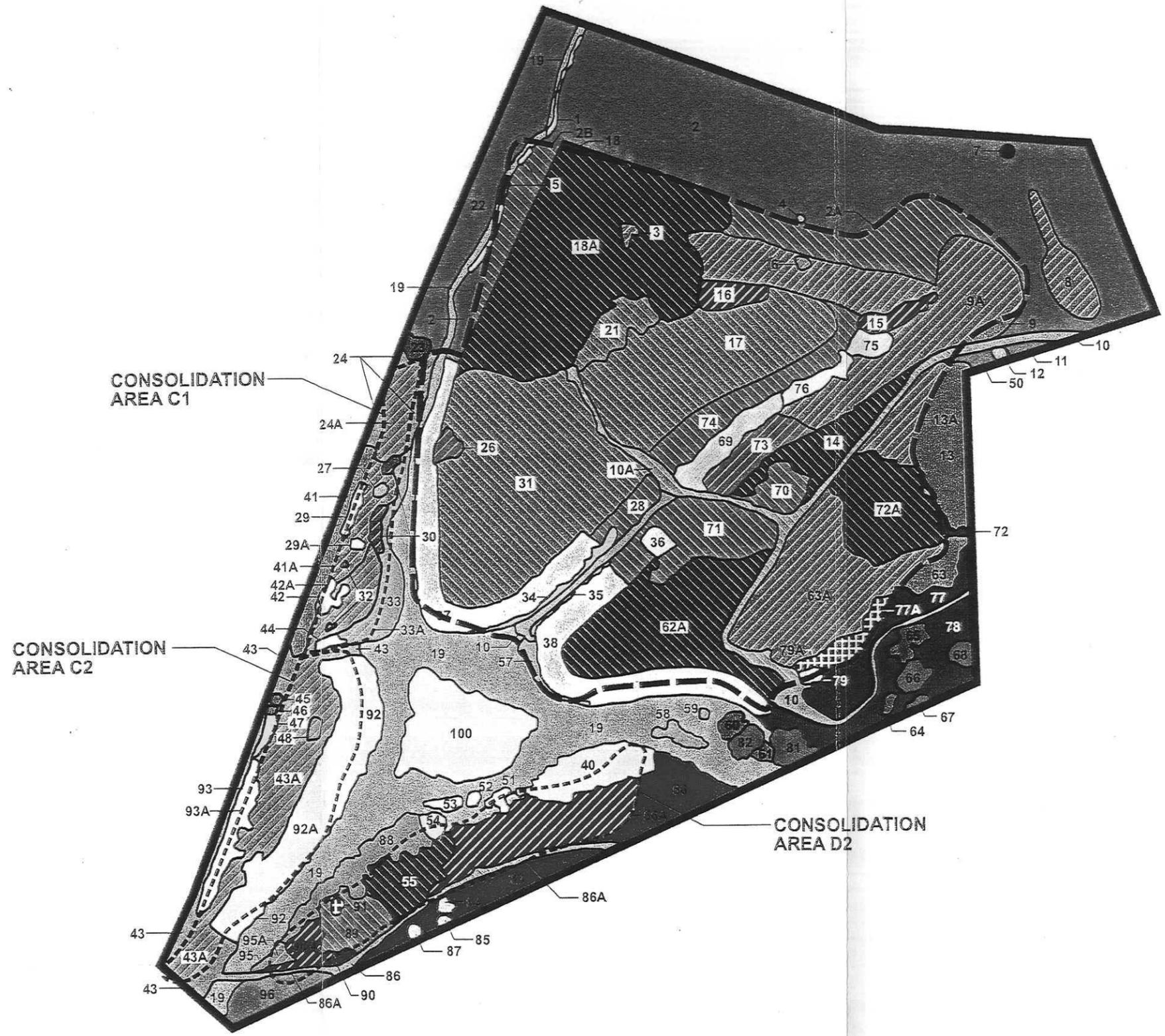


Sensitive Resources Site 17		
El Toro Radiological Testing		
Date 4-01	MCAS El Toro California	
Project No. 37380	EARTH  TECH	Figure 4

37380-30-00-02-EL

Explanation

-  VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  DISTURBED VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  MULE FAT SCRUB - DENSE
-  MULE FAT SCRUB - SPARSE
-  MULE FAT SCRUB - MIXED (MFS, BEW and/or WNN)
-  BLUE ELDERBERRY WOODLAND
-  UNVEGETATED
-  SPARSELY VEGETATED
-  SOUTHERN COAST LIVE OAK/ SYCAMORE RIPARIAN FOREST
-  EUCALYPTUS
-  FRESHWATER MARSH
-  RUDERAL - <10% CSS
-  RUDERAL - NO CSS
-  WOODY NON-NATIVE
-  INDIVIDUAL *M. laurina* BUSHES
-  SANDY WASH
-  ESTIMATED LIMIT OF HISTORIC LANDFILL
-  MAXIMUM LIMITS OF REMEDIATION IMPACTS
-  Subject to brushing (as needed) and tractor-trailer testing.
-  Tractor-trailer radiation testing with avoidance of discrete native vegetation patches.
-  Subject to hand-held equipment testing (due to habitat or topography).
-  No radiological testing (no pattern).

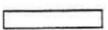
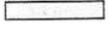
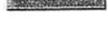
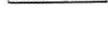


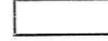
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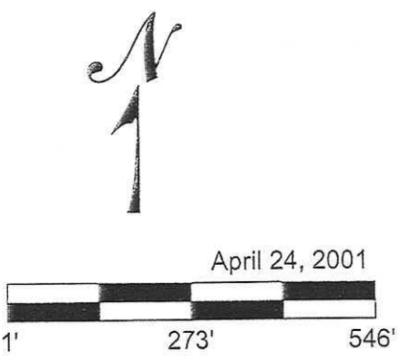
Proposed Brush Clearing Site 2		
El Toro Radiological Testing		
Date 4-01	MCAS El Toro California	
Project No. 37380	EARTH  TECH	Figure 5

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Explanation

-  VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  DISTURBED VENTURAN/DIEGAN TRANSITIONAL COASTAL SAGE SCRUB
-  MULE FAT SCRUB - DENSE
-  MULE FAT SCRUB - MIXED (MFS, BEW and/or WNN)
-  SPARSELY VEGETATED
-  EUCALYPTUS
-  RUDERAL - <10% CSS
-  RUDERAL - NO CSS
-  WOODY NON-NATIVE
-  INDIVIDUAL *M. laurina* BUSHES
-  SANDY WASH
-  ESTIMATED LIMIT OF HISTORIC LANDFILL
-  MAXIMUM LIMITS OF REMEDIATION IMPACTS

-  Subject to brushing (as needed) and tractor-trailer testing.
-  Tractor-trailer radiation testing with avoidance of discrete native vegetation patches.
-  Subject to hand-held equipment testing (due to habitat or topography).
-  No radiological testing (no pattern).



April 24, 2001

Proposed Brush Clearing		
Site 17		
El Toro Radiological Testing		
Date 4-01	MCAS El Toro California	Figure
Project No. 37380	EARTH  TECH	6

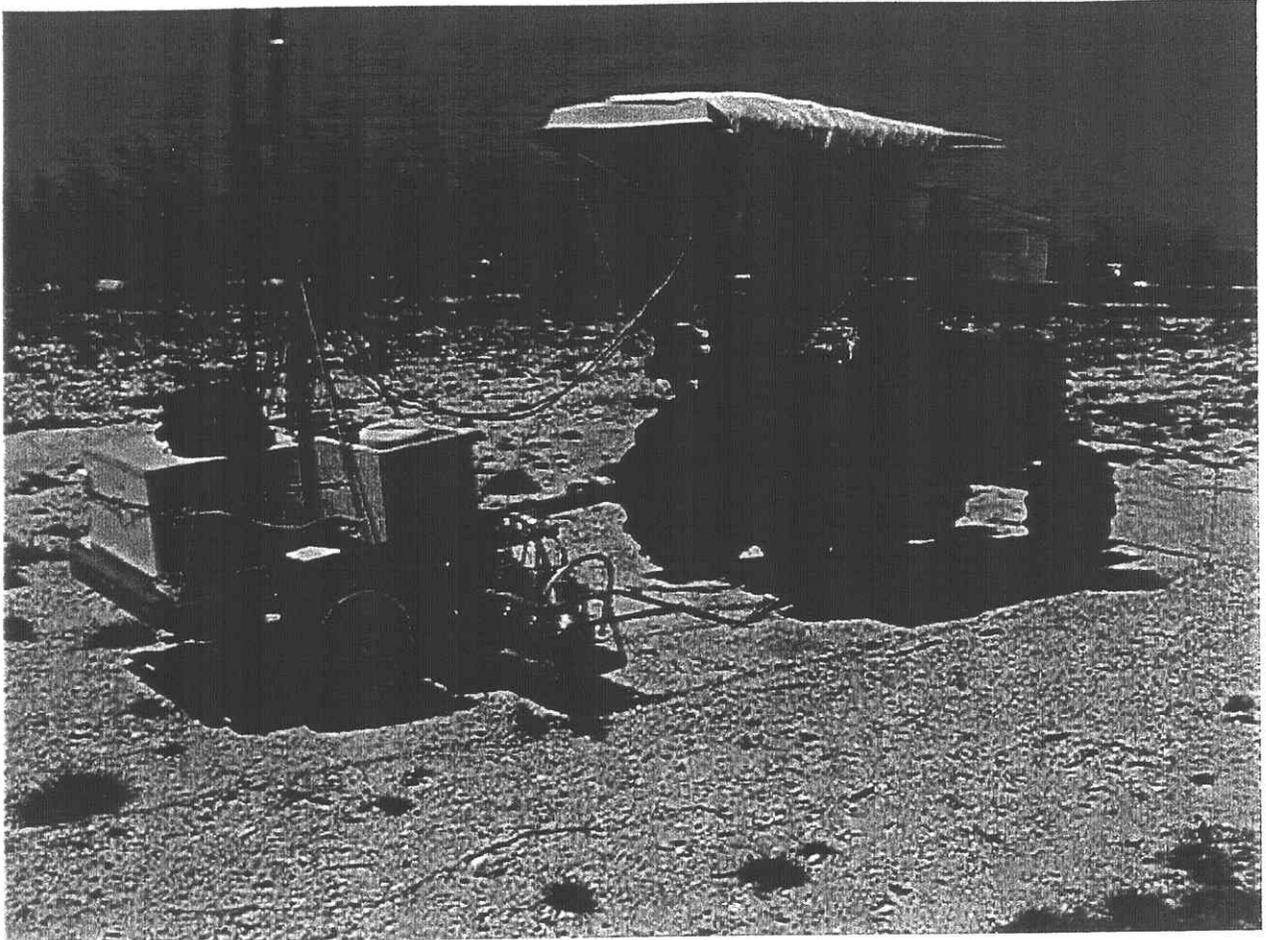


Figure 7
Tractor-Trailer GPS Survey Configuration



Figure 8
Push-Cart GPS Radiological Survey Configuration



Figure 9
Backpack Hand-Held GPS

ATTACHMENT 2

**ACTIVITY HAZARD ANALYSES (AHAs)
FOR CLEARING AND DE-VEGETATION**

ACTIVITY HAZARD ANALYSIS #1

Activity: Mobilization and Site SetupAnalyzed By/Date: Roger Margotto 12/20/00Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Set up Work Area	<p>Potential exposure to chemical hazards.</p> <p>Driving on unpaved roads to and from the site.</p> <p>Poor communications in remote areas.</p> <p>Emergency access in remote areas is limited with extensive response time.</p>	<ul style="list-style-type: none"> • Delineate exclusion zones and use PPE specified in Table 3 of the SHSP. • Ambient air monitoring and visual observation shall be used to verify selection of PPE. • Set up CRC. • Use water-spraying procedures for dust control measures. • Identify all chemical hazards and receive training (MSDS) regarding safe handling of chemicals. The SHSS will file copies of all MSDSs at site. • Understand that vehicles operate differently on unpaved roads. • Operate vehicles only at safe speeds. • Operate vehicles during daylight hours only, when on unpaved roads. • Allow plenty of time for travel so that drivers are not fatigued. Assure that at the end of day, drivers are able to safely drive. • Assure communication with CSO each day. • Verify that all work can be performed safely and that there are no plans for other operations which would impede access to the site or egress from the site. • Each field crew should be equipped with a cellular phone or two-way radios. • Assure there are at least two workers trained in CPR and first aid. • Assure that first aid kit has additional supplies as specified in the plan. • Assure that the vehicles have sufficient fuel when arriving at site (at least ½ tank) • Assure that other emergency supplies are available at site as specified in the plan. • Verify communications daily.

ACTIVITY HAZARD ANALYSIS #1

Activity: Mobilization and Site Setup **Analyzed By/Date:** Roger Margotto 12/20/00 **Reviewed By:** Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
	<p>Noise exposure.</p> <p>Slip, trip, and fall hazards.</p> <p>Sharp objects/punctures.</p> <p>Strains from manually moving materials and equipment.</p> <p>Exposure to extreme temperatures.</p> <p>Eye hazards.</p>	<ul style="list-style-type: none"> • Hearing protection is required when sound levels exceed 84 dBA continuously. Areas where hearing protection is required shall display warning signs requiring hearing protection. • Work areas shall be visually inspected and slip, trip, and fall hazards shall be marked, barricaded, or eliminated, if feasible. • Maintain proper illumination in all work areas. • Refer to EHS Procedure 3-8 "Fall Protection." • Wear cut resistant work gloves when sharp edges or other objects may cause the possibility of lacerations or other injury. When possible, sharp edges will be blunted. • Workers should not stand or walk on debris. • Personnel shall be directed to use proper lifting techniques such as keeping the back straight, lifting with the legs, limiting twisting, and getting help in moving bulky/heavy materials and equipment. • Use of hand truck shall be encouraged. • Employees will not lift more than 50 pounds. • Refer to EHS Procedure 3-1 "Ergonomics." • Monitor for heat and cold stress in accordance with EHS Procedure 4-6 "Temperature Extremes." • Provide fluids and rest breaks during warm weather and while wearing impermeable protective clothing. • Safety glasses are the minimum required eye protection for all work areas.

ACTIVITY HAZARD ANALYSIS #1

Activity: Mobilization and Site Setup

Analyzed By/Date: Roger Margotto 12/20/00

Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
	Struck by or against heavy equipment.	<ul style="list-style-type: none"> • Wear high visibility reflective vests. • Make eye contact with operators before approaching equipment. • Understand and review posted hand signals. • Traffic barricades, signs, flags, and backup spotters will be used during field activities.
Install barricades and other support structures.	Power and hand tools. Material handling. Strains from handling materials.	<ul style="list-style-type: none"> • Inspect all tools before each use. • Personnel will be trained in the proper use of hand tools. • All power tools will be connected to GFCI when in use. • Identify and avoid pinch points. • Maintain communication with others involved in material handling. • Use appropriate PPE. • Personnel shall be directed to use proper lifting techniques, such as keeping back straight, lifting with the legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. • Use of hand trucks shall be encouraged. • Personnel shall work at a steady pace. • Refer to EHS Procedure 3-1 "Ergonomics."

ACTIVITY HAZARD ANALYSIS #1

Activity: Mobilization and Site Setup Analyzed By/Date: Roger Margotto 12/20/00 Reviewed By: Roger Margotto, CIH

Equipment to be Used	Inspection Requirements	Training Requirements
Heavy equipment, hand tools	Daily and before use.	<ul style="list-style-type: none"> • Only trained equipment operators may operate heavy equipment; only Department of Motor Vehicles-licensed personnel will operate trucks. • Insure the operation manuals for all equipment are available • Specific training for power tools, hand tools, and electrical safety. • Complete daily equipment checklist form before use of the equipment.

Notes:

CRC – contamination reduction corridor
 CSO – Caretaker Site Office
 dBA – decibel
 EHS – Environmental Health and Safety
 GFCI – ground fault circuit interrupters
 MSDS – Material Safety Data Sheet
 PPE – personal protective equipment
 SHSP – Site-Specific Health and Safety Plan
 SHSS – Site Health and Safety Specialist

ACTIVITY HAZARD ANALYSIS #2

Activity: Clearing and Grubbing **Analyzed By/Date:** Roger Margotto 12/20/00 **Reviewed By:** Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Clearing and Grubbing	<p>Struck by or against equipment.</p> <p>Exposure to contaminated soil or debris.</p> <p>Walking on uneven surfaces or slopes causing employees to lose footing and to fall. Trip hazards in work area.</p> <p>Strains from use of tools, such as shovels, axes, chain saws, weed cutters.</p> <p>Noise from power equipment: chain saws, weed cutters, vehicles.</p> <p>Struck by or against chain saw.</p>	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic. • Make eye contact with operators before approaching equipment. • Understand and review posted hand signals. • Avoid contacting soil directly, wear coveralls and gloves. • Brush off boots and follow decontamination procedures. • Follow safe work practices to avoid generating dust. Use dust control measures such as fine water sprays. • Watch step. • Avoid climbing on slopes greater than 45-degrees (1:1). • Wear steel toe leather boots with good traction soles. • Maintain steady pace when using tools and take adequate rest periods. • Use appropriate tools for the task and maintain tools in good condition. • Wear hearing protection. • Follow safe work practices. • Wear cutting chaps. • Assure that saw has not been "rigged" in the stay "on" position. The saw must automatically shut off when the trigger is released. • Wear required safety gear – hard hat, steel toe boots, safety glasses, hearing protection. • Only trained personnel will operate saw. At no time will saw be used at a level higher than the chest level of the operator.

ACTIVITY HAZARD ANALYSIS #2

Activity: Clearing and Grubbing **Analyzed By/Date:** Roger Margotto 12/20/00 **Reviewed By:** Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
	Struck by flying debris from chain saws or weed eaters. Loading trucks.	<ul style="list-style-type: none"> • Stand as far away as possible from other workers in the same area. • Wear PPE. • Avoid actions that cause debris to fly higher or further. • Prohibit truck drivers from standing near trucks as they are being loaded. • Prohibit truck drivers from sitting in the cab of trucks as they are being loaded, unless the truck is equipped with a cab protector [Falling Object Protective System (FOPS)].
Fuel Handling	Handling of fuel for chain saws, vehicles, and weed cutters may expose workers to fuel. Spills.	<ul style="list-style-type: none"> • Review MSDS for fuel with all workers. • Workers will be instructed on fuel transfer procedures. • Wear PPE. • Use procedures that prevent fuel from spilling. • Fuel only in a designated area that has spill protection and control. • Have spill control material available and cleanup all spills immediately.

Equipment to be Used	Inspection Requirements	Training Requirements
Chain saws, weed cutters, mowers, dump trucks	Daily or before use.	<ul style="list-style-type: none"> • Only trained equipment operators may operate heavy equipment; only Department of Motor Vehicles-licensed personnel will operate trucks. • Specific training for power tools and hand tools.

Notes:
 FOPS – Falling Object Protective System
 MSDS – Material Safety Data Sheet
 PPE – personal protective equipment

ACTIVITY HAZARD ANALYSIS #3

Activity: Demobilization and Site Restoration **Analyzed By/Date:** Roger Margotto 12/22/00 **Reviewed By:** Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Demobilization and site restoration	<p>Struck by or against heavy equipment.</p> <p>Struck by or against heavy equipment.</p> <p>Material handling.</p> <p>Strains from manually moving materials and equipment.</p>	<ul style="list-style-type: none"> • Wear high visibility reflective vests when exposed to vehicle traffic. Make eye contact with operators before approaching equipment. • Understand and review posted hand signals. • Use traffic barricades, signs, flags, and backup spotters during demobilization. • Wear high visibility reflective vests. • Make eye contact with operators before approaching equipment. • Understand and review posted hand signals. • Use traffic barricades, signs, flags, and backup spotters during demobilization. • Identify and avoid pinch points. • Maintain communication with others involved in material handling. • Use appropriate PPE. • Use proper lifting techniques such as keep back straight, lift with legs, limit twisting, and get help in moving bulky/heavy materials and equipment. • Use lifting devices whenever possible. • Refer to EHS Procedure 3-1 "Ergonomics".

ACTIVITY HAZARD ANALYSIS #3

Activity: Demobilization and Site Restoration **Analyzed By/Date:** Roger Margotto 12/22/00 **Reviewed By:** Roger Margotto, CIH

Equipment to be Used	Inspection Requirements	Training Requirements
Heavy equipment, hand tools, power tools	Daily or before use.	<ul style="list-style-type: none">• Only trained equipment operators may operate heavy equipment; only Department of Motor Vehicles-licensed personnel will operate trucks.• Specific training for power tools, hand tools, and electrical safety.

Notes:

EHS – Environmental Health and Safety
PPE – personal protective equipment