

2016 ANNUAL BIOLOGICAL MONITORING REPORT
FORMER FORT ORD, CALIFORNIA

WORLDWIDE ENVIRONMENTAL REMEDIATION SERVICES
CONTRACT NO. W912DY-10-D-0027

Submitted to:

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April 2017

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List of Acronyms and Abbreviations

| | |
|--------|---|
| Army | U.S. Department of the Army |
| BLL | Black Legless Lizard |
| BLM | Bureau of Land Management |
| BMP | Best Management Practice |
| BRAC | Base Realignment and Closure |
| CIPC | California Invasive Plant Council |
| CRLF | California Red-Legged Frog |
| CTS | California Tiger Salamander |
| DGM | Digital Geophysical Mapping |
| DD&A | Denise Duffy & Associates, Inc. |
| ESA | Endangered Species Act |
| HA | Historical Area |
| HMP | Habitat Management Plan |
| KEMRON | KEMRON Environmental Services, Inc. |
| MEC | Munitions and Explosives of Concern |
| UCLA | University of California Los Angeles |
| USACE | U.S. Army Corps of Engineers |
| USFWS | U.S. Fish and Wildlife Service |
| UXO | Unexploded Ordnance |
| WERS | Worldwide Environmental Remediation Services Contract |

1.0 Introduction

This report was prepared by Denise Duffy & Associates (DD&A) as a subcontractor to KEMRON Environmental Services, Inc. (KEMRON) under the Worldwide Environmental Remediation Services (WERS) Contract No. W912DY-10-D-0027. This report contains results of the 2016 biological monitoring surveys which are required as part of the *Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, California* (U.S. Army Corps of Engineers [USACE], 1997). The U.S. Department of the Army's (Army's) decision to close and dispose of the Fort Ord military base was considered a major federal action that could affect listed species under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion (USFWS, 1993) on the disposal and reuse of former Fort Ord requiring that the HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species. The HMP was prepared to assess impacts on vegetation and wildlife resources and provide mitigation for their loss associated with the disposal and reuse of the former Fort Ord (USACE, 1997).

1.1 Background

The HMP (USACE, 1997) establishes guidelines for the conservation and management of species and habitats on former Fort Ord lands by identifying lands that are available for development, lands that have some restrictions with development, and habitat reserve areas. The intent of the plan is to establish large, contiguous habitat conservation areas and corridors to compensate for future development in other areas of the former base. The HMP identifies what type of activities can occur on each parcel at former Fort Ord. The HMP sets the standards to assure the long-term viability of former Fort Ord's biological resources in the context of base reuse, so that no further mitigation should be necessary for impacts to species and habitats considered in the HMP. This plan has been approved by the USFWS; the HMP, deed restrictions, and Memoranda of Agreement between the Army and various land recipients provide the legal mechanism to assure HMP implementation. The HMP is a legally binding document, and all recipients of former Fort Ord lands are required to abide by its management requirements and procedures.

In addition to the HMP, multiple Biological Opinions have been issued by the USFWS over the years as a result of consultation with the Army. On May 28, 2015, the USFWS issued a Programmatic Biological Opinion that supersedes the previous Biological Opinions. The Programmatic Biological Opinion contains additional conservation measures and recommendations relating to environmental remediation at former Fort Ord cleanup sites.

Sensitive habitat types identified in the HMP (USACE, 1997) and the Programmatic Biological Opinion (USFWS, 2015) are:

- Central maritime chaparral (maritime chaparral)
- Wetlands and vernal ponds
- Other habitats where listed species are known or suspected to occur (including coastal scrub, coast live oak woodlands, and grasslands with a significant native component of grasses or forbs)

Special-status species listed in the HMP and Biological Opinions are:

- Sand gilia (*Gilia tenuiflora* ssp. *arenaria*) – Federally Endangered, State Threatened
- Monterey spineflower (*Chorizanthe pungens* var. *pungens*) – Federally Threatened
- Robust spineflower (*C. robusta* var. *robusta*) – Federally Endangered
- Seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*) – State Endangered
- Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*)
- Sandmat manzanita (*A. pumila*)
- Monterey manzanita (*A. montereyensis*)
- Monterey ceanothus (*Ceanothus rigidus*)
- Eastwood's goldenbush (*Ericameria fasciculata*)
- Yadon's piperia (*Piperia yadonii*) – Federally Endangered
- Coast wallflower (*Erysimum ammophilum*)
- Contra Costa goldfields (*Lasthenia conjugens*) – Federally Endangered
- California black legless lizard (*Anniella pulchra nigra*; BLL) – State Species of Concern
- California tiger salamander (*Ambystoma californiense*; CTS) – Federally Threatened, State Threatened
- California red-legged frog (*Rana draytonii*; CRLF) – Federally Threatened
- California linderiella (*Linderiella occidentalis*)
- Western snowy plover (*Charadrius alexandrinus nivosus*) – Federally Threatened
- Monterey ornate shrew (*Sorex ornatus salarii*) – State Species of Concern

Sand gilia, Monterey spineflower, Seaside bird's-beak, and coast wallflower are annual herb species that may occur within maritime chaparral, coastal scrub, grasslands, dune scrub, or disturbed areas. Robust spineflower is an annual herb that also occurs within these habitat types; however, the only documented occurrence on former Fort Ord, within dune scrub habitat, has not since been observed and may be erroneous. The Contra Costa goldfield is an annual herb associated with vernal ponds and is known from approximately four locations on former Fort Ord. Hooker's manzanita, sandmat manzanita, Monterey manzanita, Monterey ceanothus, and Eastwood's goldenbush are perennial shrub species that typically occur in maritime chaparral, but individuals can also be found mixed with oak woodland or coastal scrub habitats. Yadon's

piperia is a perennial herb that is typically found in maritime chaparral and Monterey pine habitats.

The BLL is a rare variety of the California legless lizard (*A. pulchra*) that inhabits areas with sandy soils on the former Fort Ord. The Monterey ornate shrew is a rare variety of the ornate shrew (*S. ornatus*) found in riparian forest and oak woodland habitats. The western snowy plover is a rare avian species found along coastal strand areas. The CTS, CRLF, and California linderiella are typically found in vernal or seasonal ponds on the former Fort Ord. The CTS may also be found aestivating in small mammal burrows or under logs in upland areas within 2.2 kilometers of vernal ponds.

The HMP (USACE, 1997) and Programmatic Biological Opinion (USFWS, 2015) also outline avoidance and mitigation measures that are necessary if the Army's cleanup activities could significantly impact protected species or habitats. These cleanup activities include munitions remediation, soil remediation, groundwater remediation, and other related environmental cleanup operations within former Fort Ord lands designated as Habitat Reserve. To determine whether mitigation measures would be needed to restore populations of affected HMP-listed species or habitats, the HMP requires that a baseline biological survey be conducted prior to work operations within a proposed cleanup site to establish whether protected species are present and map the locations and quantify abundance, and to avoid and minimize impacts. The HMP also requires monitoring consistent with the Programmatic Biological Opinion during and after completion of the cleanup operations to determine whether work activities have significantly impacted rare species or habitat. Monitoring data are compared to a site's baseline data to determine if recovery or restoration of the protected habitat (maritime chaparral, wetlands, etc.) and associated species are proceeding toward baseline conditions. The results of monitoring of affected areas are presented in annual biological reports managed under several different contracts.

1.2 Report Content

This report includes the results of biological monitoring performed by KEMRON in 2016 and a description of the mitigations and avoidance measures, biological trainings, HMP species encounters, and other habitat and species protection measures required by the HMP (USACE, 1997) and the Programmatic Biological Opinion (USFWS, 2015).

Work was conducted by KEMRON in 2016 at the following sites:

- **Soil remediation sites (Figure 1-1):**
 - Former Historical Areas (HAs) 28, 34, and 37 and
 - Units 1, 2, 3, 5A, 7, 9, 10, 23, 33, and Watkins Gate Burn Area (unburned areas).
- **Munitions remediation sites (Figure 1-2):**
 - Units 1, 2, 3, 7, 9, 10, 11, 12, 13, 17, 20, 23, 25, 28, 31, and 33
 - Range 48 study area,
 - Wolf Hill, South Boundary Road, Barloy Canyon Road (Bureau of Land Management [BLM] property), and
 - Pond 16 (in Unit 13) and BLM Area B Ponds.

2.0 Site 39 - Soil Remediation Activities

There are several former ranges on the former Fort Ord, referred to as HAs, where soil remediation for lead or munitions-related contamination was necessary. Soil remediation activities at several HAs were completed in previous years and no soil remediation work was conducted in 2016. However, in 2016 site re-contouring and erosion control work was conducted at HA 28, HA 34, and HA 37 in support of the restoration activities being completed by another Army contractor ([Figure 1-1](#) and [Figure 2-1](#) to [Figure 2-3](#)). Additionally, soil sampling was conducted in 2016 to determine the need for future soil remediation activities within Units 1, 2, 3, 7, 10, 33, and the unburned portions of the Watkins Gate Burn Area ([Figure 1-1](#)).

Erosion problems at HA 28, HA 34, and HA 37 were treated by a combination of light grading, woven coir fabric, straw wattles, sterile barley seed, native plant seed, and mulch. Mulch was obtained from vegetation removal activities at other locations of the cleanup project. The mulch contained trimmings from coast live oak limbs and maritime chaparral shrubs.

Soil sampling within Units 1, 2, 3, 7, 10, 33, and the unburned portions of the Watkins Gate Burn Area included hand auguring to a maximum depth of two feet to collect soil samples for chemical testing. Each sample location included collection of seven “grab” samples taken within an approximately four-foot diameter area, which were combined to form a single composite sample.

2.1 HMP Species Mitigation and Avoidance

Mitigation measures for soil remediation areas are specifically addressed in the HMP (USACE, 1997), the Programmatic Biological Opinion (USFWS, 2015), and the *Wetland Monitoring and Restoration Plan for Munitions and Contaminated Soil Remedial Activities at Former Fort Ord* (USACE, 2006). Avoidance and minimization measures implemented during site re-contouring and erosion control activities in order to reduce impacts to HMP species, sensitive habitats, and the restoration areas were as follows:

- A Habitat Checklist was prepared by the Project Biologist, and reviewed by the Base Realignment and Closure (BRAC) Biologist, that outlined specific avoidance and minimization measures, which were communicated to the project supervisors and field personnel in preparatory meetings prior to work initiation (see [Attachment A](#)).
- Only previously established access routes and staging areas were used at each site to minimize impacts to surrounding habitats and HMP species to the greatest extent feasible. Existing roads and trails; pre-existing paved, graded, or disturbed areas; and areas known to be unoccupied by HMP annual species (based on previous surveys) were used for access, staging, and soil stockpiling wherever available.

- CTS avoidance and minimization measures were implemented from October through June or when adjacent vernal ponds were wet. Regular ground checks were made during the rainy season, flooded detention basins were dip-netted prior to excavation, and employee briefings were conducted to ensure that the field personnel followed the protocols for CTS avoidance and reporting.
- Visual surveys of the work area were conducted by the Project Biologist and workers trained to identify CTS prior to the day's work if rain was forecasted within 48 hours (50% chance or greater) or if it had rained overnight; or during work hours if substantial rainfall occurred (work was halted if greater than 0.5 inch of rain fell in a 24-hour period). Work activities commenced once the Project Biologist and the search crew determined that no CTS had dispersed into the area. Workers were also required to conduct morning inspections for CTS under equipment following all rain events.
- Silt fencing was installed around the temporary mulch pile at HA 37 to preclude CTS from entering.

Avoidance and minimization measures implemented during soil chemical sampling in order to reduce impacts to HMP species, sensitive habitats, and the restoration areas were as follows:

- The Project Biologist prepared, and the BRAC Biologist reviewed, a Habitat Checklist outlining specific avoidance and minimization measures, which were communicated to the project supervisors and field personnel in preparatory meetings prior to work initiation (see [Attachment A](#)).
- Only established roads were used to minimize impacts to surrounding habitats and HMP species. No previously used interior access routes were used to allow continued revegetation of these areas.
- Active monitoring of work activities was conducted by the Project Biologist at six sampling locations where known populations of HMP annual species were present, based on baseline surveys. To avoid impacts to HMP annual species, the Project Biologist surveyed each of the proposed sampling locations and identified alternative locations for soil sampling if HMP annual species were present.
- Equipment, boots, and vehicles were cleaned daily upon the completion of work when sampling within Unit 1 and the southern portion of Unit 2 in order to reduce the spread of pampas grass (please refer to Section 3.1.4 Invasive Species Control below for additional information regarding invasive species control measures).
- Workers were trained on the appropriate CTS and BLL encounter protocols to follow in the event that CTS or BLL were encountered during sampling activities.

3.0 *Other Biological Support Activities in 2016*

3.1 *Munitions Remediation Activities - HMP Species Mitigation and Avoidance*

During 2016, munitions and explosives of concern (MEC) remediation activities within the Fort Ord Impact Area were conducted within Units 1, 2, 3, 7, 9, 10, 11, 12, 13, 17, 20, 23, 25, 28, 31, 33, and the Range 48 study area (Figure 1-2). Activities within these areas included mastication and pruning of vegetation; chipping and stockpiling of mulch; surface MEC removal; target and structure removal; digital geophysical mapping (DGM) with EM61, MetalMapper and Optema equipment; installation of Instrument Verification Strips (IVS) for geophysical equipment calibration; subsurface MEC removal where necessary; demolition of live or suspected live MEC items; road repair (Evolution and Phoenix Roads) and realignment (Nowhere Road and Chinook Road); and vehicle use to support these activities. Additionally, vegetation removal also occurred on Wolf Hill, South Boundary Road, and Barloy Canyon Road (BLM property) for containment of the future Unit 31 burn (Figure 1-2). Table 3-1 identifies the approximate acreage within each work area affected by the munitions remediation work activities in 2016.

Mitigation measures to reduce impacts to protected species and sensitive habitats during MEC remedial actions are described in the HMP (USACE, 1997) and the Programmatic Biological Opinion (USFWS, 2015). Mitigation and other environmental protection measures that were implemented during this project are summarized below.

3.1.1 *Minimize Disturbance Associated with MEC Removal*

Disturbances were limited to those required for the above-mentioned activities. As required by the HMP, existing roads were used. Exceptions were made where it was necessary to traverse the site using tracked vehicles in order to access excavation sites, remove piles of debris, remove vegetation, and conduct the DGM portion of the MEC removal process. Access routes, staging areas, stockpiles, and other appurtenant facilities were sited to avoid impacts to HMP plant and wildlife species and potential erosion issues.

3.1.2 *Conduct Employee Education Program*

New KEMRON employees and subcontract workers receive training on Fort Ord natural resource protection prior to starting work. In 2016, KEMRON provided natural resource training to 69 new employees.

Training includes the following topics:

- Identification of sensitive HMP-protected habitats and HMP species specific to the work area. Habitats covered in the training include maritime chaparral, vernal ponds, and wetlands. Species covered include CTS, CRLF, California linderiella, BLL, Monterey

ornate shrew, sand gilia, Monterey spineflower, Seaside bird's-beak, Yadon's piperia, Contra Costa goldfields, coast wallflower, Monterey manzanita, sandmat manzanita, Hooker's manzanita, Eastwood's goldenbush, and Monterey ceanothus. Additional HMP species occurring within the dune habitats on Fort Ord are not included in the training because work has been completed in these areas and these species will not be impacted by work in the inland ranges.

- Specific guidance for CTS and CRLF protection, including the ability to recognize the species, the protocol for reporting all encounters to the Project or BRAC biologists (who are permitted by USFWS to handle and relocate CTS), placing escape ramps or covering open trenches, and checking equipment and excavations for CTS and CRLF during migration seasons.
- Instructions for minimizing all work impacts and work footprints, and for avoidance of areas flagged for sensitive species or habitats wherever marked in the field.
- Instructions for restricting vehicle movement and parking to roads, staging areas, designated access routes, and other designated work areas wherever possible.
- How to reduce soil disturbances in sensitive habitat, particularly areas containing seed bank or live individuals of HMP-listed plant species and vernal ponds.
- How to reduce erosion problems and spread of invasive species.

In addition to the training, a Habitat Checklist was prepared by the Project Biologist, and reviewed by the BRAC Biologist, prior to each activity that outlined specific avoidance and minimization measures, which were communicated to the project supervisors and field personnel in preparatory meetings prior to work initiation (see [Attachment A](#) for all Habitat Checklists implemented for work conducted in 2016).

3.1.3 Avoid Disturbance of HMP Annual Plant Populations

Populations of HMP annual plants were identified during baseline surveys within and adjacent to the following work areas:

- Monterey spineflower: Units 2, 3, 11, 12, 13, 20, 25, 28, 31, Wolf Hill, and the Range 48 study area
- Seaside bird's-beak: Range 48 study area
- Sand gilia: Units 13, 20, 28, 31, and the Range 48 study area.

In addition, populations of Seaside bird's-beak and Yadon's piperia were observed by the Project Biologist within several areas not identified during baseline surveys (see below). Areas supporting populations of Monterey spineflower and sand gilia were avoided from February 1 (assumed germination) to May 31 (assumed seed-set). Subsurface MEC removal was not conducted within any Monterey spineflower or sand gilia population areas in 2016.

Populations of Seaside bird's-beak and Yadon's piperia were observed on the east side of Unit 11 during surveys conducted in 2014 and 2015 prior to subsurface investigations of the fuel breaks and MetalMapper surveys and subsequent intrusive work (Figure 3-1). While vegetation removal activities were necessary within population areas in 2016, no equipment or personnel were permitted within these areas from the approximate time of germination through the approximate time of seed-set for each species. During this period, the populations were flagged off and a map of the locations was provided to all supervisors and field personnel. The Project Biologist monitored the populations to ensure that work was not conducted in these areas until the time of seed-set for the majority of the individuals.

A population of Yadon's piperia was observed in 2016 within the fuel break along Evolution Road, outside of the work area (Figure 3-2). This population was flagged by the Project Biologist prior to work initiation and no work was allowed within this area.

A population of Seaside bird's-beak was observed within Unit 10 during surveys conducted in 2016 prior to the realignment of a section of Nowhere Road (Figure 3-3). The realignment of the road was designed to avoid as much of the population as possible; however, it was not possible to avoid all individuals. No equipment or personnel were permitted within the Seaside bird's-beak population area from the approximate time of germination through the approximate time of seed-set. During this period, the populations were flagged off and a map of the locations was provided to all supervisors and field personnel. The Project Biologist monitored the populations to ensure that work was not conducted in these areas until the time of seed-set for the majority of the individuals. Following seed-set, work was allowed to proceed within the area of the population; however, the top two to three inches of topsoil was preserved until the road work was complete. The topsoil was then spread (approximately two to three inches thick) within the fuelbreak, outside of the new roadway alignment, adjacent to the original area of observation.

3.1.4 Minimize and Compensate for Impacts to California Linderiella, California Tiger Salamander, and California Red-Legged Frog

To minimize impacts to these species, supervisors and field personnel were trained during the Employee Education Program to identify CTS and CRLF, and they were informed of the potential for these species (as well as California linderiella) to occur within the project site and the established protocol if any individuals were encountered. Additionally, work within the vernal pool areas was only permitted during the dry season and heavy equipment was precluded to the greatest extent feasible. In 2016, the work conducted by KEMRON within vernal pools included mowing, surface MEC removal, target removal, and DGM surveys within Ponds 16 and 54. These work activities were completed using manual equipment.

No CRLF or California linderiella were encountered by KEMRON on the former Fort Ord in 2016.

In 2016, there were 22 encounters of CTS by KEMRON on the former Fort Ord on the three days discussed below. All CTS were encountered near Pond 10 under materials stockpiled for use in erosion control activities (Figure 3-4). A Field Report Form for CTS was completed for each encounter and provided to the BRAC Biologist. The following summarizes each encounter.

3.1.4.1 September 28, 2016

On September 28, 2016, two juvenile CTS were found on the interior of a silt fence surrounding a mulch pile at HA-37, located approximately 200 feet from Pond 10 (Figure 3-4). The mulch was being temporarily stockpiled for use in erosion control within and around the HA 37 restoration area, as described above in Section 2.0. The individuals were covered by a small amount of mulch that was being used to weight the edges of the silt fencing. One individual was found by the work crew as a portion of silt fence was being moved in order to access the mulch pile with the tractor. Work was stopped in the area and the Project Biologist, Jami Davis, was called to the site. Upon arrival, the Project Biologist identified that the CTS was dead; however, the individual appeared to be desiccated but uninjured (Figure 3-5a). The encounter occurred following a four-day stretch of above average temperatures for the region. As such, the work activities did not result in direct mortality of the individual; however, because the CTS was found within the silt fencing, the mortality was an indirect result of work activities. The Project Biologist proceeded to sift through the mulch that was piled on the other portions of the silt fencing and found one additional CTS. This individual was alive, active, and uninjured.

The Project Biologist measured and photographed the individuals and weighed the live animal (Figure 3-5a). The measurements for the live CTS were: 105mm total length, 65mm snout-vent length, and 6g. The measurements for the dead CTS were: 100mm total length and 60mm snout-vent length. The Project Biologist and the BRAC Biologist then relocated the live CTS to the south side of Pond 10 (Figure 3-4). The dead individual was collected by the BRAC Biologist. The encounter was documented by the Project Biologist and the report was submitted to the BRAC office on September 29, 2016 (revised September 30, 2016).

3.1.4.2 October 17, 2016

On October 17, 2016, 18 juvenile CTS were found underneath straw bales that were piled in the middle of the asphalt near HA 37, located approximately 60 feet from Pond 10 (Figure 3-4). The straw bales were left over from erosion work being conducted within the HA 37 restoration area, as described above in Section 2.0, and the crew was removing them from the site. The crew alerted the Project Biologist upon initial detection and stopped work in the area. The Project Biologist arrived on site approximately five minutes after detection and monitored as the crew turned over the remaining straw bales. The Project Biologist then sifted through the wet, decaying bottoms of the straw bales to remove any other CTS present prior to removing the straw bales from the site.

Of the 18 CTS encountered, 13 were alive and five were dead. Most of the live individuals were found in the wet, decaying bottoms of the straw bales. As the Project Biologist sifted through the material; however, a few of the live individuals were found on the ground as the straw bales were turned over by the crew. Four of the dead individuals were found on the ground as the straw bales were turned over; the fifth dead individual was found buried in a dry part of a straw bale. Three of the dead individuals were desiccated and two were decomposing. No CTS were killed during the process of removing the straw bales and the five individuals were dead upon detection. The encounter came following a weekend precipitation event of approximately one inch of rain; however, as evidenced by the presence and condition of the dead individuals, and the proximity to Pond 10 where CTS were observed breeding in the spring, it is likely these individuals had found shelter under the straw bales prior to the rain event. As such, the work activities did not result in direct mortality of the individuals; however, because the CTS were found under the stockpiled straw bales, the mortalities were an indirect result of work activities.

The Project Biologist and the BRAC Biologist measured and photographed the individuals and weighed the live animals (Figures 3-5b-d). The CTS ranged in total length from 80mm to 113mm and from 48mm to 60mm in snout-vent length. Weight of the live animals ranged from 4.6g to 7.9g. All of the live CTS were active and most appeared uninjured. One individual was not using its front legs and another had a short tail; however, it is possible that tissue samples were taken from the individual with the short tail earlier in the year by Dr. Brad Shaffer from the University of California Los Angeles (UCLA). After measuring, the live CTS were released into suitable small mammal burrows on the north side of Pond 10 (Figure 3-4). The dead individuals were collected by the BRAC Biologist.

Other species observed included two juvenile California newts (*Taricha torosa*), one juvenile California red-sided garter snake (*Thamnophis sirtalis infernalis*), and several mice. The newts and garter snake were relocated outside of the work and staging area.

3.1.4.3 October 18, 2016

On October 18, 2016, two juvenile CTS were found adjacent to and underneath straw wattles that were stockpiled at HA 37, located approximately 600 feet from Pond 10 (Figure 3-4). The straw wattles were being temporarily stockpiled for use in erosion control within and around the HA 37 restoration area, as described above in Section 2.0. The crew observed a salamander walking away from the straw wattle pile after they started moving the wattles. Work was stopped in the area and the Project Biologist was called to the site. The crew watched the individual as it moved up the slope away from the straw wattle stockpile area and out of the work area. Because the individual removed itself from the work area, the crew continued to move the straw wattles and encountered another salamander. They stopped work again until the Project Biologist arrived. The Project Biologist monitored as the crew turned over the remaining straw wattles and one more CTS was encountered. The individual that removed itself from the work site was

not able to be located by the Project Biologist upon arrival as it had found cover; however, the crew had taken a picture of the individual, which was determined to be an arboreal salamander (*Aneides lugubris*) by the Project Biologist (Figure 3-5e).

The Project Biologist measured, weighed, and photographed the CTS (Figure 3-5e), then released them into small mammal burrows immediately adjacent to the detection locations (Figure 3-4). No additional work was being conducted in the immediate area; therefore it was not necessary to move the CTS any further.

3.1.4.4 Additional Avoidance and Minimization Measures

Additional avoidance and minimization measures have been implemented within the area surrounding Pond 10 to avoid future CTS mortalities and reduce encounters. All unnecessary materials being stored in the area have been removed. Any materials that need to stay in the area¹ have been lifted off the ground (by placing on pallets or other methods). Additionally, future use of the area for materials storage has been limited to only what is necessary.

3.1.5 Minimize Impacts to Black Legless Lizard

No BLL were encountered during work activities by KEMRON on the former Fort Ord in 2016. To minimize impacts to this species, supervisors and field personnel were trained during the Employee Education Program to identify BLL, and they were informed of the potential for this species to occur within the project site and the established protocol if any individuals were encountered.

3.1.6 Invasive Weed Control

Several invasive plant species are known to occur on the former Fort Ord, including iceplant (*Carpobrotus* sp.), French broom (*Genista monspessulana*), and jubata (pampas) grass (*Cortaderia jubata*). These species spread rapidly and can severely degrade native habitats if measures are not taken to control their spread. The Army has reviewed the California Invasive Plant Council's (CIPC's) *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers* (CPIC, 2011) and has identified appropriate Best Management Practices (BMPs) that can be implemented during cleanup activities. Specifically, BMPs that are employed to the greatest extent practicable include: washing all vehicles and equipment that come from outside of Fort Ord work areas, including those of subcontractors; finding weed-free sources for straw, fill, and road base materials that are imported from off-site; using on-site sources for mulch, fill, and road base materials that come only from areas without invasive plant infestations; planning any off-road haul routes to avoid invasive plant populations; and cleaning boots, equipment, and vehicles that have been used in high infestation areas prior to moving to

¹ The large paved area adjacent to the HA 37 remediation/restoration area and Pond 10 is used for munitions debris sorting and storage before being hauled off-site.

sites where invasive species populations are low or have not been identified. Additionally, each new work area is evaluated for the presence of invasive species, and the appropriate avoidance and minimization measures are identified prior to work initiation.

In 2016, activities within Units 1, 2, and 3 included mastication and pruning of vegetation within fuelbreaks, reacquisition of targets for removal, and vehicle use to support these activities. In 2014, the Project Biologist completed an evaluation of the presence or absence of invasive plant species within these units. The evaluation identified significant populations of jubata grass within Unit 1 and a portion of Unit 2, and limited to no populations of jubata grass or other invasive plants within Unit 3 and the remaining portion of Unit 2. The Project Biologist mapped the extent of the densest populations of jubata grass, which was utilized to inform personnel of the area where decontamination would be necessary following work.

Decontamination by pressure washing was required for vegetation removal equipment prior to leaving Units 1 and 2. For vehicles, boots, and other equipment, decontamination was conducted on a daily basis (or more if personnel left the units multiple times per day) using brushes. If any caked-on soils or materials remained that could not be removed with a brush, boots and equipment were washed with water at the field office compound; however, vehicles were required to be pressure-washed on site.

3.1.7 Erosion Control

To reduce erosion concerns on bare mineral soils, normal vehicle access was restricted to existing roads and established access routes. Tracked vehicles were used to conduct vegetation removal and DGM surveys over the site. KEMRON monitored the work sites for potential erosion problems, and a final inspection was conducted at the conclusion of work at each site by the Project Biologist. In areas where subsurface MEC removal was conducted in fuel breaks on steep slopes, water bars and straw mulch were installed to reduce erosion. Silt fencing was installed along a portion of Impossible Canyon Road near Pond 16 due to potential erosion concerns resulting from mastication of Unit 25 ([Figure 3-6](#)). Silt fence sections were 50 feet long and were installed in a manner that would not interfere with migration to the pond by CTS and other wildlife. The end of each fence length overlapped by approximately one foot and a gap was left between the overlapping fence lengths to allow wildlife passage. Please refer to [Figure 3-7](#) for photographs of the silt fence along Impossible Canyon Road.

3.2 Vernal Pool DGM

During 2016, KEMRON supported the Army's biological monitoring efforts by conducting DGM investigations in 14 vernal pools on the former Fort Ord: Ponds 3 North, 3 South, 16, 35, 39, 40 North, 40 South, 41, 42, 43, 44, 56, 60, and 61 ([Figure 3-8](#)). These vernal pools, with the exception of Pond 16, are not located within the 2016 work sites; however, the Army requested

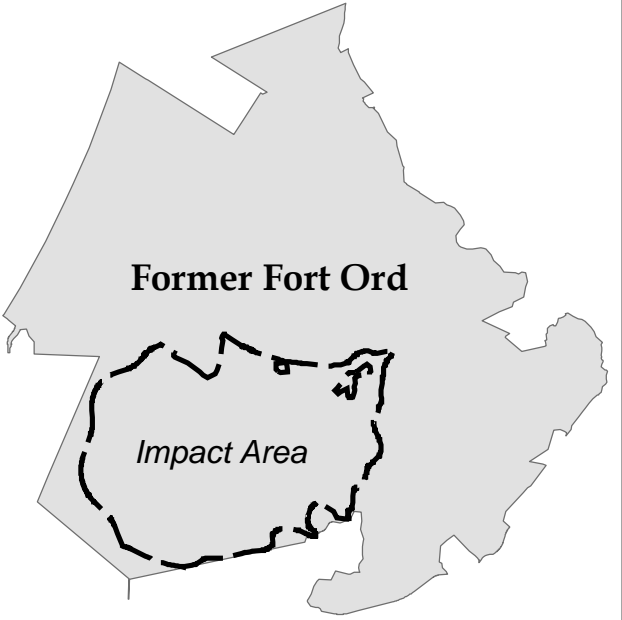
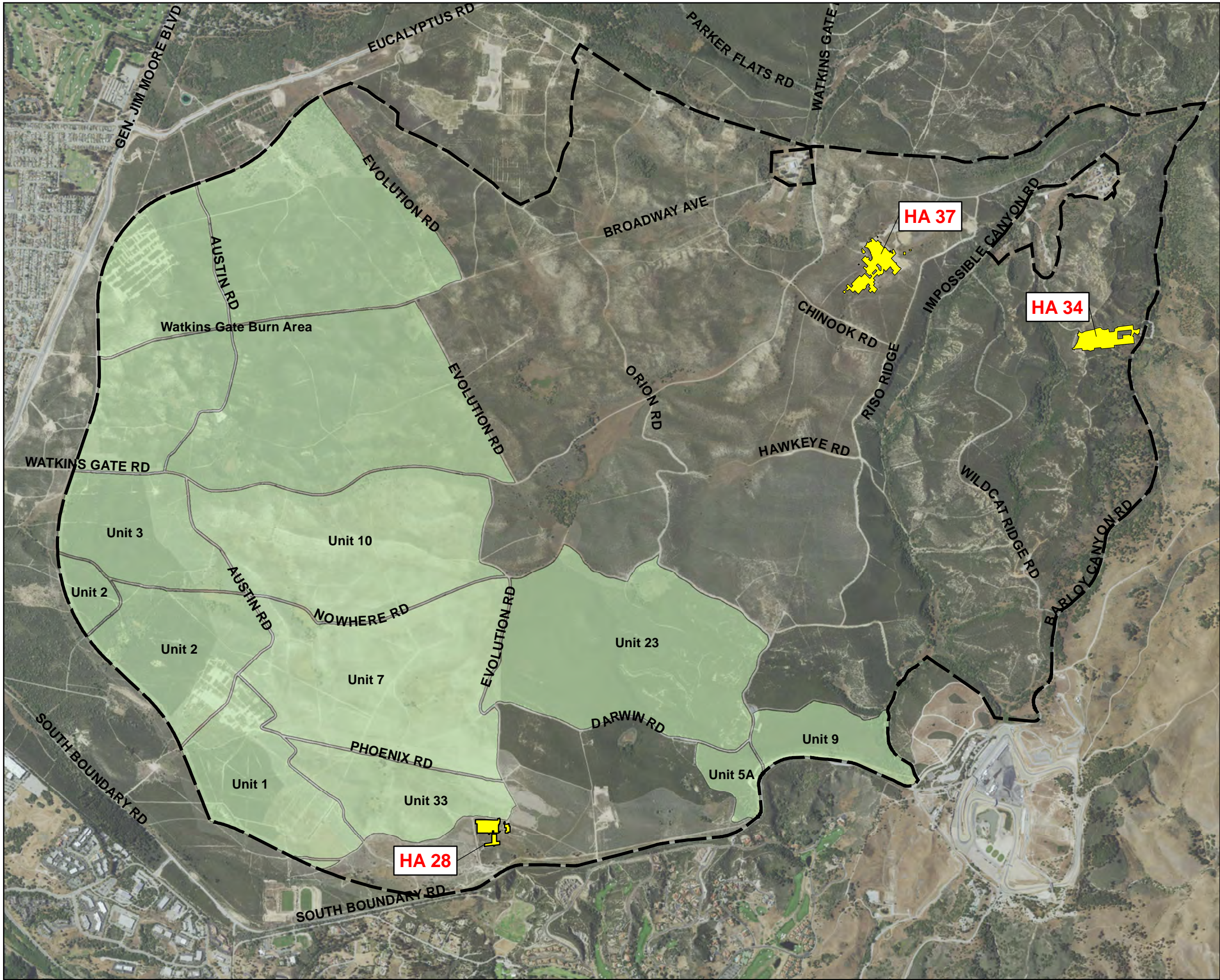
subsurface mapping in order to facilitate informed safety decisions during biological surveys conducted by Army within these vernal pools. These vernal pools are located outside of the impact area, within and adjacent to the “BLM Area B” work area, which will receive MEC remediation in the future. Pond 16 is located within Unit 13 in the containment line area where mastication and surface MEC removal occurred in 2016.


Work within the vernal pool areas was only permitted while the vernal pools were dry. Work was conducted at the end of the dry season and beginning of the wet season; therefore, the saturation of the vernal pools was closely monitored by the Project Biologist. Prior to initiation of the work, the Project Biologist worked with an Unexploded Ordnance (UXO) technician to stake and flag the boundaries of the vernal pools. The work included removal of shrubby vegetation present within the ponds and along the pond edges, and DGM surveys using manual equipment. No heavy equipment was permitted for use within the vernal pools.


4.0 References


- Army, 2009. *Final, Habitat Restoration Plan, Site 39 Inland Ranges, Former Fort Ord, California*. Prepared by Shaw/Denise Duffy Associates. (AR BW-2450)
- California Invasive Plant Council (CIPC). 2011. *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*.
- U.S. Army Corps of Engineers (USACE), 1997. *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord*. With Technical assistance from Jones and Stokes Associates. (AR BW-1787)
- USACE, 2006. *Wetland Monitoring and Restoration Plan for Munitions and Contaminated Soil Remedial Activities at Former Fort Ord*. Prepared by Burleson Consulting, Inc. Folsom, California. (AR BW-2453)
- USACE, 2009. *Annual Biological Monitoring Report, 2008, Fort Ord, California*. Prepared by Shaw Environmental, Inc. (AR BW-2503)
- U.S. Fish and Wildlife Service (USFWS), 1993. Biological and Conference Opinion for the Disposal and Reuse of Fort Ord, Monterey County, California (1-8-93-F-14). (AR OE-0045)
- USFWS, 2015. Programmatic Biological Opinion for Cleanup and Property Transfer Actions Conducted at the Former Fort Ord, Monterey County, California (8-8-09-F-74), May 28. (AR BW-2747)

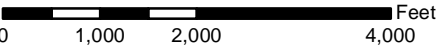
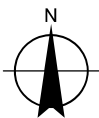
Figures



 Impact Area MRA

 Units Where Soil Chemical Sampling Occurred

 Remediated Area



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

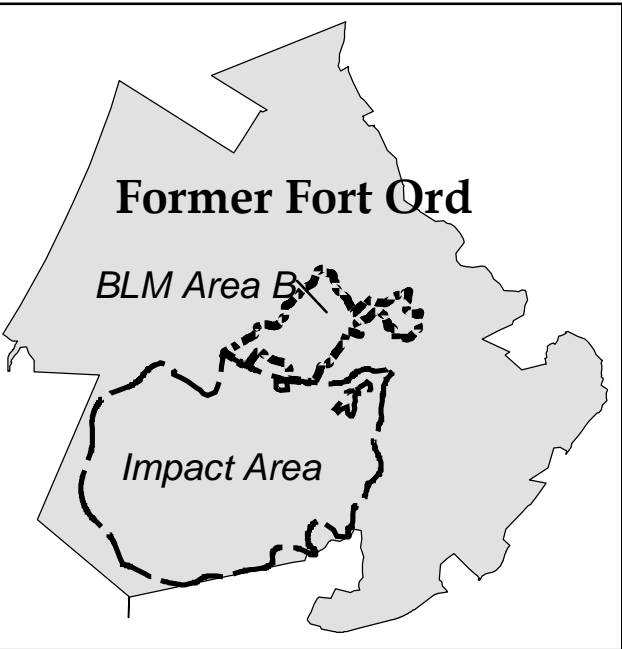
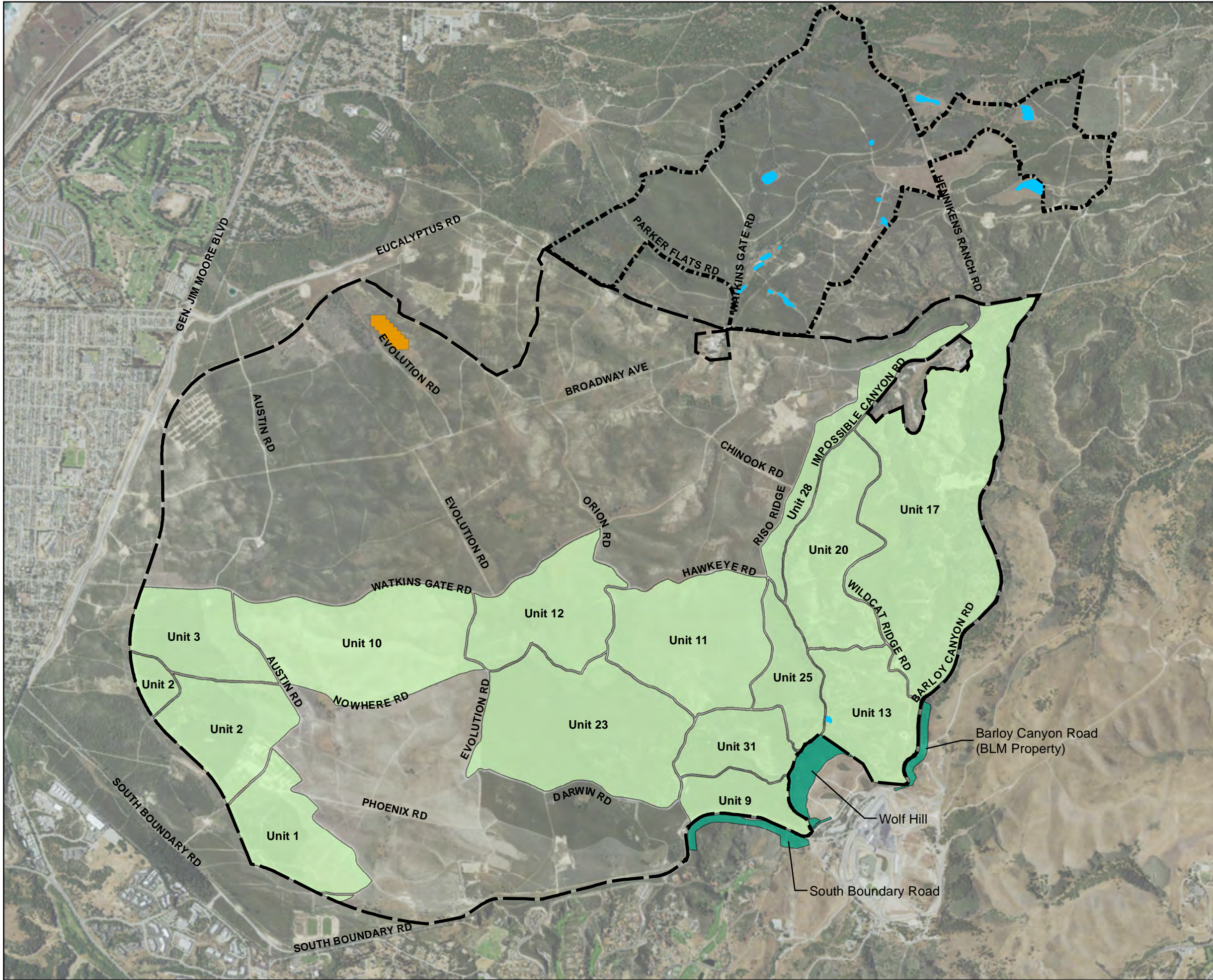
FORMER FORT ORD

FIGURE NUMBER
1-1

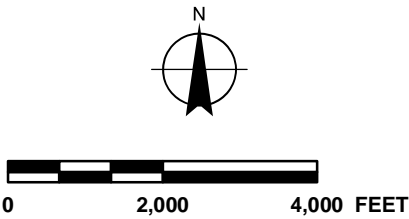
2016 Annual Biological Monitoring Report
Site 39 Soil Remediation Areas Where
Biological Monitoring Occurred in 2016






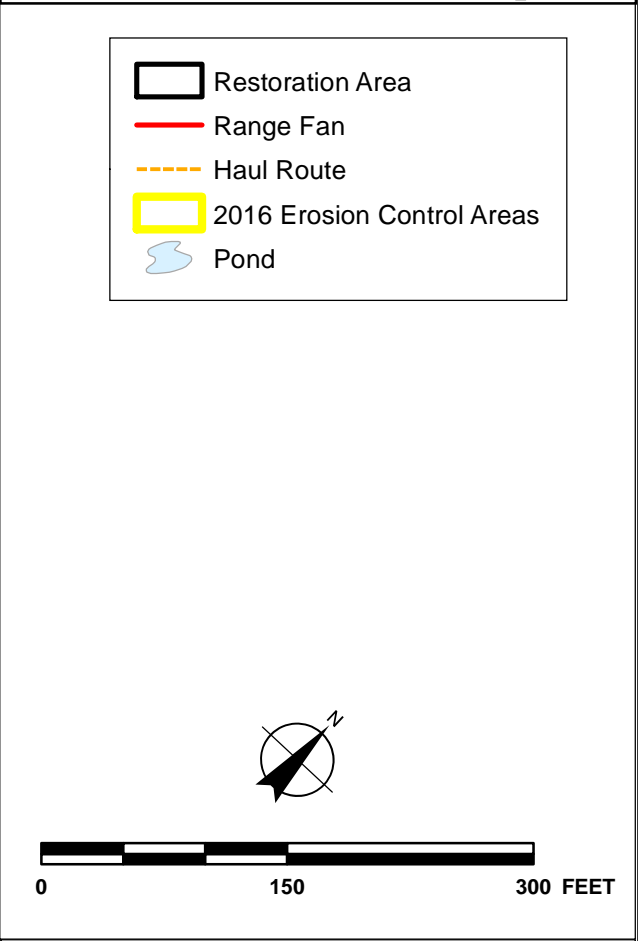
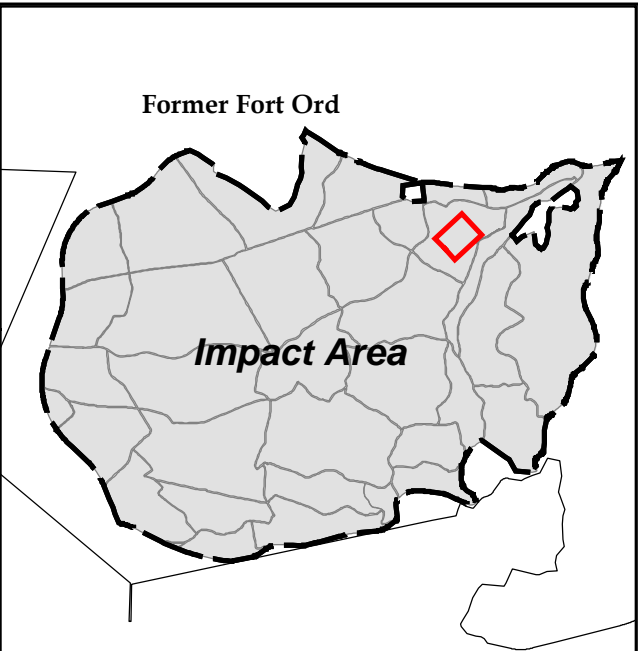
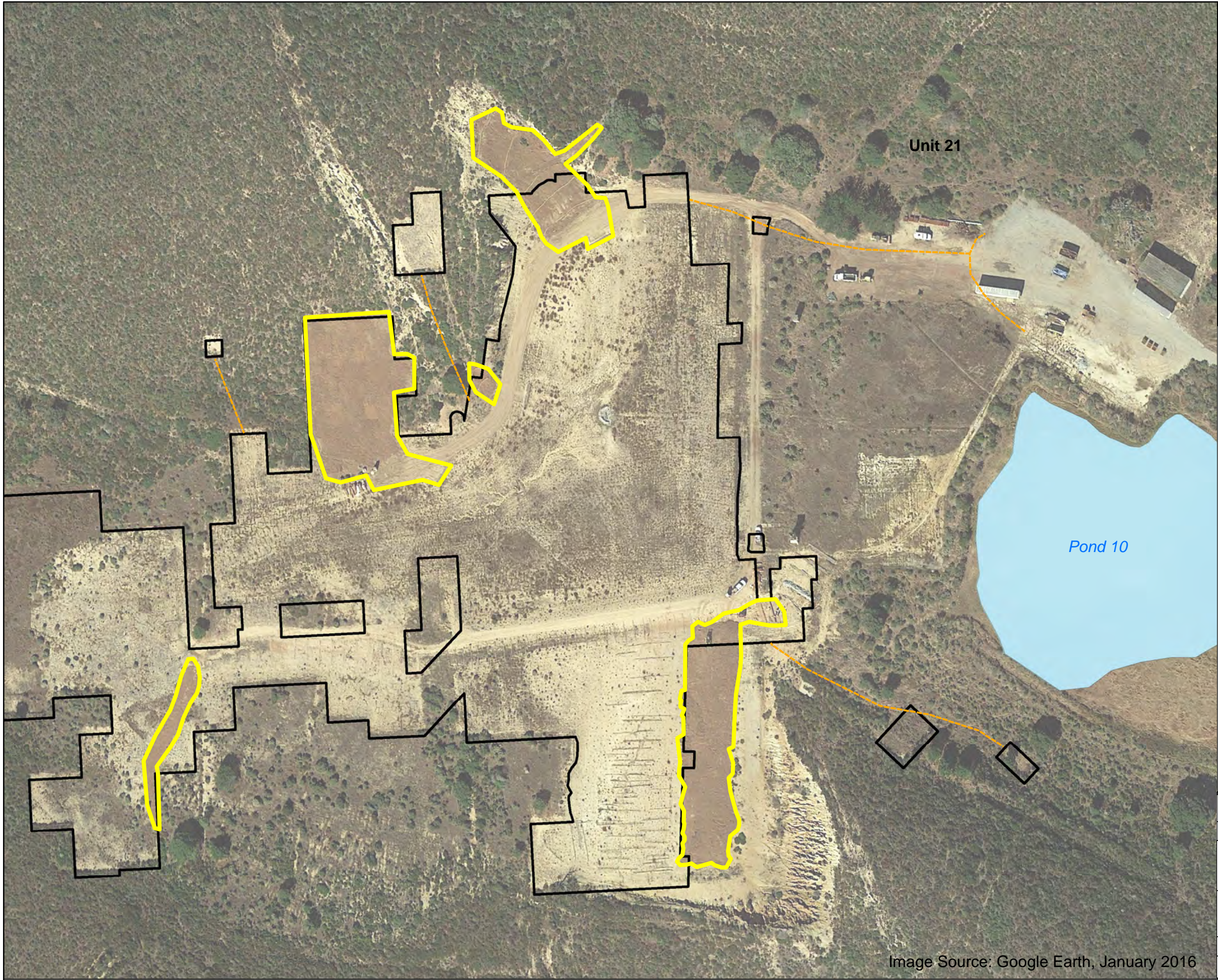
| DATE | PROJECT NUMBER | FILE NAME |
|-----------|----------------|------------|
| 3/14/2017 | WP001 | SEE FOOTER |



- Impact Area
- BLM Area B
- Units Where Biological Monitoring Occurred
- Mastication Areas Where Biological Monitoring Occurred
- Ranges 48 Study
- Ponds Where DGM Occurred



| | | |
|---|---|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 1-2 | 2016 Annual Biological Monitoring Report Munitions Remediation Areas Where Biological Monitoring Occurred in 2016 | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |






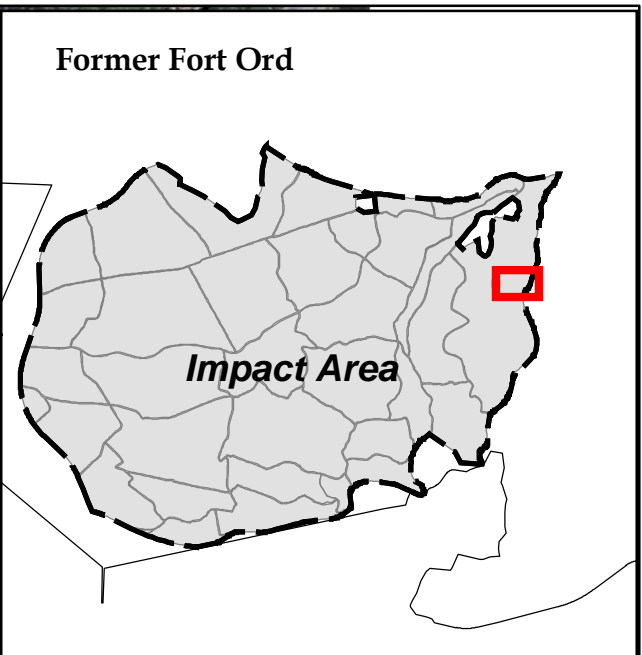
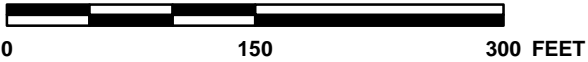
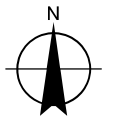
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| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 2-1 | 2016 Annual Biological Monitoring Report Erosion Repair Areas Within HA 37 | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 2/6/2017 | WP001 | SEE FOOTER |

Image Source: Google Earth, January 2016



- Unit Boundaries
- Restoration Area
- 2016 Erosion Control Areas



| | | |
|---|---|------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 2-2 | 2016 Annual Biological Monitoring Report Erosion Repair Areas Within HA 34 | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 2/6/2017 | WP001 | SEE FOOTER |

Image Source: Google Earth, January 2016

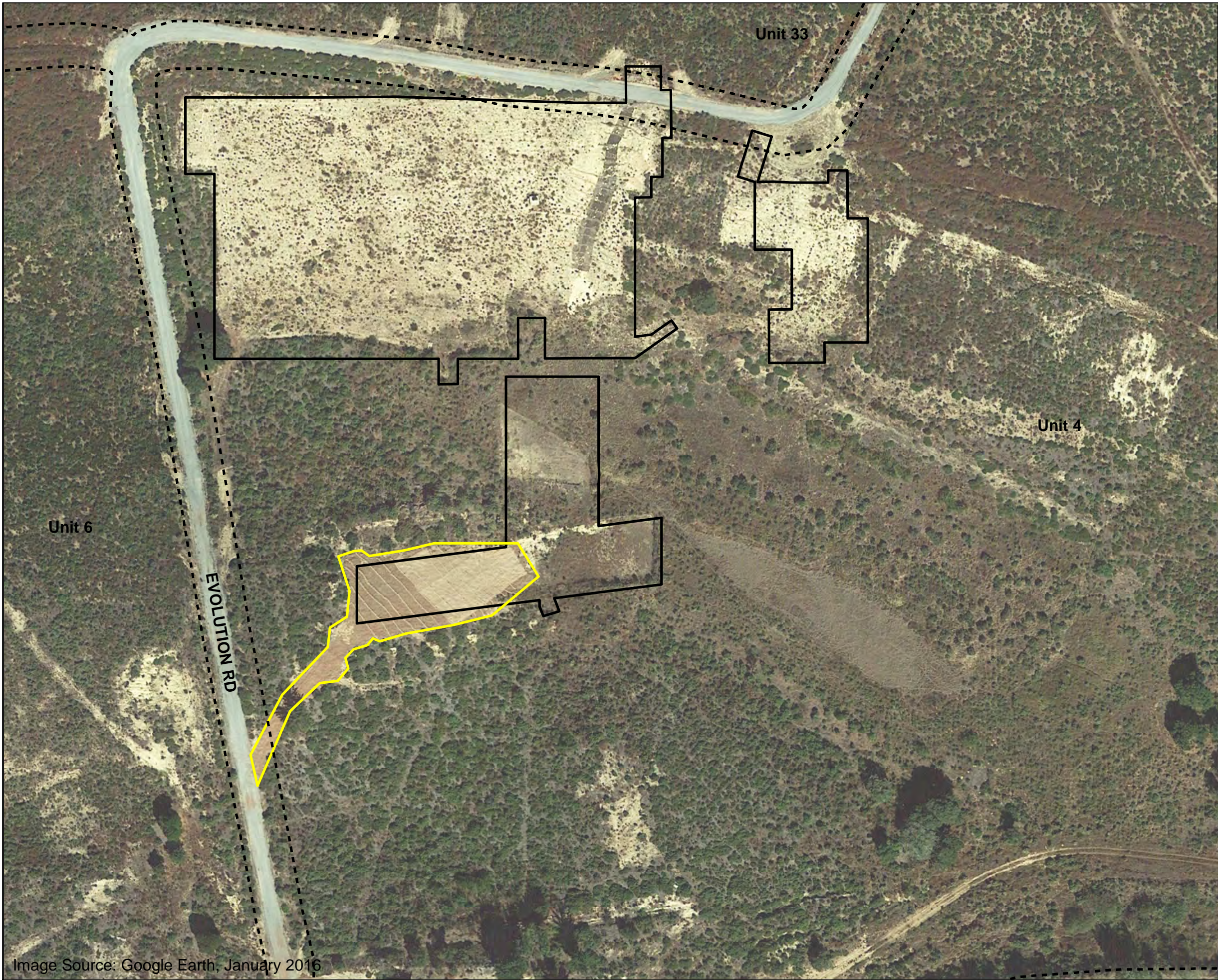
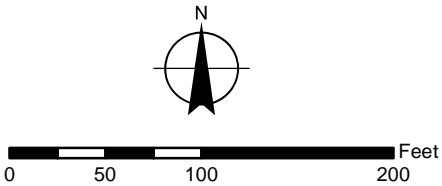
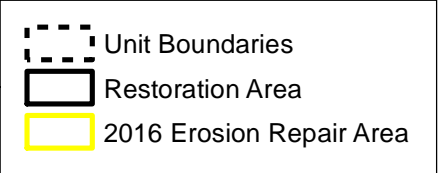
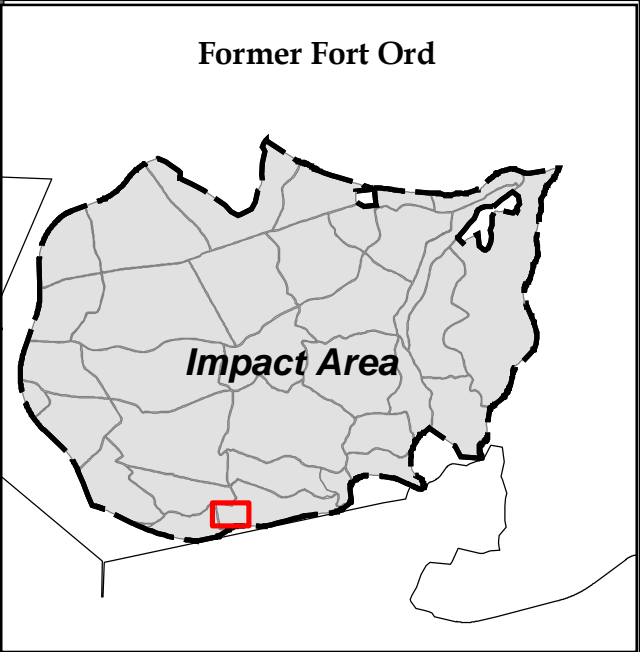



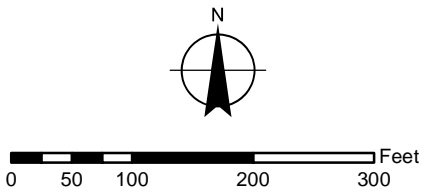
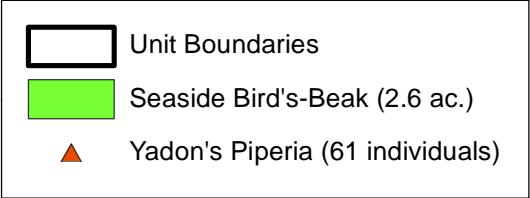
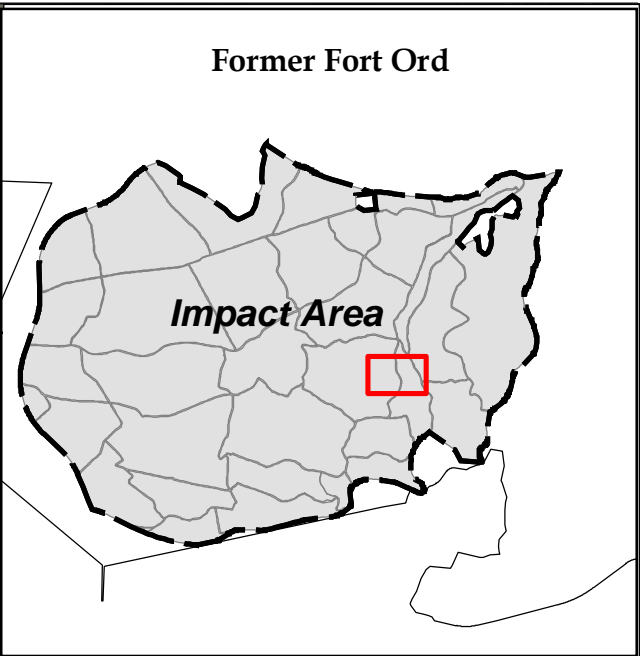


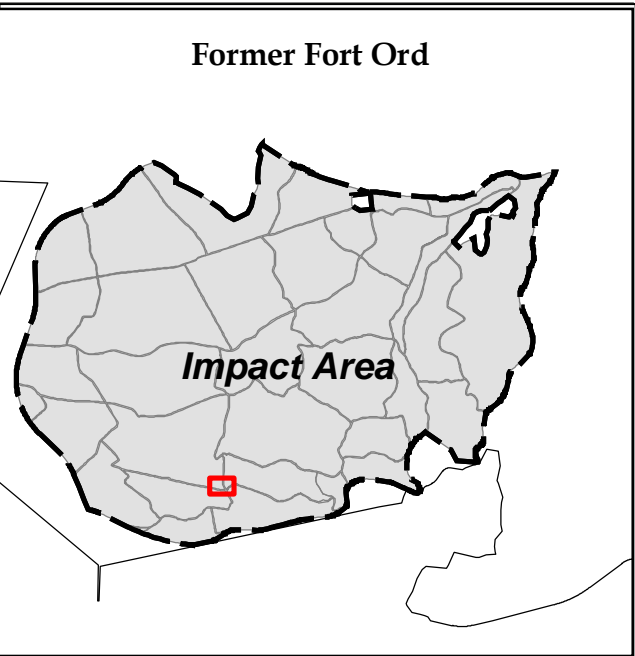
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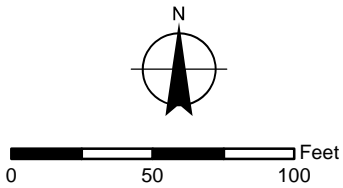
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| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 2-3 | 2016 Annual Biological Monitoring Report Erosion Repair Area Within HA 28 | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 2/6/2017 | WP001 | SEE FOOTER |



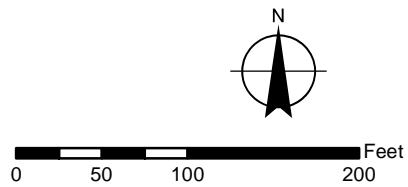
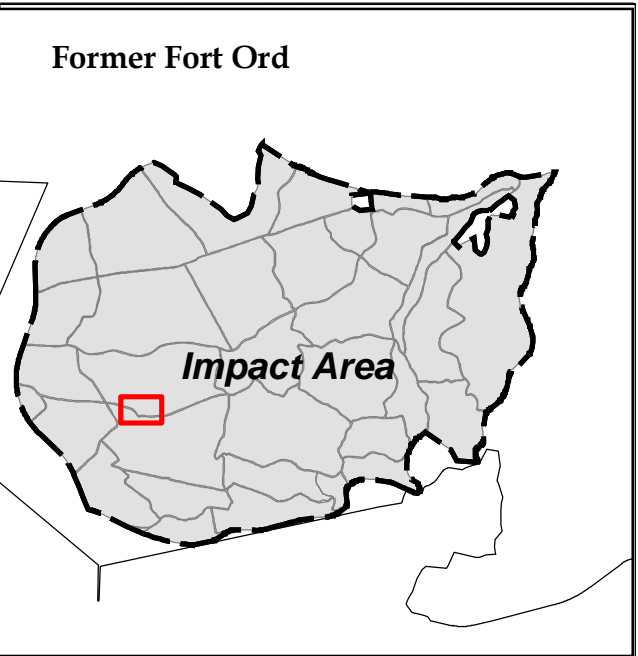
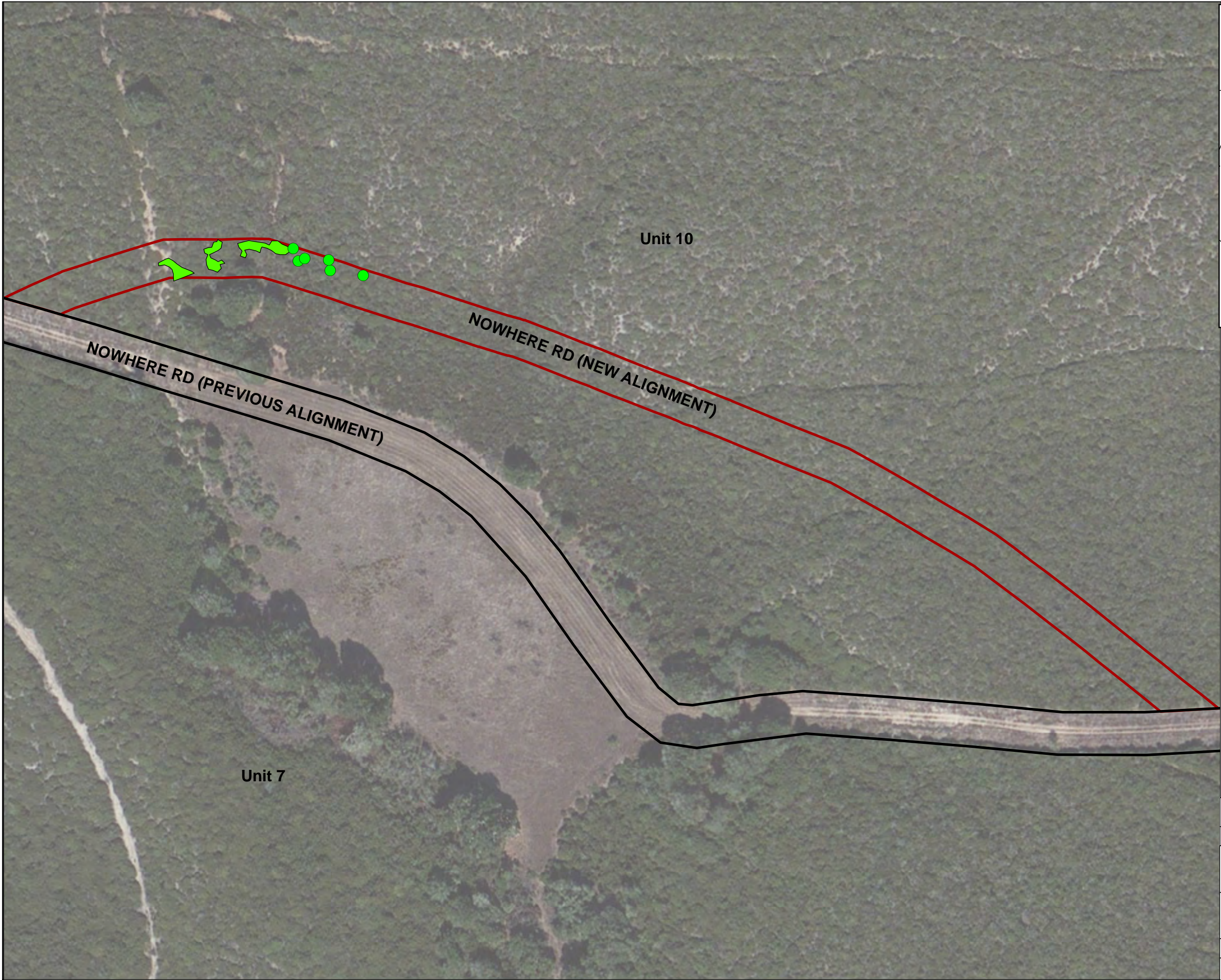
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| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-1 | 2016 Annual Biological Monitoring Report Seaside Bird's-Beak and Yadon's Piperia in Unit 11 | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |



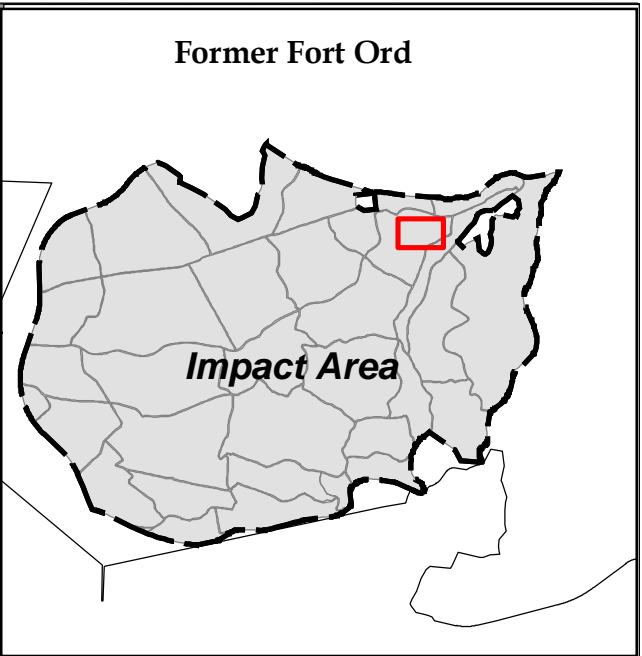
- Unit Boundaries
- Yadon's Piperia (1 individual)
- Yadon's Piperia (8 individuals)



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| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-2 | 2016 Annual Biological Monitoring Report Yadon's Piperia on Evolution Road | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/23/2017 | WP001 | SEE FOOTER |



| | | |
|---|--|------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-3 | 2016 Annual Biological Monitoring Report Seaside Bird's-Beak in Nowhere Road Realignment | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |



Unit Boundaries

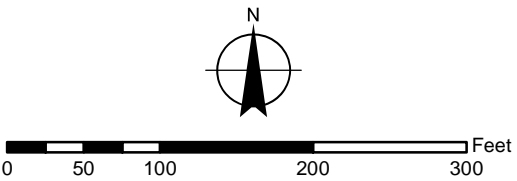
Restoration Area

2016 Erosion Control Areas

Pond

CTS Encounter & Release Locations

- Encounter Site, 9/28/2016
- Relocation Site, 9/28/2016
- Encounter Site, 10/17/2016
- Relocation Site, 10/17/2016
- Encounter Site, 10/18/2016
- Relocation Site, 10/18/2016



| | | |
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| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-4 | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter and Release Locations | |
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| DATE | PROJECT NUMBER | FILE NAME |
| 1/23/2017 | WP001 | SEE FOOTER |

1.






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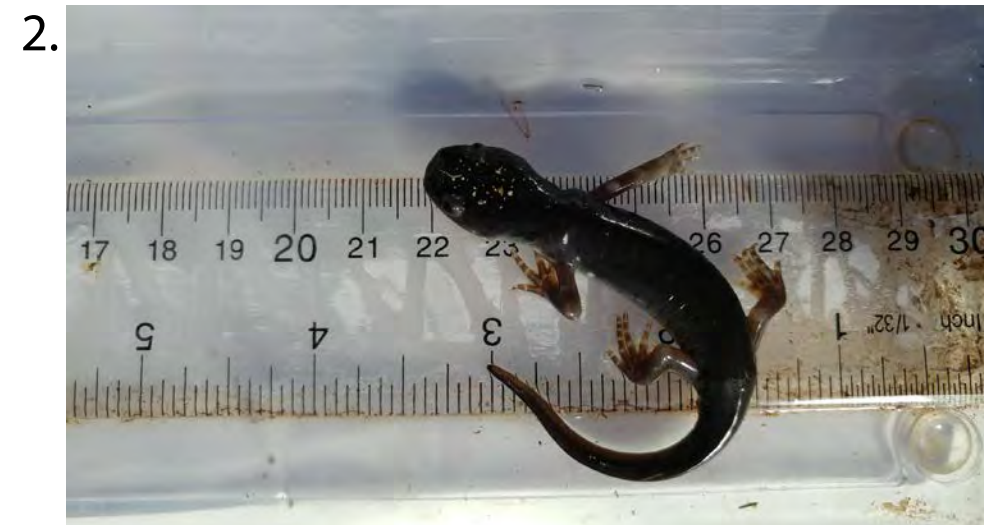


3.






1. Live and dead CTS encountered on September 28, 2016
2. Small mammal burrow CTS was relocated to
3. Mulch pile at HA 37

| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
|---|--|---|
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-5a | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |






1-6. Live CTS #1-6 encountered on October 17, 2016

| | | |
|---|--|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-5b | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |






1-6. Live CTS #8-13 encountered on October 17, 2016

| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
|---|--|---|
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-5c | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |



1-4. Dead CTS #14 and #16-18 encountered on October 17, 2016
 5. CTS and California newt in bucket before relocation
 6. Example of small mammal burrow where live CTS were released

| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
|---|--|---|
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-5d | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |

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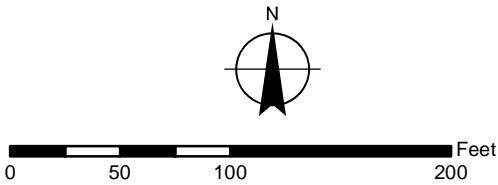
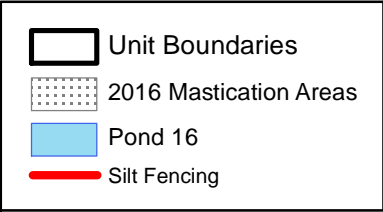
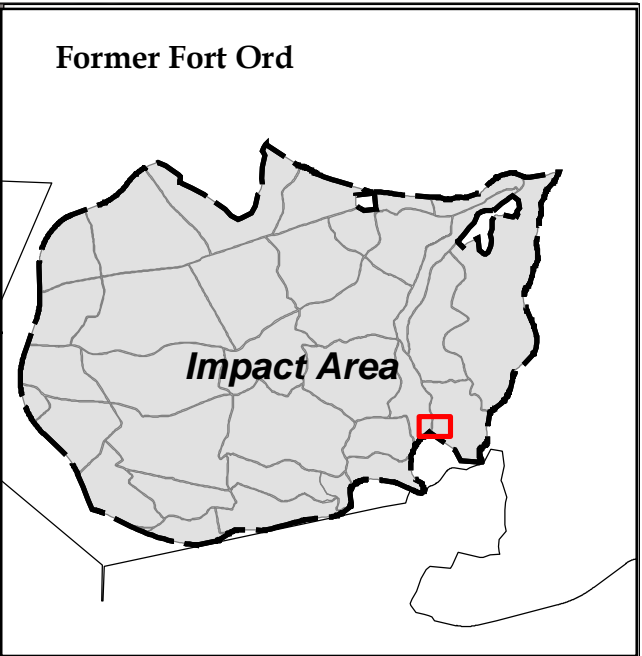


5.



1. Arboreal salamander encountered on October 18, 2016
 2-3. CTS encountered on October 18, 2016
 4-5. Small mammal burrows where CTS were released

| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
|---|--|---|
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-5e | 2016 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER
3-6

2016 Annual Biological Monitoring Report
Silt Fence Location on
Impossible Canyon Road



DATE

PROJECT NUMBER

FILE NAME




1/20/2017

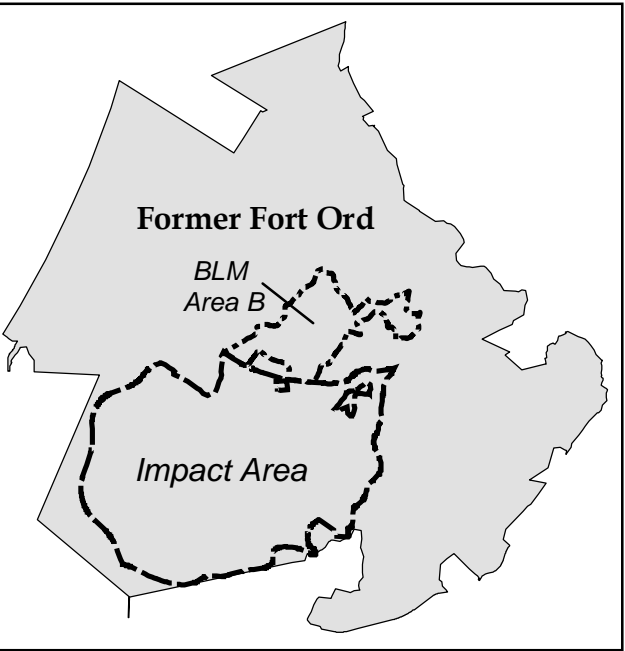
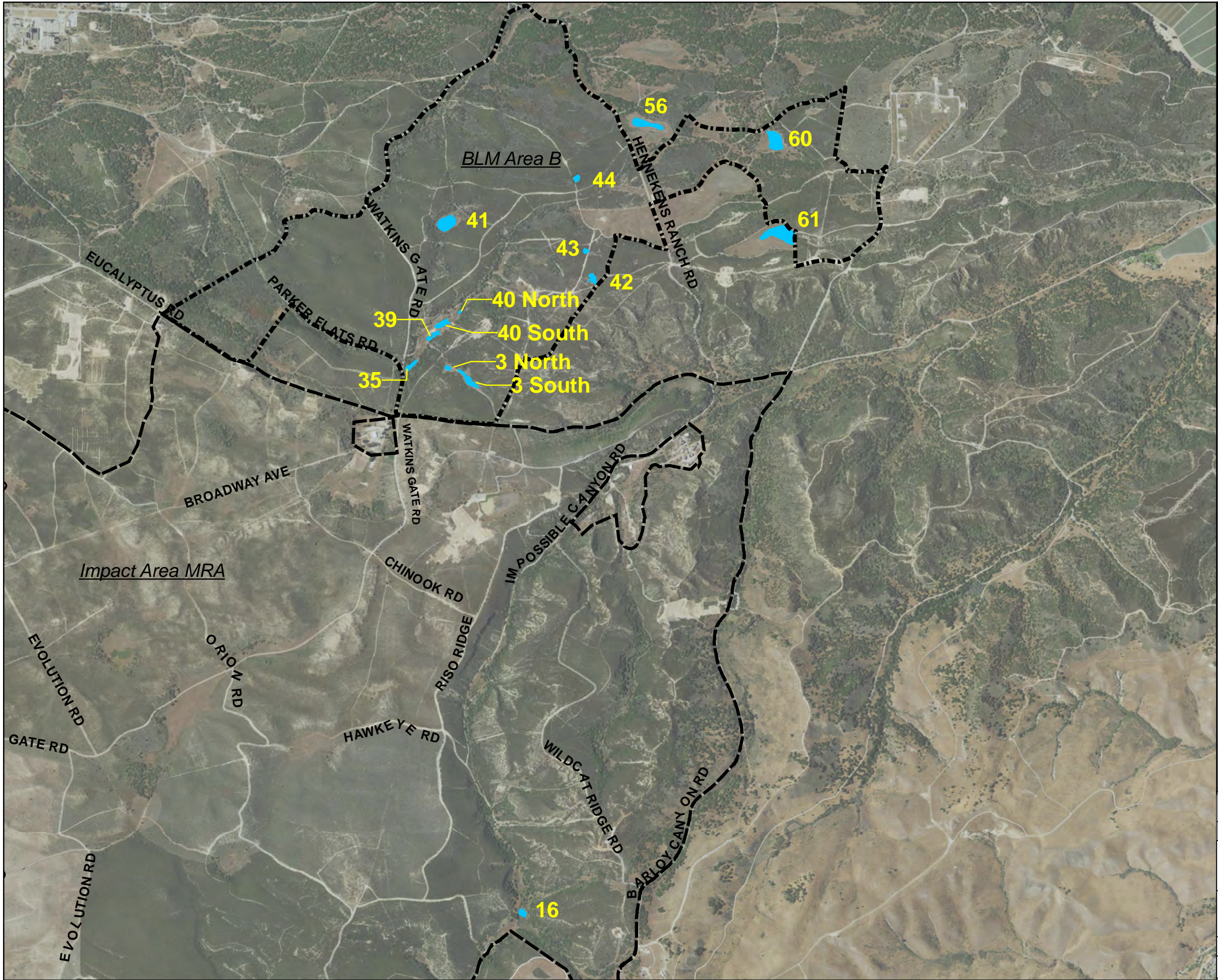
WP001


SEE FOOTER





1. Unit 25 hillside October 17, 2016
2. Unit 25 hillside regrowth and silt fence looking northwest
3. Gap between silt fence lengths

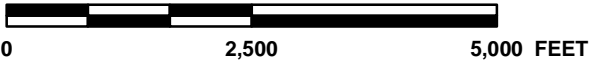
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
|---|--|---|
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-7 | 2016 Annual Biological Monitoring Report Photographs of Silt Fence on Impossible Canyon Road | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |






 Impact Area MRA

 BLM Area B

 Ponds Where DGM Occurred



| | | |
|---|---|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 3-8 | 2016 Annual Biological Monitoring Report Ponds Where DGM Occurred in 2016 | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 1/20/2017 | WP001 | SEE FOOTER |

Tables

Table 3-1. 2016 Munitions Remediation Work Area Acreages

| Unit | 2016 Acres | | | | | |
|--------------------------------------|------------------------|---------------------------|---------------------|------------------------|------------------------------------|--------------------------|
| | Vegetation Mastication | Manual Vegetation Removal | Surface MEC Removal | Subsurface MEC Removal | DGM (EM61, Metal Mapper, & OPTEMA) | Road Repair/ Realignment |
| 1 | 7.54 | 0 | 0 | 0 | 0 | 0 |
| 2 | 5.40 | 0 | 0 | 0 | 0 | 0 |
| 3 | 3.75 | 0 | 0 | 0 | 0 | 0 |
| 11 | 8.17 | 0 | 0 | 0 | 0 | 0 |
| 12 | 8.85 | 0 | 0 | 0 | 0 | 0 |
| 13 | 12.13 | 5.01 | 17.1 | 0 | 0.38 | 0 |
| 17 | 0 | 3.85 | 3.85 | 0 | 0 | 0 |
| 20 | 9.40 | 0.76 | 10.34 | 0 | 0 | 0 |
| 23 | 0 | 0 | 150.03 | 0.09 | 279.32 | 0 |
| 25 | 53.64 | 8.94 | 58.79 | 0 | 0 | 0 |
| 28 | 0 | 0 | 82.4 | 0 | 37.79 | 0 |
| 31 | 40.10 | 5.14 | 43.99 | 0 | 0 | 0 |
| Wolf Hill | 22.54 | 7.59 | 0 | 0 | 0 | 0 |
| South Boundary Rd | 9.94 | 11.04 | 0 | 0 | 0 | 0 |
| Barloy Canyon Rd (BLM) | 0 | 12.63 | 0 | 0 | 0 | 0 |
| Range 48 Study Area | 11.02 | 0 | 11.01 | 0 | 11.02 | 0 |
| Hugo Rd (Units 9 & 31) | 0 | 0 | 0 | 3.0 | 0 | 0 |
| Nowhere Rd (Unit 10) | 0 | 0 | 0 | 0 | 0 | 1.45 |
| Chinook Rd (Unit 15) | 0 | 0 | 0 | 0 | 0 | 0.41 |
| Phoenix Rd (Units 7 & 33) | 0 | 0 | 0 | 0 | 0 | 0.25 |
| BLM Ponds | 0 | 0 | 0 | 0 | 11.72 | 0 |

Attachment A
Habitat Checklists for Work Completed in 2016

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|--------|
| SITE: | Units 1, 2, & 3 | DATE: | 9-7-16 |
| WORK TO BE CONDUCTED: | Vegetation removal and subsurface clearance to depth | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army Although work is within a Habitat Reserve area, the Foul Bore Road and fuel break portion are considered part of BLM's 2% development allowance | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | |
|---|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Species: | HMP shrubs, Monterey spineflower, sand gilia, Seaside bird's-beak, California Tiger Salamander (CTS), and Black Legless Lizard (BLL) | |
| Location: | See attached map for known locations of HMP Annual plants | |
| Grid Numbers: | | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. If excavation is required within grids containing HMP annual plant species, the top 2-3 inches of the topsoil shall be preserved and placed on a tarp or other impermeable surface, and shall be kept separate from any other soil piles. Once excavation is complete, the topsoil shall be replaced on top of the backfilling. If the topsoil pile is not replaced before the end of the work day and rain is forecasted for the night, the pile shall be covered to prevent it from washing away. Grids requiring topsoil preservation are shown on the attached maps. | | |

| | | |
|---|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Location: | | |
| Grid Numbers: | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

5. VEGETATION REMOVAL

| | |
|---|-----------|
| <input type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input checked="" type="checkbox"/> Mechanical Removal Needed | Location: |
| <ul style="list-style-type: none"> | |

6. EROSION CONCERNS/SITE RESTORATION:

- Heavy equipment should minimize topsoil disturbance as much as possible, avoid making hard turns, and enter and exit the site from a limited number of routes.
- Use of heavy equipment on steep slopes may cause erosion. If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads and fuel breaks only. No vehicles or heavy equipment shall be permitted within the restoration areas or other areas outside of the fuel breaks that are identified as sensitive on the attached maps. If additional access routes are necessary, the site biologist shall be contacted to identify suitable routes that will cause the least amount of impact.
- Heavy equipment transport from site to site must be along existing fuel breaks only. Roads may be used only when necessary.


8. INVASIVE SPECIES:

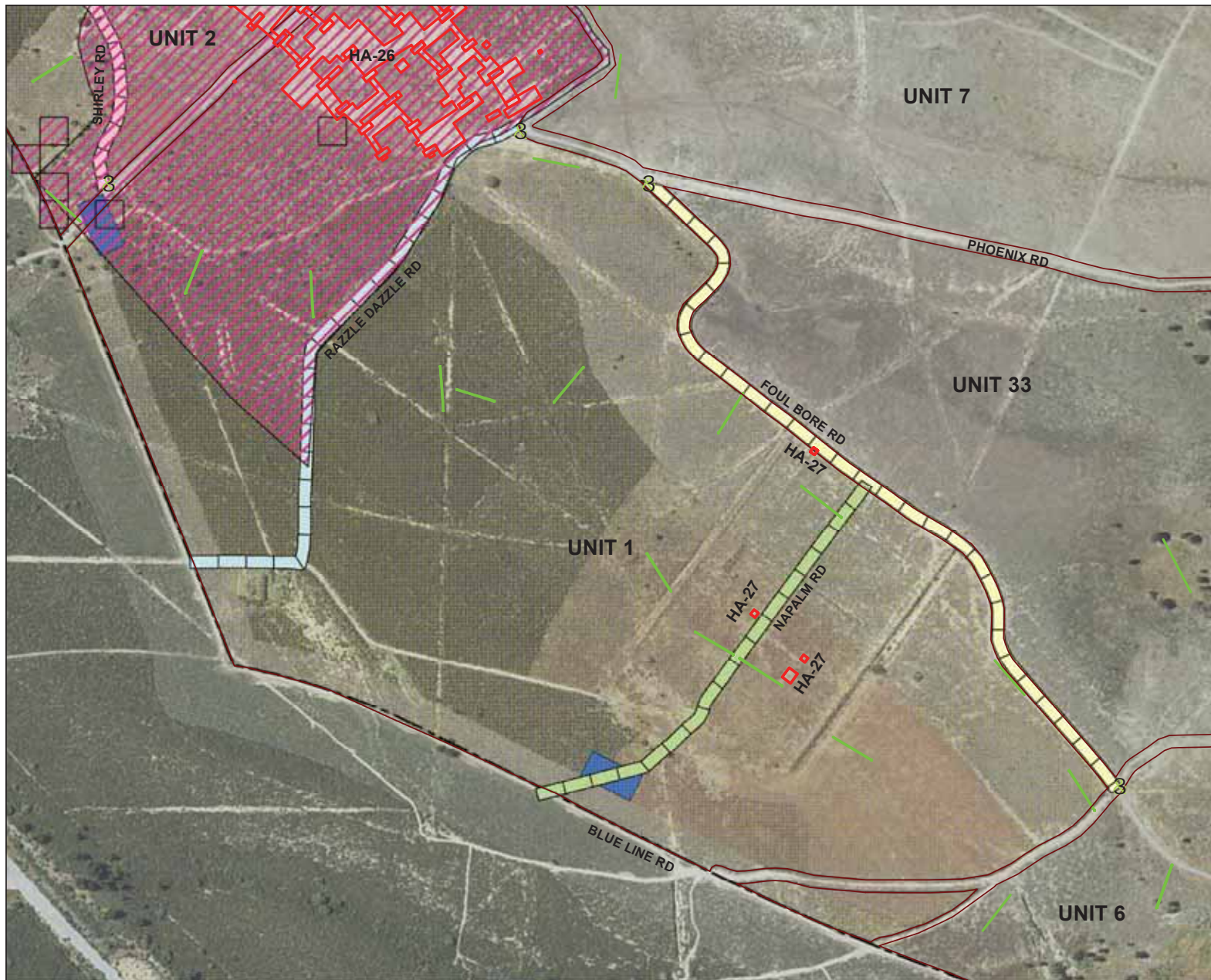
- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.
- Unnecessary movement of equipment from areas infested with pampas grass in Units 1 & 2 (see attached maps) to other units shall be minimized. Equipment used in these units shall be pressure-washed on-site prior to moving to other units to remove invasive plant seeds. Suitable locations for decon are identified on the attached maps.
- Teams working in areas infested with pampas grass in Units 1 & 2 (see attached maps) shall clean boots and equipment daily before leaving the unit to reduce spread of pampas grass. Additionally, teams using vehicles in areas infested with pampas grass in Units 1 & 2 shall dry decon vehicles prior to leaving the unit. Soil and plant material shall be removed using boot brushes or other types of brushes. Suitable locations for decon are identified on the attached maps. Any caked-on soils or material that cannot be removed using brushes shall be washed off with water – washing can be completed at the Kemron Compound; however, if washing of vehicles is necessary, it must be completed on-site prior to leaving the unit.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.
- No work is permitted within the restoration areas (HA-23, HA-26, & HA-27), as shown on the attached maps. The boundary of HA-27 within the Foul Bore fuelbreak shall be flagged for avoidance prior to the initiation of work.

This checklist has been read, approved, and signed by the following:

| | | | |
|---------------------------|---|---|--------------------|
| Project Biologist: | KOWALSKI.BARTHOLOMEW.L. 1387978115 | <small>Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115 Date: 2016.09.08 11:37:54 -07'00'</small> | Date: _____ |
| QC Manager: |  | <small>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.09.13 10:48:40 -07'00'</small> | Date: _____ |
| BRAC Biologist: | Jami Davis | <small>Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.09.13 10:40:42 -07'00'</small> | Date: _____ |



Former Fort Ord Impact Area

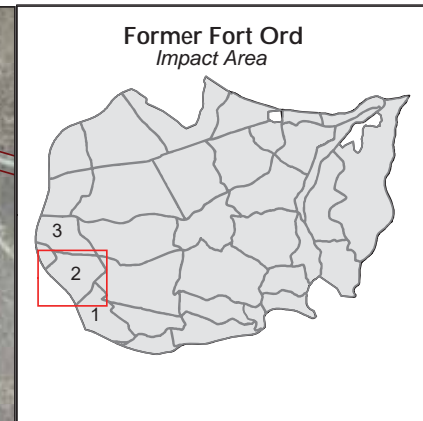
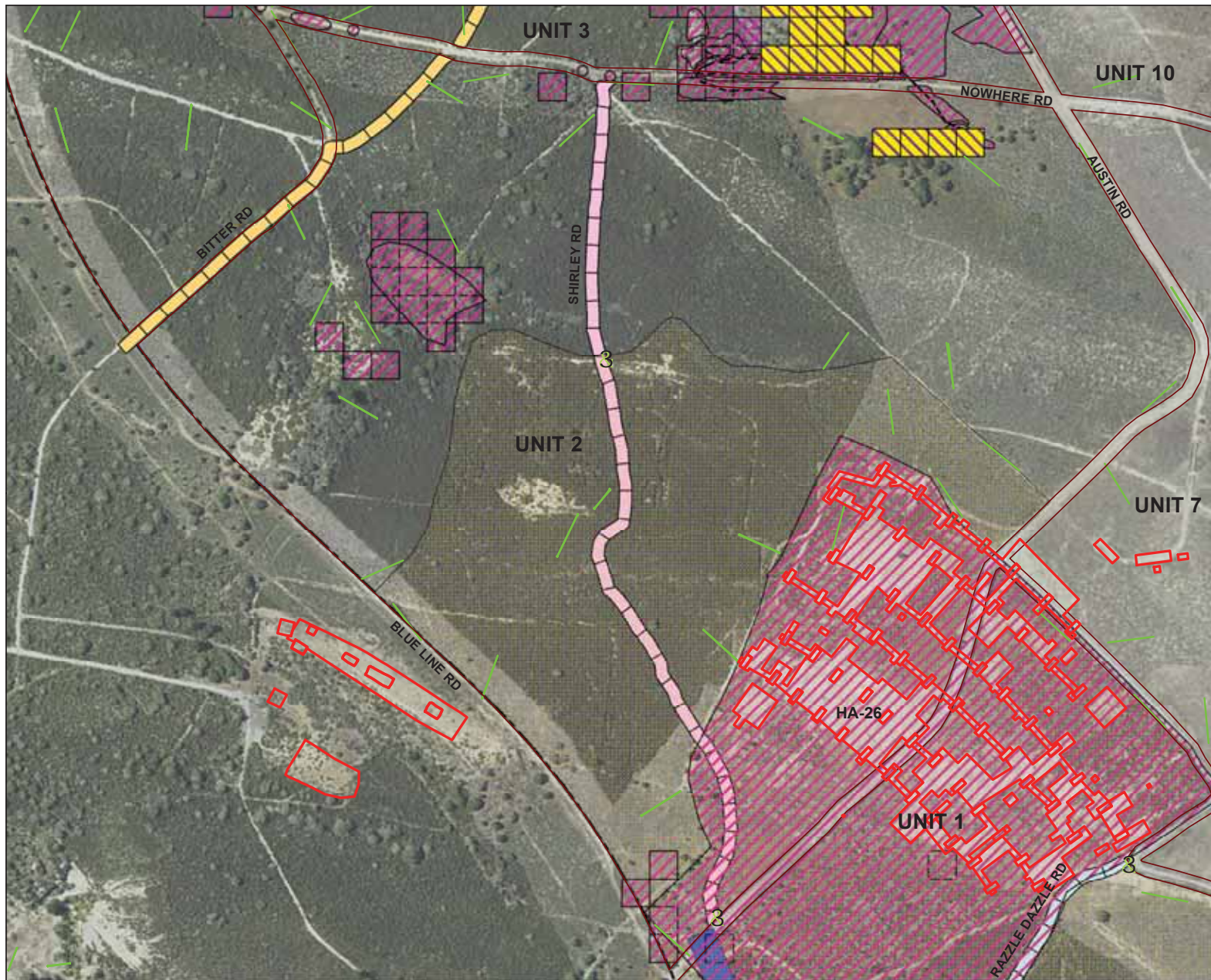
| | |
|--------------------|------------------------------------|
| | Unit Boundary |
| | Foul Bore Rd Fuelbreak |
| | Napalm Rd Fuelbreak |
| | Razzle Dazzle Rd Fuelbreak |
| | Shirley Rd Fuelbreak |
| | Range 23 Rd Fuelbreak |
| | Bitter Rd Fuelbreak |
| | Administrative Areas |
| | Pampas Grass Area - Decon Required |
| | Decon Locations |
| | Vegetation Monitoring Transect |
| | Restoration Areas |
| HMP Species | |
| | Monterey spineflower |
| | Sand gilia |
| | Seaside Bird's-beak |

0

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

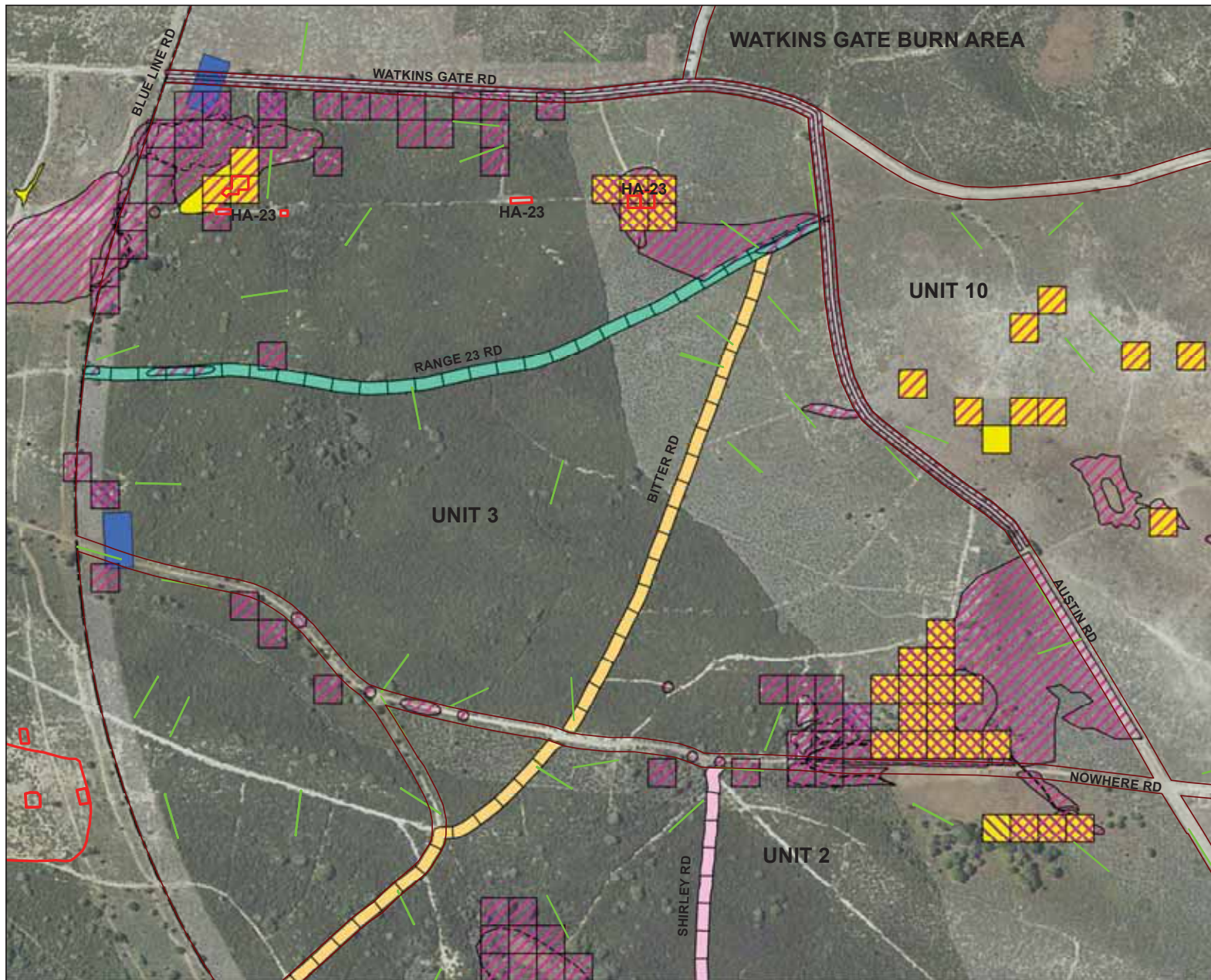
FORMER FORT ORD
Units 1, 2, & 3 Fuelbreaks HCL
Unit 1 Biological Constraints

| | | |
|------------------------|----------------|-------------------------|
| FIGURE NUMBER 1A | | |
| DATE 9/1/2016 | PROJECT NUMBER | FILE NAME SEE FOOTER |

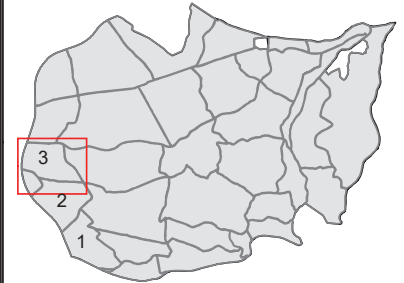


| | |
|--------------------|------------------------------------|
| | Unit Boundary |
| | Foul Bore Rd Fuelbreak |
| | Napalm Rd Fuelbreak |
| | Razzle Dazzle Rd Fuelbreak |
| | Shirley Rd Fuelbreak |
| | Range 23 Rd Fuelbreak |
| | Bitter Rd Fuelbreak |
| | Administrative Areas |
| | Pampas Grass Area - Decon Required |
| | Decon Locations |
| | Vegetation Monitoring Transect |
| | Restoration Areas |
| HMP Species | |
| | Monterey spineflower |
| | Sand gilia |
| | Seaside Bird's-beak |

| | | |
|---|----------------|------------|
| 0 | | |
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| Units 1, 2, & 3 Fuelbreaks HCL | | |
| Unit 2 Biological Constraints | | |
| FIGURE NUMBER 1B | | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 9/1/2016 | | SEE FOOTER |



Former Fort Ord Impact Area



- Unit Boundary
- Foul Bore Rd Fuelbreak
- Napalm Rd Fuelbreak
- Razzle Dazzle Rd Fuelbreak
- Shirley Rd Fuelbreak
- Range 23 Rd Fuelbreak
- Bitter Rd Fuelbreak
- Administrative Areas
- Pampas Grass Area - Decon Required
- Decon Locations
- Vegetation Monitoring Transect
- Restoration Areas
- HMP Species**
 - Monterey spineflower
 - Sand gilia
 - Seaside Bird's-beak

0

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

Units 1, 2, & 3 Fuelbreaks HCL
Unit 3 Biological Constraints

FIGURE
NUMBER
1C



DATE
9/1/2016

PROJECT NUMBER

FILE NAME
SEE FOOTER

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|---------|
| SITE: | Unit 28 & HA36A | DATE: | 2-24-16 |
| WORK TO BE CONDUCTED: | Chipping and stockpiling of vegetation removed from Unit 28 | | |

| | | | |
|-----------------------|--|--|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve | <input type="checkbox"/> Development Area | <input type="checkbox"/> Other (specify): |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|---|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked |
| Species: | Monterey spineflower, CTS, BLL |
| Location: | |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. Stockpiling shall not occur in areas known to support Monterey spineflower, as shown on the attached map. The Monterey spineflower areas and the stockpile area shall be delineated in the field, in coordination with the Project Biologist, with stakes, fencing, and/or flagging prior to the commencement of work. | |

| | |
|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Location: | |
| Grid Numbers: | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Restrictions: | |

| | |
|--|---|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: Vegetation has been removed. Operation includes chipping only. |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |

Vegetation Removal Restrictions:

6. EROSION CONCERNS/SITE RESTORATION:

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.
- When using stockpile materials, approximately 1-2 inches of material shall be left on the surface in order to reduce the spread of invasive plant seeds. Filaree (*Erodium* sp.) is present within the stockpile area. This species is widespread throughout California and Fort Ord and has an invasive rating of "limited" by CalIPC.

9. ADDITIONAL SITE CONCERNS:

- Chipped material shall be stockpiled into several smaller piles instead of one large pile to prevent spontaneous combustion. The chipped material should be in rows no higher than 8 feet and the base of piles should not be over 16 feet.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=Denise Duffy & Associates,
Inc, ou, email=jdavis@ddaplanning.com, c=US
Date: 2016.02.29 12:37:24 -08'00'

Date: _____

QC Manager:

Cheryl Clyde

Digitally signed by
cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.02.29 13:51:57 -08'00'

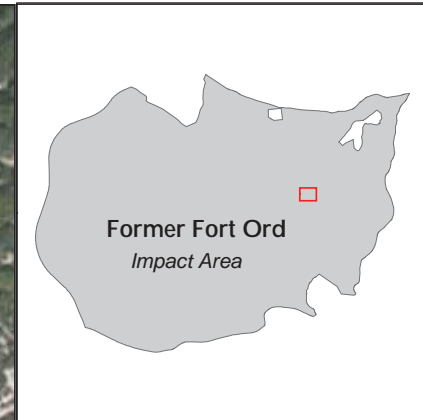
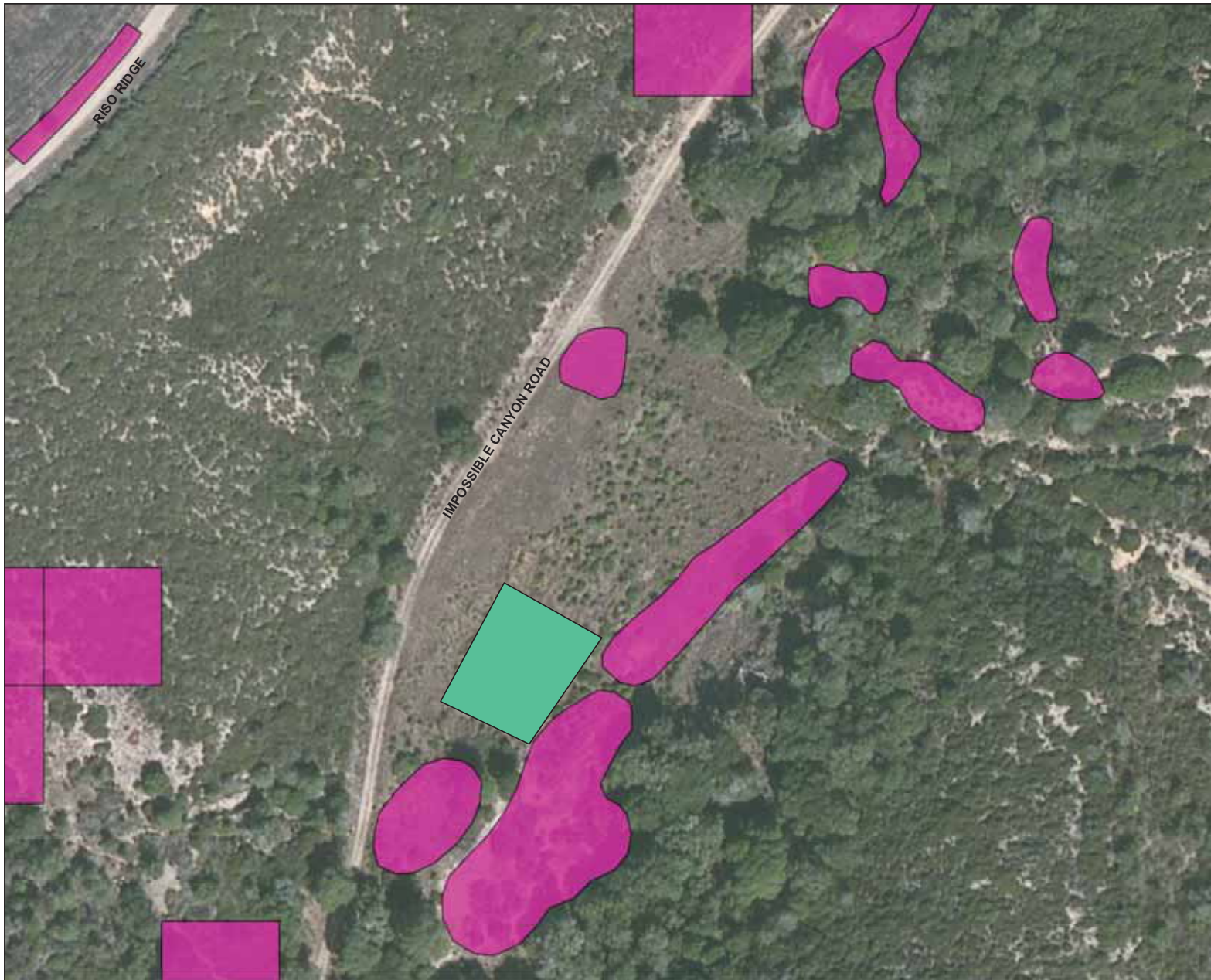
Date: _____

BRAC Biologist:

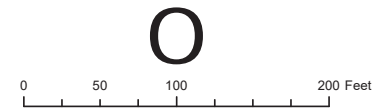
KOWALSKI.BARTHOLOMEW.L.1387978115




Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: cn=KOWALSKI.BARTHOLOMEW.L.1387978115, o=KOWALSKI.BARTHOLOMEW.L.1387978115, ou=CONTRACTOR, c=US
Date: 2016.02.29 10:31:57 -08'00'

Date: _____



- Monterey Spineflower
- Wetland



| | | |
|---|---|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| Unit 28 Chipping HCL | | |
| Biological Resources Near HA 36A | | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 2/24/2016 | | SEE FOOTER |



Denise Duffy & Associates, Inc.

PLANNING AND ENVIRONMENTAL CONSULTING

MEMORANDUM

Date: June 21, 2016

From: Amendment to the Unit 28 Chipping and Stockpiling Habitat Checklist,
Dated 2-24-16

Woodchips stockpiled in HA-36A are being relocated to HA 37 for use in erosion control. The woodchips will be temporarily stockpiled within the disturbed area adjacent to the remediation site. In addition to the applicable measures on the existing HCL, the following measures shall be implemented to avoid impacts to biological resources during relocation and installation in the eroded areas:

1. Woodchip stockpiling shall be located within the area identified on the attached map.
2. Equipment shall avoid impacting adjacent wetlands (identified on the attached map). The small wetland area shall be delineated by the Project Biologist prior to relocating the stockpile from HA 36A.
3. A barrier shall be installed around the woodchip stockpile to prevent movement of CTS into the stockpile.
4. Installation of woodchips for erosion control shall avoid impacting surrounding vegetation.
5. Equipment and vehicle access through the HA 37 Restoration area shall be coordinated with the Project Biologist and the BRAC Biologist prior to commencement of erosion control work.

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.06.22 13:34:18 -07'00'

Date: _____

QC Manager:

Charles Clyde

Digitally signed by
cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.06.22 13:37:33 -07'00'

Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.1387978
115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.06.22 11:16:23 -07'00'

Date: _____



**Former Fort Ord
Impact Area**

Woodchip Stockpile

Wetlands

Pond 10

Unit 22

0 37.5 75 150 Feet

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER
1

Unit 28 Chipping HCL Amendment
HA 37 Stockpile and Biological Resources

DATE
6/21/2016

PROJECT NUMBER

FILE NAME
SEE FOOTER

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|--------|
| SITE: | Unit 28 | DATE: | 4-4-16 |
| WORK TO BE CONDUCTED: | Surface MEC and target removal, and DGM | | |

| | | | |
|-----------------------|---|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | |
|---|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked | |
| Species: | Monterey spineflower, sand gilia, HMP shrubs, CTS, BLL | |
| Location: | See attached map for known locations of HMP annual plants | |
| Grid Numbers: | | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. No work shall occur in areas known to support Monterey spineflower and/or sand gilia from approximately February 1 to May 31 (see attached maps). Heavy equipment shall avoid impacting Toro manzanitas that were left standing following vegetation removal. | | |

| | | |
|---|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | |
| Location: | | |
| Grid Numbers: | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Restrictions: | | |

| | |
|---|------------------|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |

Vegetation Removal Restrictions:

-

6. EROSION CONCERNS/SITE RESTORATION:

- Heavy equipment should minimize topsoil disturbance as much as possible, avoid making hard turns, and enter and exit the site from a limited number of routes. Equipment operators should minimize driving parallel to the slope to the greatest extent feasible to prevent creating rills.
- Use of heavy equipment on steep slopes may cause erosion and should be limited. If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.
- Heavy equipment transport from site to site must be along existing fuelbreaks only. Roads may be used only when necessary. Do not move equipment on southern section of Hawkeye Rd to minimize impact to Yadon's piperia.
- If required, heavy equipment may be used to remove large targets; however, the access routes to targets must be determined/approved by the Project Biologist.



8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

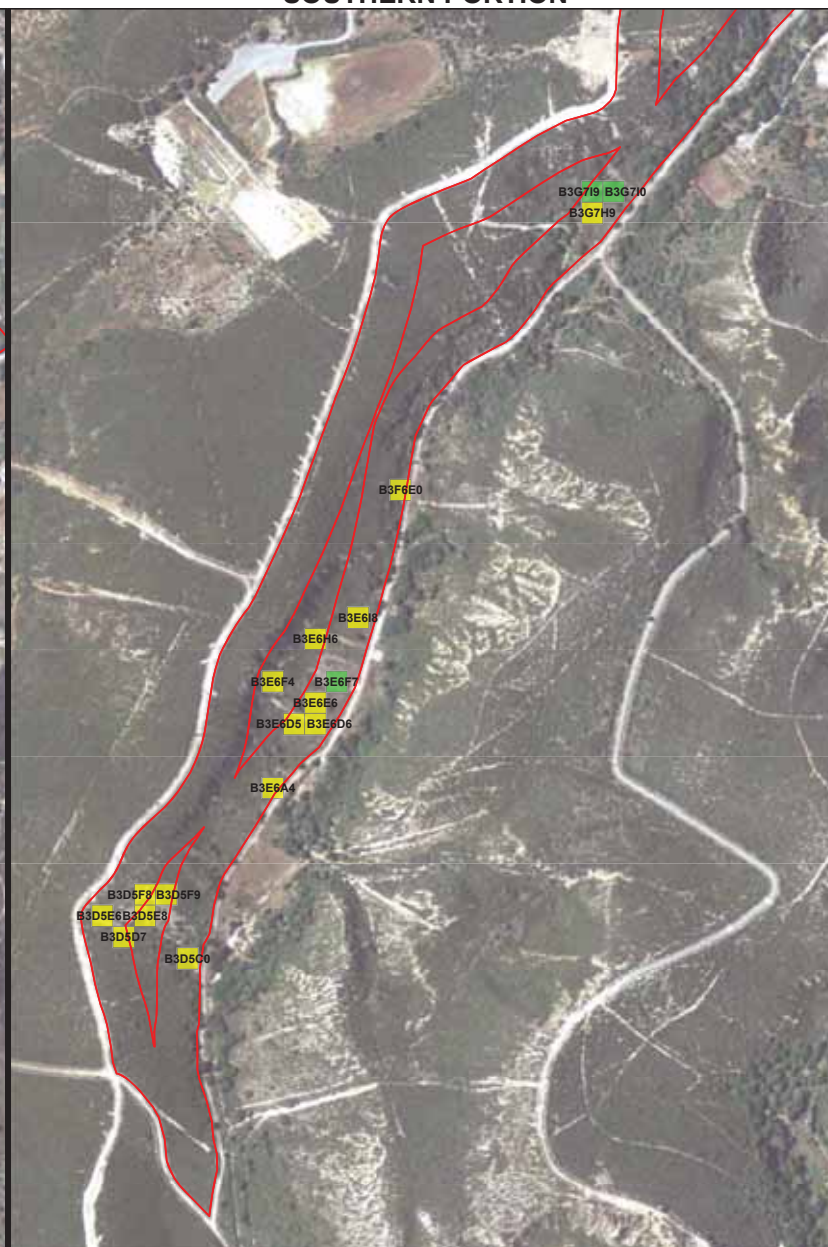
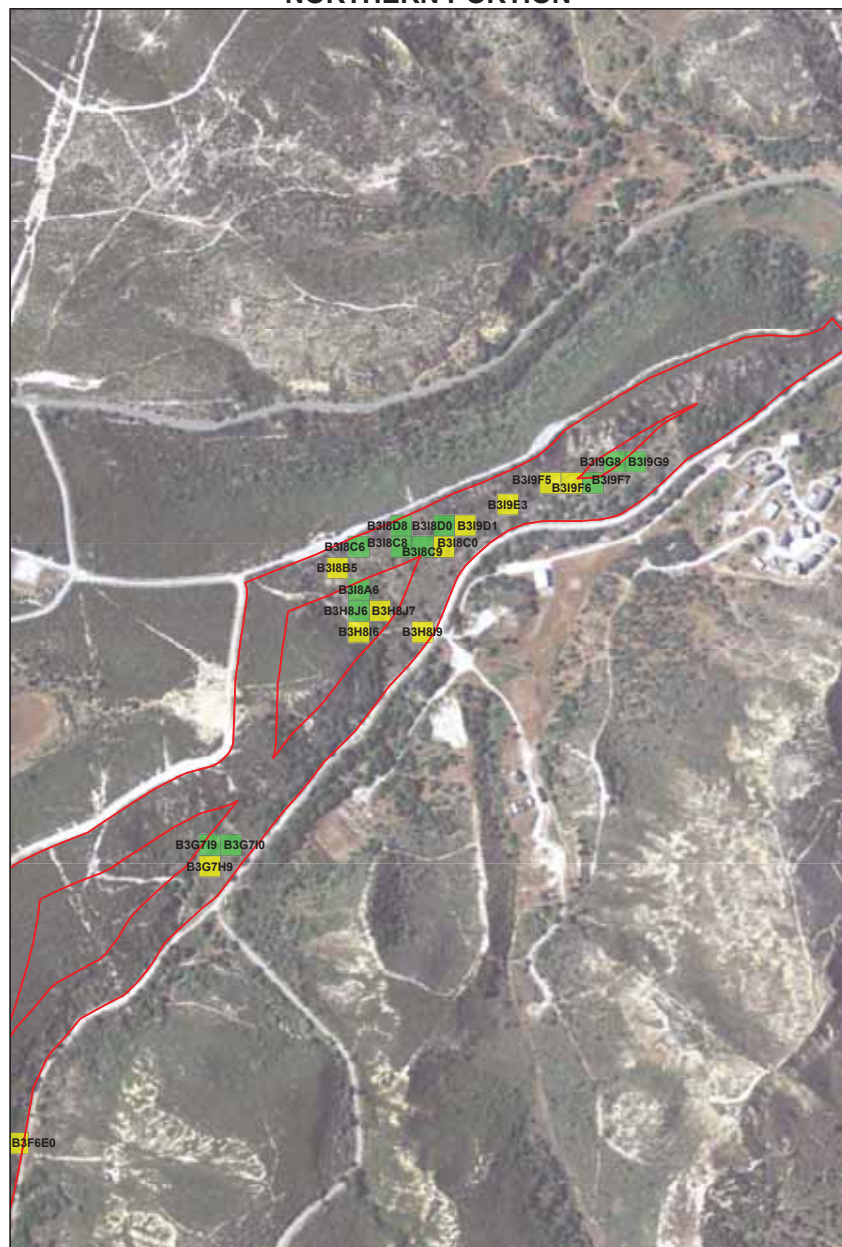
- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.

This checklist has been read, approved, and signed by the following:

| | | |
|---------------------------|--|--------------------|
| Project Biologist: | Jami Davis  Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.04.04 16:27:02 -07'00' | Date: _____ |
| QC Manager: | Chuck Clyde  Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.04.04 17:25:31 -07'00' | Date: _____ |
| BRAC Biologist: | KOWALSKI.BARTHOLOMEW.L.1387978115  Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115 Date: 2016.04.04 09:15:28 -07'00' | Date: _____ |

NORTHERN PORTION

SOUTHERN PORTION



Fort Ord
Unit 28
Sand Gilia
Density Classes
2011
Baseline

Legend

- Unit Boundary
- Density Class 0
- Density Class 1
- Density Class 2
- Density Class 3
- Density Class 4

Aerial image date 2009



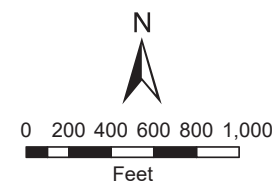
0 200 400 600 800 1,000
Feet



Legend

- Unit Boundary
- Density Class 0
- Density Class 1
- Density Class 2
- Density Class 3
- Density Class 4

Aerial image date 2009



FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|---------|
| SITE: | Unit 28 | DATE: | 5-17-16 |
| WORK TO BE CONDUCTED: | Install Instrument Verification Strip (IVS) | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army Although work is within a Habitat Reserve area, the fuel break portion is considered part of BLM's 2% development allowance | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Species: | California Tiger Salamander (CTS) and Black Legless Lizard (BLL), Yadon's piperia |
| Location: | |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. | |

| | |
|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Location: | |
| Grid Numbers: | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

| | |
|--|------------------|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |

6. EROSION CONCERNS/SITE RESTORATION:

- Erosion issues are unlikely as the area is relatively flat. However, if soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley.
- The IVS strip shall be placed so that hard turns are avoided or reduced to the greatest extent feasible.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.05.17 15:48:34 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.05.18 09:20:48 -07'00'

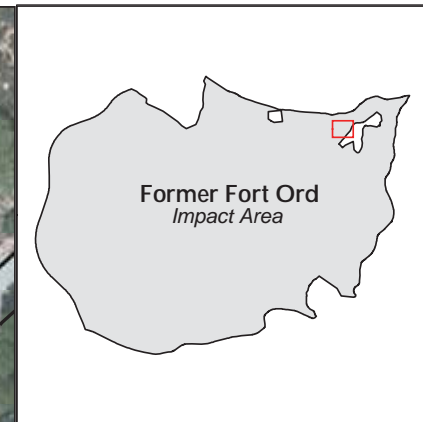
Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.1387
978115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.05.17 16:28:32 -07'00'

Date: _____



- Proposed IVS
- Monterey Spineflower
- Sand gilia
- Seaside Bird's-beak
- Vegetation Monitoring Transect
- Burn Units Boundary

0

| | | |
|---|----------------|------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| Biological Annual Report 2015 | | |
| Unit 28 IVS | | |
| FIGURE NUMBER 1 | | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 5/17/2016 | | SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|---------|
| SITE: | Unit 7 | DATE: | 4-19-16 |
| WORK TO BE CONDUCTED: | Install Instrument Verification Strip (IVS) | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army Although work is within a Habitat Reserve area, the fuel break portion is considered part of BLM's 2% development allowance | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Species: | California Tiger Salamander (CTS) and Black Legless Lizard (BLL), Yadon's piperia |
| Location: | |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. The Fuelbreak on Nowhere Rd for approximately 200 feet from the intersection with Evolution Rd (south side) shall be avoided to reduce potential impacts to Yadon's piperia. At this location, the road shall be used for access. | |

| | |
|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Location: | |
| Grid Numbers: | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

| | |
|--|------------------|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |

| | |
|---|--------------------------|
| <input type="checkbox"/> Mechanical Removal Needed | Location: |
|---|--------------------------|

| |
|---|
| 6. EROSION CONCERNS/SITE RESTORATION: |
| <ul style="list-style-type: none"> Erosion issues are unlikely as the area is relatively flat. However, if soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley. The IVS strip shall be placed so that hard turns are avoided or reduced to the greatest extent feasible. |

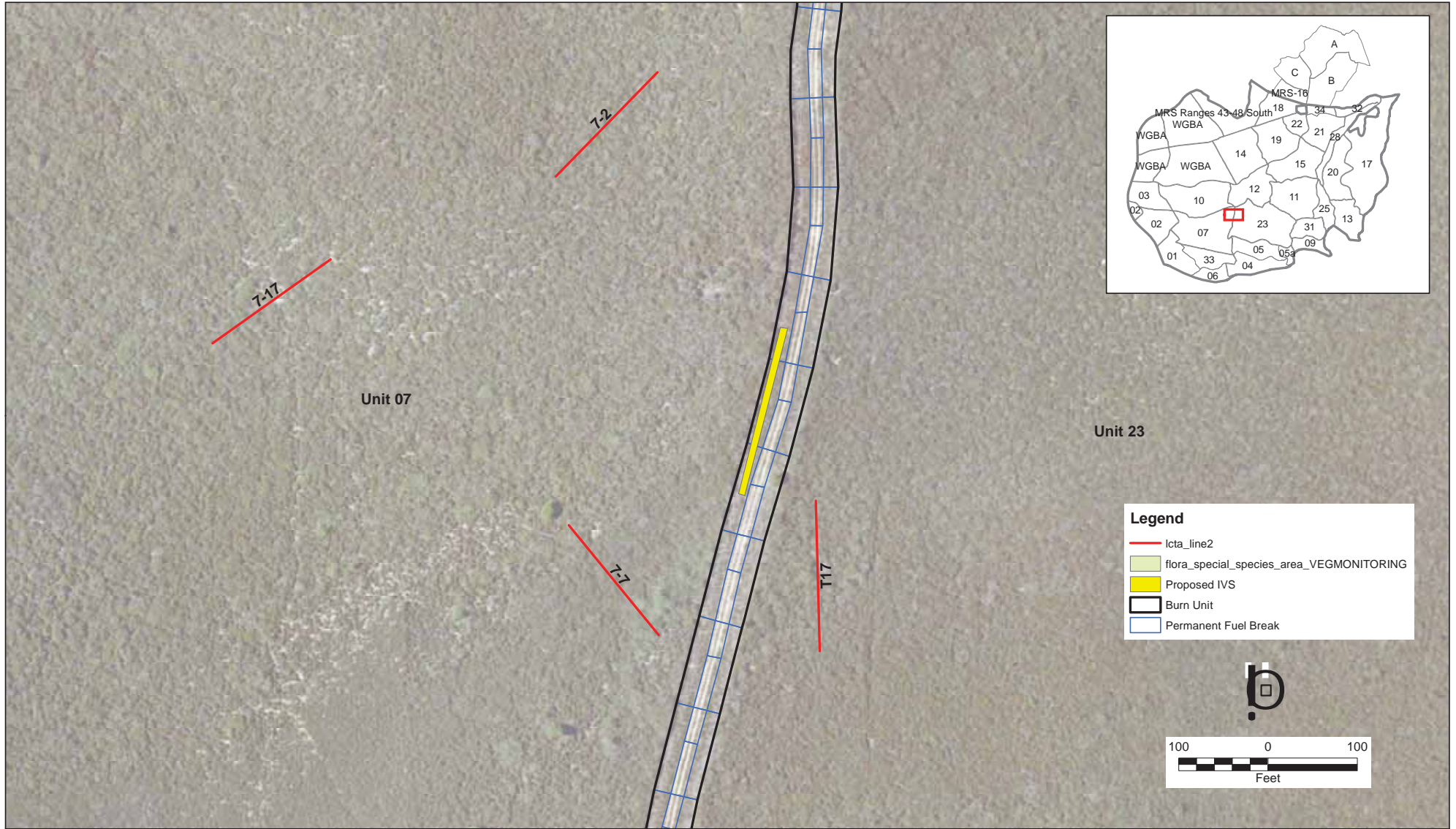
| |
|--|
| 7. SITE ACCESS: |
| <ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. |

| |
|--|
| 8. INVASIVE SPECIES: |
| <ul style="list-style-type: none"> All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species. |

| |
|--|
| 9. ADDITIONAL SITE CONCERNS: |
| <ul style="list-style-type: none"> Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews. |

This checklist has been read, approved, and signed by the following:

| | | |
|---------------------------|--|--------------------|
| Project Biologist: | <div style="display: flex; align-items: center;"> <div style="text-align: center; flex: 1;"> <p style="font-size: 1.2em; margin: 0;">Jami Davis</p> </div> <div style="font-size: 0.8em; margin-left: 10px;"> Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.04.19 16:27:18 -07'00' </div> </div> | Date: _____ |
| QC Manager: | <div style="display: flex; align-items: center;"> <div style="text-align: center; flex: 1;"> </div> <div style="font-size: 0.8em; margin-left: 10px;"> Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.04.26 08:53:27 -07'00' </div> </div> | Date: _____ |
| BRAC Biologist: | <div style="display: flex; align-items: center;"> <div style="text-align: center; flex: 1;"> <p style="font-size: 0.9em; margin: 0;">KOWALSKI.BARTHOLOMEW.L.1387978115</p> </div> <div style="font-size: 0.8em; margin-left: 10px;"> Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115 Date: 2016.04.25 13:51:37 -07'00' </div> </div> | Date: _____ |



FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|--------|
| SITE: | Unit 31 Burn Containment Lines and Unit 11 & 12 Containment Lines | DATE: | 6-1-16 |
| WORK TO BE CONDUCTED: | Mechanical and manual vegetation removal for containment lines | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | | |
|---|---|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | | |
| Species: | California Tiger Salamander (CTS), Black Legless Lizard (BLL), Yadon's piperia, Monterey spineflower, Seaside birds beak, sand gilia, HMP shrubs, and nesting birds | | |
| Location: | | | |
| Grid Numbers: | | | |

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- Report all encounters of BLL and follow the BLL encounter protocol.
- No work shall occur within 200 feet of the turkey vulture nest, located within Unit 25 until the young have fledged and left the nest, as determined by the Project Biologist. This area is identified on the attached map and has been delineated with stakes and flagging (pink and black stripes).
- No work shall occur in areas known to support Monterey spineflower and/or sand gilia from approximately February 1 to May 31 (see attached map).
- Piling of cut vegetation in areas known to support Monterey spineflower and/or sand gilia shall be reduced to the greatest extent feasible. Areas that are preferred for temporary piling of brush (prior to moving to the fuelbreak for chipping) are identified on the attached map. Boundaries of HMP grids near hand-cut areas shall be staked and flagged (pink and black striped flagging) prior to vegetation removal in the area to indicate areas that should be avoided to the greatest extent feasible.
- No work shall occur in flagged areas of Seaside bird's-beak or Yadon's piperia until it has been determined by the Project biologist that the plants are no longer blooming and have set seed (approximately August/September) (see attached map).

| | | | | |
|--|---|---|-----------------------------|---|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Flagged/Marked |
| Species: | California Tiger Salamander (CTS), Black Legless Lizard (BLL), Yadon's piperia, Monterey spineflower, Seaside birds beak, sand gilia, HMP shrubs, and nesting birds | | | |
| <ul style="list-style-type: none"> Masticators shall not be permitted within the areas of Seaside bird's-beak. Manual equipment shall be used to cut vegetation within this area. If it is necessary, smaller equipment, such as a bobcat, may be used. Mature Toro manzanitas that provide an important seed source for the species in the containment line south of South Boundary Road shall be retained. In areas where the density of Toro manzanita is high, individuals 10 feet or taller and shorter individuals with a very wide canopy cover shall be retained. In areas where the density of Toro manzanita is low, the largest, most mature individuals in that area shall be retained. The individuals to be retained shall be evaluated and flagged by the Project Biologist prior to vegetation removal (pink and black striped flagging will be used). If necessary, the remaining Toro manzanitas may be limbed up to 6 feet. | | | | |

| | | | | |
|---|--------------------------------------|---|-----------------------------|--|
| 4. VERNAL POOLS/PONDS PRESENT | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> Flagged/Marked |
| Location: | Unit 13 (Pond 16), Unit 11 (Pond 72) | | | |
| Grid Numbers: | | | | |
| Work Can Proceed in Pools/Ponds: | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Restrictions: <ul style="list-style-type: none"> No work shall occur within the vernal ponds until the ponds have dried, as determined by the Project Biologist. Masticators shall not be permitted within the vernal ponds identified on the attached map. Small equipment, such as a bobcat or other manual equipment may be used within the vernal ponds. | | | | |

| | |
|---|---|
| 5. VEGETATION REMOVAL | |
| <input type="checkbox"/> No Removal Needed | Location: |
| <input checked="" type="checkbox"/> Manual Removal Needed | Location: Areas of dense oak woodland, the vernal ponds in Units 11 & 13, and areas inaccessible to masticators. |
| <input checked="" type="checkbox"/> Mechanical Removal Needed | Location: |
| Vegetation Removal Restrictions: <ul style="list-style-type: none"> Masticators shall not be used in dense areas of oak woodland or the vernal ponds. Small equipment or manual equipment shall be used in areas where masticators are not permitted or are unable to access. Coast live oak trees greater than 4" in diameter shall not be removed, but may be limbed up to 8 feet to allow access beneath the trees. Removal of coast live oak trees smaller than 4" in diameter shall be minimized to the greatest extent feasible. No branches larger than 4" shall be cut from coast live oak trees. Branches shall be cut all the way up to the next branch. | |

| |
|---|
| 6. EROSION CONCERNS/SITE RESTORATION: |
| <ul style="list-style-type: none"> Use of heavy equipment on steep slopes may cause erosion. If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley. Heavy equipment should minimize topsoil disturbance as much as possible, avoid making hard turns, and enter and exit the site from a limited number of routes. Equipment operators should minimize driving parallel to the slope to the greatest extent feasible to prevent creating rills. |

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.
- Heavy equipment transport from site to site must be along existing fuel breaks only. Roads may be used only when necessary. Fuelbreaks on the western side of Riso Ridge Rd shall be avoided in order to avoid impacts to Yadon's piperia and Seaside bird's-beak. These areas are identified on the attached map and have been delineated with stakes and flagging (pink and black stripes).
- Equipment (skid steer) traffic to access stockpiled vegetation shall be minimized to the greatest extent feasible.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews. No refueling shall occur within 400 feet of the vernal ponds in Units 11 and 13.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.06.01 10:13:48 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
ccllyde@gilbaneco.com
DN: cn=ccllyde@gilbaneco.com
Date: 2016.06.01 11:22:17 -07'00'

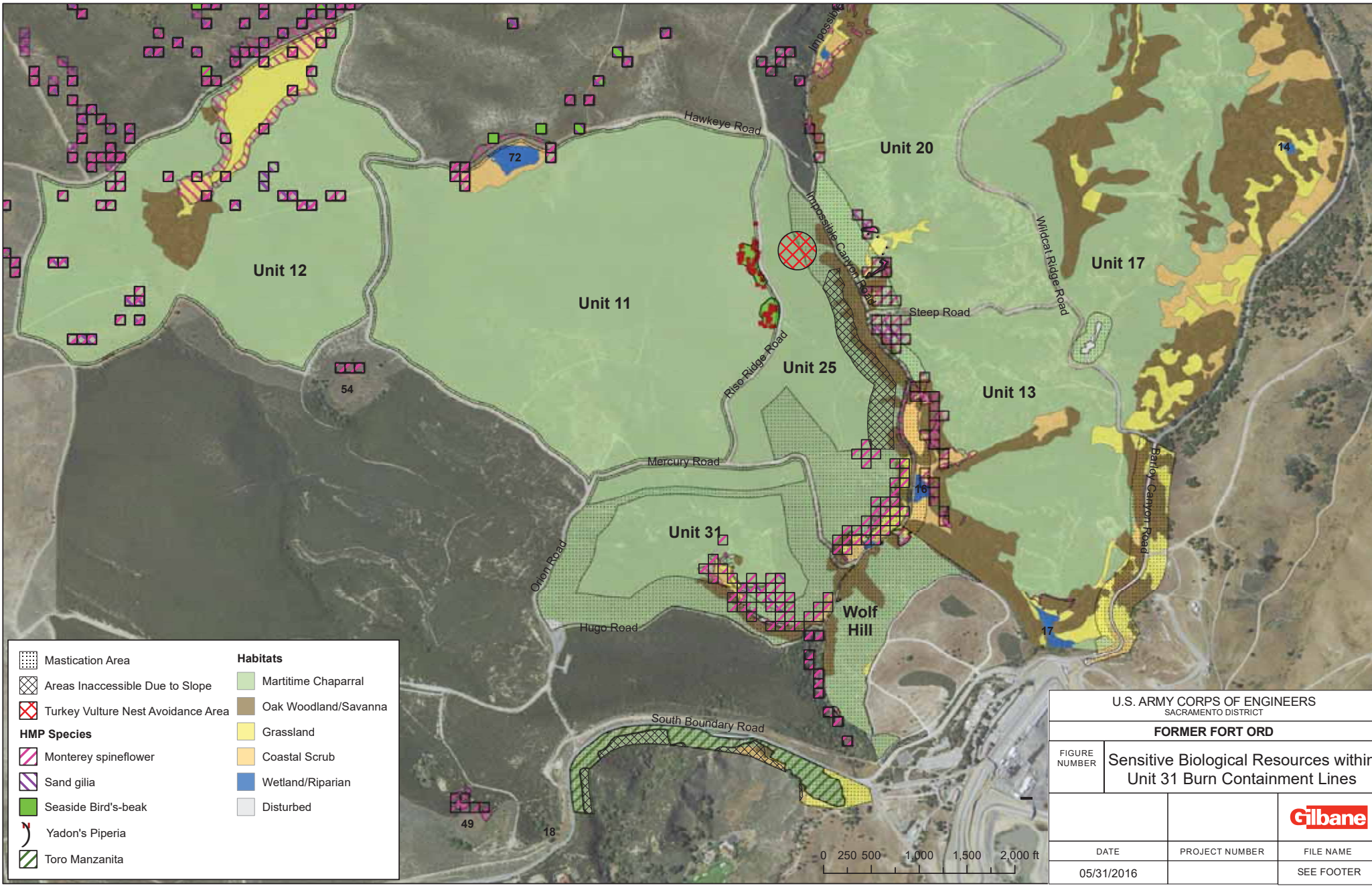
Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.1387978115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.06.01 10:38:38 -07'00'

Date: _____



Mastication Area

Areas Inaccessible Due to Slope

Turkey Vulture Nest Avoidance Area

HMP Species

Monterey spineflower

Sand gilia

Seaside Bird's-beak

Yadon's Piperia

Toro Manzanita

Habitats

Martitime Chaparral

Oak Woodland/Savanna

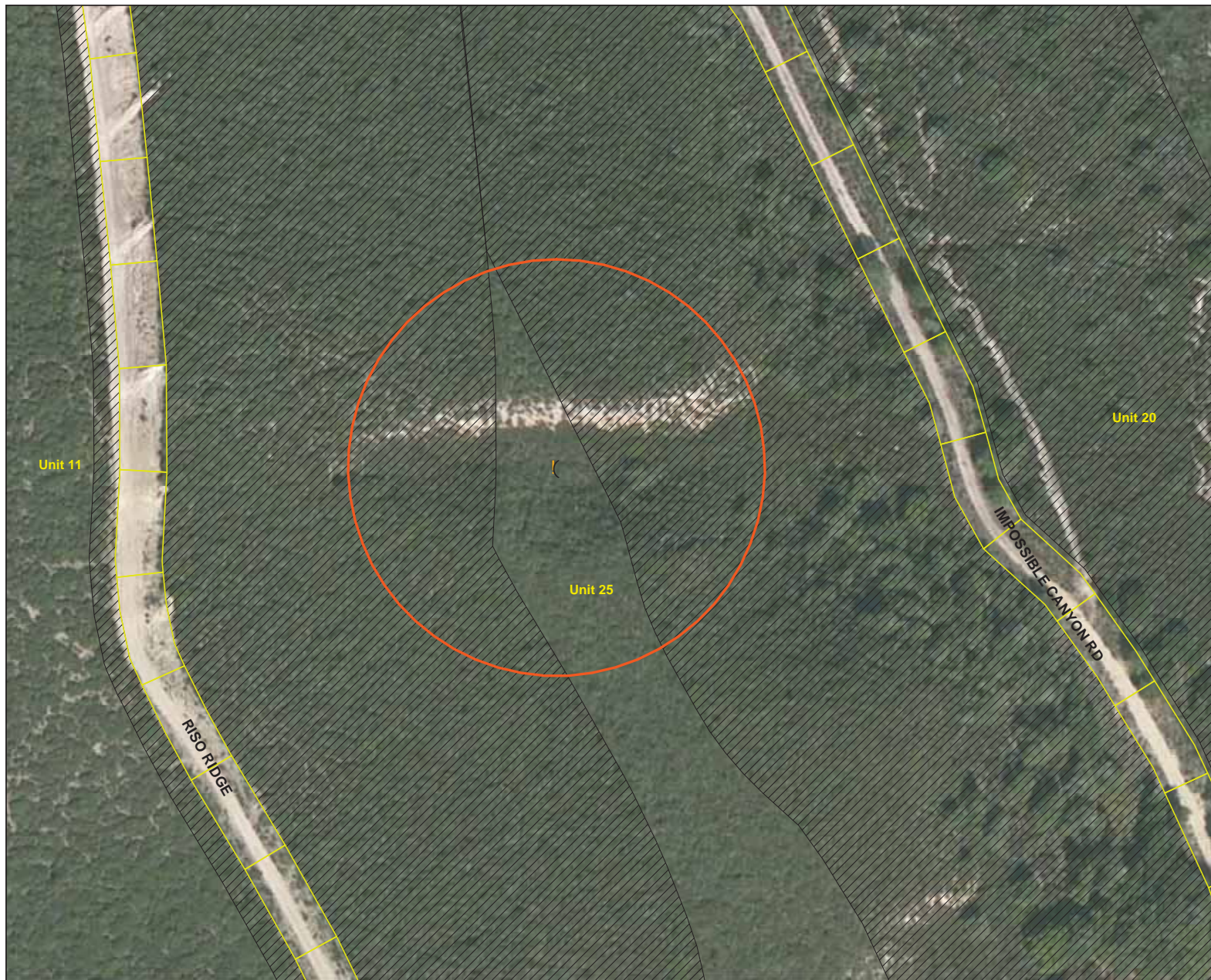
Grassland

Coastal Scrub

Wetland/Riparian

Disturbed

| | | |
|---|--|------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER | Sensitive Biological Resources within Unit 31 Burn Containment Lines | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 05/31/2016 | | SEE FOOTER |



- (Turkey Vulture Nest
- 200ft Buffer
- Fuelbreaks
- 2016 Mastication

O

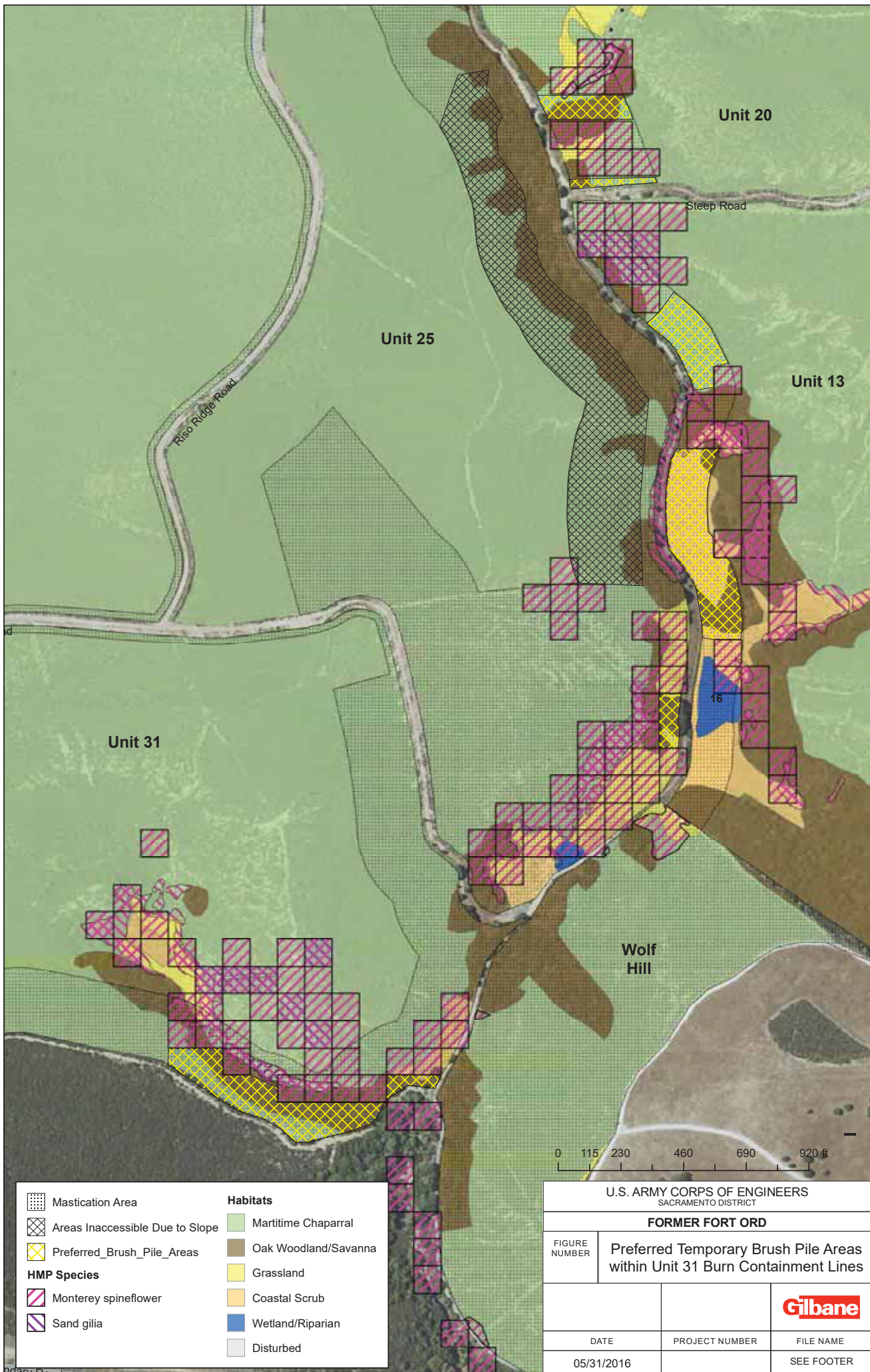
U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

Turkey Vulture Nest Unit 25



| DATE | PROJECT NUMBER | FILE NAME |
|-----------|----------------|------------|
| 5/26/2016 | WP001 | SEE FOOTER |



| | |
|---------------------------------|----------------------|
| Mastication Area | Habitats |
| Areas Inaccessible Due to Slope | Maritime Chaparral |
| Preferred_Brush_Pile_Areas | Oak Woodland/Savanna |
| HMP Species | Grassland |
| Monterey spineflower | Coastal Scrub |
| Sand gilia | Wetland/Riparian |
| | Disturbed |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|--------|
| SITE: | Unit 31 Burn Containment Lines and HA-28 | DATE: | 6-2-16 |
| WORK TO BE CONDUCTED: | Chipping and stockpiling of vegetation removed from Unit 31 burn containment lines | | |

| | | | |
|-----------------------|---|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked |
| Species: | CTS, BLL, HMP shrubs |
| Location: | |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. Stockpiling shall avoid areas where HMP shrubs occur to the greatest extent feasible (see attached map). The stockpile area and the HMP shrub area shall be delineated in the field by the Project Biologist, with stakes, fencing, and/or flagging prior to the commencement of work. | |

| | |
|---|---|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Location: | |
| Grid Numbers: | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Restrictions: | |

| | |
|---|---|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: Vegetation has been removed. Operation includes chipping only. |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |

Vegetation Removal Restrictions:

6. EROSION CONCERNS/SITE RESTORATION:

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.
- When using stockpile materials, approximately 1-2 inches of material shall be left on the surface in order to reduce the spread of invasive plant seeds as several invasive and weedy species are present within the stockpile area.

9. ADDITIONAL SITE CONCERNS:

- Chipped material shall be stockpiled into several smaller piles instead of one large pile to prevent spontaneous combustion. The chipped material should be in rows no higher than 8 feet and the base of piles should not be over 16 feet.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.06.02 11:15:32 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.06.13 07:15:55 -07'00'

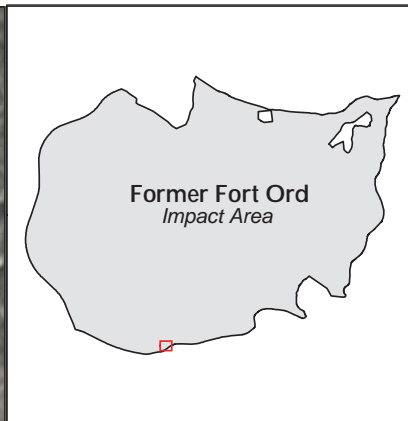
Date: _____

BRAC Biologist:

**KOWALSKI.BARTHOLOMEW.L.
1387978115**

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.06.02 11:44:35 -07'00'

Date: _____



- HMP Plants to Avoid
- Proposed Woodchip Stockpile

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| | | |
|---|---|------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER | Proposed Woodchip Stockpile Location 1 | |
| | | |
| DATE | PROJECT NUMBER | FILE NAME |
| 6/1/2016 | | SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|--------|
| SITE: | Unit 10 | DATE: | 6-1-16 |
| WORK TO BE CONDUCTED: | Realignment of Nowhere Road, including vegetation removal using a skid steer with a mower, subsurface MEC removal, and grading | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | | |
|---|---|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | |
| Species: | California Tiger Salamander (CTS), Black Legless Lizard (BLL), and Seaside birds beak | | |
| Location: | | | |
| Grid Numbers: | | | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. The top 2-3 inches of topsoil within the two grids containing Seaside bird's-beak shall be preserved until grading is complete. The topsoil shall be spread (approximately 2-3 inches thick) within the fuelbreak, outside of the new roadway alignment, within the original two grids and, as necessary, adjacent grids. An effort shall be made to avoid work within the two grids containing Seaside bird's-beak for as long as possible to allow the plants to develop and set seed; however, work can commence within these areas prior to full seed set if necessary. | | | |

| | | | |
|---|---|--|--|
| 4. VERNAL POOLS/PONDS PRESENT | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | |
| Location: | | | |
| Grid Numbers: | | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| | | | |

5. VEGETATION REMOVAL

| | |
|---|---|
| <input type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input checked="" type="checkbox"/> Mechanical Removal Needed | Location: Within new roadway and fuel break alignment. |
| | |

6. EROSION CONCERNS/SITE RESTORATION:

- If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only, except within the new road alignment.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.06.01 10:37:41 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.06.02 11:16:25 -07'00'

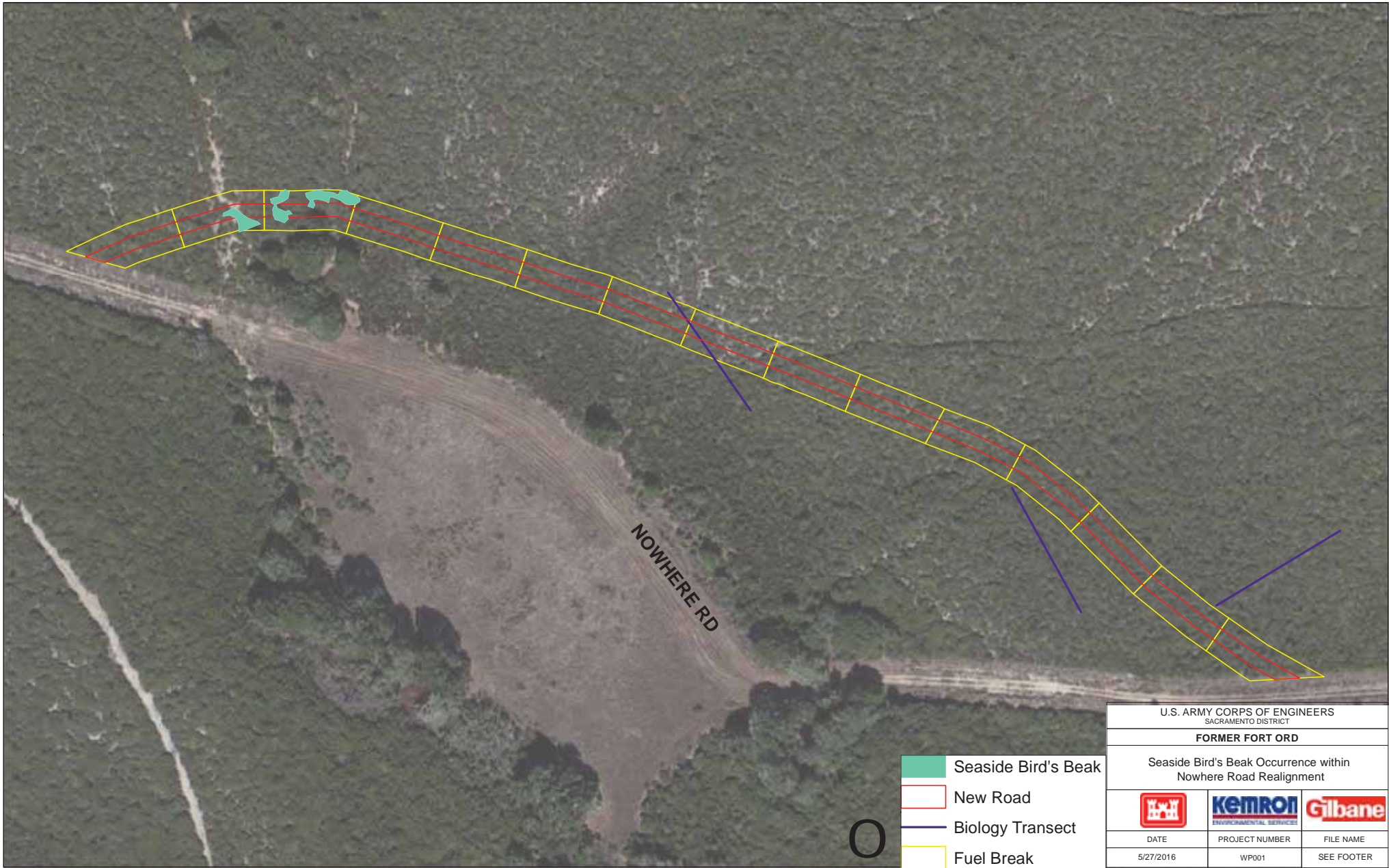
Date: _____

BRAC Biologist:




KOWALSKI.BARTHOLOMEW.L.1387978115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.06.02 11:10:02 -07'00'

Date: _____



| | |
|---|---------------------|
|  | Seaside Bird's Beak |
|  | New Road |
|  | Biology Transect |
|  | Fuel Break |

| | | |
|---|---|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| Seaside Bird's Beak Occurrence within Nowhere Road Realignment | | |
|  |  |  |
| DATE | PROJECT NUMBER | FILE NAME |
| 5/27/2016 | WP001 | SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|---------|
| SITE: | Chinook Rd | DATE: | 4-28-16 |
| WORK TO BE CONDUCTED: | Fuel break realignment, including vegetation removal using hand crew and skid steer, and subsurface MEC removal. | | |

| | | | |
|-----------------------|---|---|---|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve | <input type="checkbox"/> Development Area | <input type="checkbox"/> Other (specify): |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked |
| Species: | HMP shrubs, Yadon's piperia, California Tiger Salamander (CTS), and Black Legless Lizard (BLL) |
| Location: | See attached map for known locations of Yadon's piperia |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. No work shall occur in flagged areas of Yadon's piperia until it has been determined by the Project biologist that the plants are no longer blooming and have set seed (approximately August/September) (see attached map). If excavation is required within immediate location where Yadon's piperia occurs, the soil within an approximately 6 inch buffer of the individual to a depth of approximately 6 inches shall be excavated and kept separate from other soil piles in order to preserve the Yadon's piperia tuber (root structure). If more than one Yadon's piperia plant is required to be excavated, the UXO team will allow the Project Biologist to inspect the excavation after the first plant has been removed to ensure the root structure has been sufficiently removed. Any feasible requests from the Project Biologist to modify removal technique shall be followed. Once excavation is complete, the soil and Yadon's piperia tuber shall be replaced in hole of approximately the same size as was excavated, under supervision of the Project Biologist. | |

| | | | |
|---|------------------------------|--|---|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Flagged/Marked |
| Location: | | | |
| Grid Numbers: | | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |

5. VEGETATION REMOVAL

☐ No Removal Needed

Location:

☒ Manual Removal Needed

Location: Within new fuel break alignment.

☒ Mechanical Removal Needed

Location: Within new fuel break alignment.

- See Section 3 above.

6. EROSION CONCERNS/SITE RESTORATION:

- If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.
- Heavy equipment transport from site to site must be along existing fuelbreaks only, except on the southern section of Chinook Rd where Yadon's piperia is present (see attached map). Roads may be used only when necessary.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Patric Krabacher

Digitally signed by Patric Krabacher
DN: cn=Patric Krabacher, o=Denise Duffy and Associates, Inc., ou, email=krabacher@ddaplanning.com, c=US
Date: 2016.07.01 08:11:42 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
ccllyde@gilbaneco.com
DN: cn=ccllyde@gilbaneco.com
Date: 2016.07.05 12:42:55 -07'00'

Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.1387978115




Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.07.01 10:44:50 -07'00'

Date: _____



- () Piperia yadonii
- Chinook Rd Realignment Grids

0

| | | |
|---|---|---|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD | | |
| FIGURE NUMBER 1-1 | Chinook Rd Fuel Break Realignment | |
|  |  |  |
| DATE 7/1/2016 | PROJECT NUMBER WP001 | FILE NAME SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|---------|
| SITE: | Phoenix Rd | DATE: | 7-13-16 |
| WORK TO BE CONDUCTED: | Repair damaged road due to erosion, including vegetation removal, implementation of berms and water bars, re-contouring road, and backfilling existing eroded area. | | |

| | | | |
|-----------------------|---|--|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve Although work is within a Habitat Reserve area, the road and fuel break portion are considered part of BLM's 2% development allowance | | |
| | <input type="checkbox"/> Development Area | <input type="checkbox"/> Other (specify): | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|---|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked |
| Species: | HMP shrubs, California Tiger Salamander (CTS), and Black Legless Lizard (BLL), Yadon's piperia |
| Location: | See attached map for known locations of Yadon's piperia |
| Grid Numbers: | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Vehicle and equipment access, turn around areas, and staging shall be restricted to previously established roads, turn around, and staging areas to reduce impacts to HMP plants and habitats. Report all encounters of BLL and follow the BLL encounter protocol. No work shall occur within Yadon's piperia areas located adjacent to the project site (see attached map; flagged with pink and black striped flagging) | |

| | | | |
|---|-------------------------------------|---|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Flagged/Marked |
| Location: | | | |
| Grid Numbers: | | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| | | | |

5. VEGETATION REMOVAL

| | |
|---|---|
| <input type="checkbox"/> No Removal Needed | Location: |
| <input checked="" type="checkbox"/> Manual Removal Needed | Location: Within existing roadway and fuel break |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |

6. EROSION CONCERNS/SITE RESTORATION:

- Heavy equipment should minimize topsoil disturbance as much as possible, avoid making hard turns, and enter and exit the site from a limited number of routes. Equipment operators should minimize driving parallel to the slope to the greatest extent feasible to prevent creating rills.
- Use of heavy equipment on steep slopes may cause erosion and should be limited. If soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, sterile barley, or mulch.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.

8. INVASIVE SPECIES:

- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.
- On-site sand/soil shall be used to the greatest extent feasible. If additional sand/soil is necessary, only weed-free materials should be used to prevent the spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the 45-foot wide fuel breaks or approved main roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews.

This checklist has been read, approved, and signed by the following:

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com, c=US
Date: 2016.07.13 11:31:33 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2016.07.18 11:26:34 -07'00'

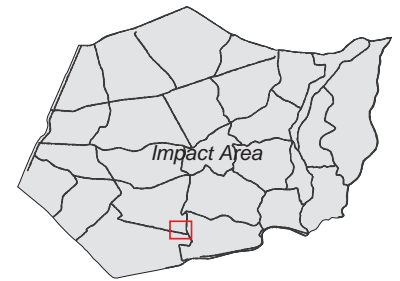
Date: _____

BRAC Biologist:

**KOWALSKI.BARTHOLOMEW.L.13879
78115**

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.07.13 17:20:43 -07'00'

Date: _____



- () Piperia <5 Plants
- Piperia >5Plants
- Fuelbreaks

0

0 75 150 300 Feet

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

Phoenix Road Repairs



| DATE | PROJECT NUMBER | FILE NAME |
|----------|----------------|------------|
| 7/8/2016 | WP001 | SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, KEMRON Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|---------|
| SITE: | Range 48 | DATE: | 7-20-16 |
| WORK TO BE CONDUCTED: | Vegetation removal, DGM using an EM61 and OPTEMA, subsurface anomaly investigation | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | | |
|---|--|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | | |
| Species: | Monterey spineflower, sand gilia, seaside bird's-beak, HMP shrubs, and BLL | | |
| Location: | See attached map for known locations of HMP annual plants | | |
| Grid Numbers: | | | |
| Restrictions: <ul style="list-style-type: none"> No work shall occur in areas known to support Monterey spineflower or sand gilia from approximately February 1 to June 1 (see attached map). No work shall occur in grids containing Seaside bird's-beak until it has been determined by the KEMRON biologist that the plants are no longer blooming and have set seed (approximately August/September) (see attached map). Due to the presence of HMP annual plants throughout the entire study area, the top 2-3 inches of the topsoil for all subsurface investigations shall be preserved and placed on a tarp or other impermeable surface, and shall be kept separate from any other soil piles. Once excavation is complete, the topsoil shall be replaced on top of the backfilling. If the topsoil pile is not replaced before the end of the work day and rain is forecasted for the night, the pile shall be covered to prevent it from washing away. Report all encounters of BLL and follow the BLL encounter protocol. CTS are unlikely in this area due to the distance from known or potential breeding ponds; however, any CTS encounters must be reported immediately to field supervisor and KEMRON Biologist and the CTS protocol shall be followed. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. | | | |

| | | | |
|--------------------------------------|--|--|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | | |
| Location: | | | |

| | | | |
|---|------------------------------|-----------------------------|--|
| Grid Numbers: | | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Restrictions: | | | |

| 5. VEGETATION REMOVAL | |
|--|------------------|
| <input type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input checked="" type="checkbox"/> Mechanical Removal Needed | Location: |
| Vegetation Removal Restrictions: <ul style="list-style-type: none"> No vegetation removal shall occur in grids containing Seaside bird's-beak until it has been determined by the KEMRON biologist that the plants are no longer blooming and have set seed (approximately August/September) (see attached map). | |



| 6. EROSION CONCERNS/SITE RESTORATION: |
|---|
| <ul style="list-style-type: none"> Heavy equipment should minimize topsoil disturbance as much as possible, avoid making hard turns, and enter and exit the site from the identified access route (see attached map). Although unlikely, if soil erosion occurs during the rainy season appropriate erosion control measures must be taken, which may include use of straw wattles, straw bales, silt fencing, or sterile barley. |

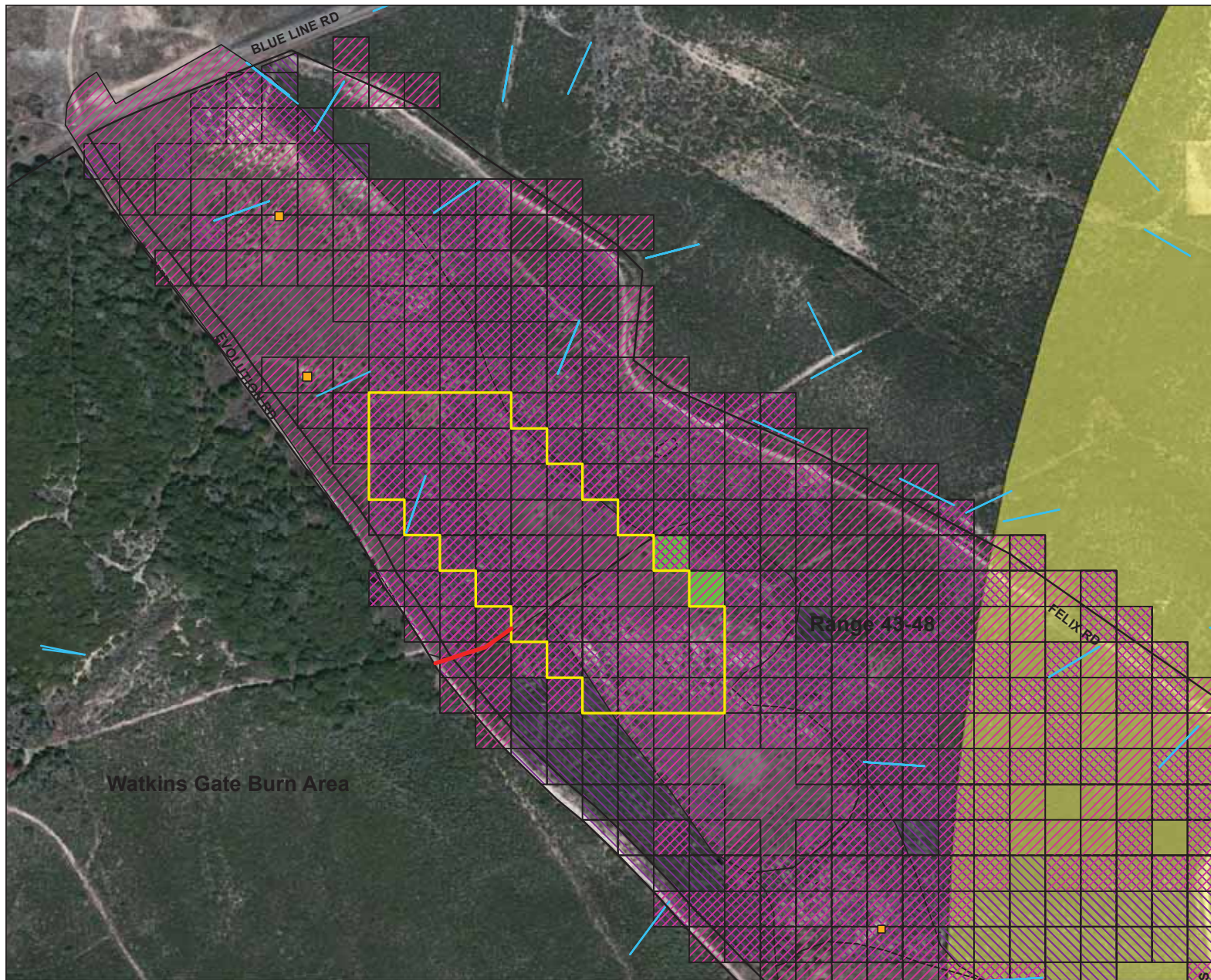
| 7. SITE ACCESS: |
|---|
| <ul style="list-style-type: none"> Vehicle access should be limited to existing roads only and approved access routes only (see attached map). Heavy equipment transport from site to site must be along existing fuelbreaks only. Roads may be used only when necessary. |

| 8. INVASIVE SPECIES: |
|--|
| <ul style="list-style-type: none"> All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species. |

| 9. ADDITIONAL SITE CONCERNS: |
|---|
| <ul style="list-style-type: none"> No work is permitted within the restoration areas or monitoring transects adjacent to the study area (see attached map). This includes turning around of equipment. |

This checklist has been read, approved, and signed by the following:

| | | |
|---------------------------|--|--------------------|
| KEMRON Biologist: |  Jami Davis <small>Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.07.20 11:21:51 -07'00'</small> | Date: _____ |
| KEMRON QC Manager: |  Chuck Clyde <small>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.07.20 11:39:21 -07'00'</small> | Date: _____ |
| BRAC Biologist: | KOWALSKI.BARTHOLOMEW.L.1387978115 <small>Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115 Date: 2016.07.20 11:27:05 -07'00'</small> | Date: _____ |



Former Fort Ord Impact Area

impact_area_track3

Burn Unit

Field Study Area

Monitoring Transect

Restoration Areas

Access Route

HMP Species

Monterey spineflower

Sand gilia

Seaside bird's-beak

Spineflower and Sand gilia

CTS Distribution

2km from known/potential CTS ponds

1km from known/potential CTS ponds

500m from known/potential CTS ponds

| | | |
|---|----------------|-------------------------|
| U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT | | |
| FORMER FORT ORD <i>Range 48 Habitat Checklist</i> Sensitive Biological Resources | | |
| FIGURE NUMBER | | |
| DATE 7/20/2016 | PROJECT NUMBER | FILE NAME SEE FOOTER |

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, ITSI Gilbane Biologist (831-325-9693), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|---|--------------|---------|
| SITE: | HA-37, HA-34, HA-28 | DATE: | 9-20-13 |
| WORK TO BE CONDUCTED: | Erosion control activities in support of site restoration, such as re-contouring, installation of straw wattles and erosion control fabric, placement of straw mulch, and track walking | | |

| | | | |
|-----------------------|--|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | |
|---|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked |
| Species: | BLL, CTS |
| Location: | Potential within all areas – known CTS breeding within vernal pools at HA-37 and HA-28 |
| Grid Numbers: | |

Restrictions:

- CTS encounters must be reported immediately to field supervisor and ITSI Biologist. Contact Jami Davis (831-325-9693) or Bill Collins (831-242-7920) to document, handle, or relocate CTS if encountered.
- Do not enter vernal pool areas. Do not work within “New Pond” area at HA-28 if water is present within the pond.
- If substantial rainfall (greater than 0.5 inch of rain in a 24-hour period) occurs, work activities must cease until the Service-approved biologist, and workers trained to identify CTS, have searched the work area for dispersing salamanders. Work activities may resume once the biologist and search crew have determined that CTS that could be killed or injured by work activities are no longer present in the work area.
- Report all encounters of BLL and follow ITSI’s BLL encounter protocol.

| | | | | |
|---|--|---|--|---|
| 4. VERNAL POOLS/PONDS PRESENT | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Flagged/Marked |
| Location: | Vernal pools are located adjacent to each restoration area | | | |
| Grid Numbers: | | | | |
| Work Can Proceed in Pools/Ponds: | | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| Restrictions: <ul style="list-style-type: none"> Do not enter vernal pool areas. Prevent all soil runoff into the ponds during construction activities. "New Pond" area (excavation area that now holds water) at HA-28 should be avoided to the greatest extent feasible. If necessary to work within this area, work shall only occur while the area is dry to prevent impacts to the habitat and potential breeding CTS. | | | | |

| | |
|--|---|
| 5. VEGETATION REMOVAL | |
| <input checked="" type="checkbox"/> No Removal Needed | Location: Area is mostly unvegetated due to soil remediation |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |
| Vegetation Removal Restrictions: <ul style="list-style-type: none"> Restoration activities shall not impact intact vegetation adjacent to the work sites | |

| |
|---|
| 6. EROSION CONCERNS/SITE RESTORATION: |
| <ul style="list-style-type: none"> Heavy equipment should minimize ground disturbance as much as possible. |

| |
|--|
| 7. SITE ACCESS: |
| <ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. |

| |
|--|
| 8. INVASIVE SPECIES: |
| <ul style="list-style-type: none"> Any equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species. |

| |
|--|
| 9. ADDITIONAL SITE CONCERNS: |
| <ul style="list-style-type: none"> |

This checklist has been read, approved, and signed by the following:

ITSI Biologist: Tom Ghigliotto  Digitally signed by Tom Ghigliotto
DN: cn=Tom Ghigliotto, o=ITSI Gilbane, ou=CQCSM, email=tghigliotto@itsi.com, c=US
Date: 2013.10.01 14:59:29 -07'00' **Date:** _____

ITSI QC Manager: Jami Davis  Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou, email=jdavis@itsi.com, c=US
Date: 2013.10.01 14:54:17 -07'00' **Date:** _____

BRAC Biologist: Bart Kowalski  Digitally signed by Bart Kowalski
DN: cn=Bart Kowalski, o, ou, email=bartholomew.l.kowalski@usace.army.mil, c=US
Date: 2013.10.01 14:49:40 -07'00' **Date:** _____



Denise Duffy & Associates, Inc.

PLANNING AND ENVIRONMENTAL CONSULTING

MEMORANDUM

Date: August 18, 2016

From: Amendment to HA-37, HA-34, HA-38 Erosion Control Activities in Support of Site Restoration Habitat Checklist, Dated 9-20-13 and Amendment dated 10-8-15

The HA-37, HA-34, HA-38 Erosion Control Activities in Support of Site Restoration Habitat Checklist (HCL) will be amended as follows:

- Work shall not occur within active restoration areas as identified on the attached maps except where access to work areas have been identified. The access routes shall be delineated in the field in coordination with the BRAC Biologist prior to work initiation. If any changes to the access routes are necessary, the BRAC biologist shall be contacted prior to making any changes.

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com,
c=US
Date: 2016.08.18 14:52:32 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
ccllyde@gilbaneco.com
DN:
cn=ccllyde@gilbaneco.com
Date: 2016.08.18 15:41:56
-07'00'

Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.13879
78115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2016.08.18 15:13:47 -07'00'

Date: _____



Denise Duffy & Associates, Inc.

PLANNING AND ENVIRONMENTAL CONSULTING

MEMORANDUM

Date: October 8, 2015

From: Amendment to HA-37, HA-34, HA-38 Erosion Control Activities in Support of Site Restoration Habitat Checklist, Dated 9-20-13

The HA-37, HA-34, HA-38 Erosion Control Activities in Support of Site Restoration Habitat Checklist (HCL) will be amended as follows:

- CTS encounters must be reported immediately to the field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- If rain is forecasted within 48 hours of work, the work site shall be visually inspected for CTS by the Project Biologist or another Service-approved biologist prior to the commencement of the day's work.
- Excavations 6-inches or deeper left open overnight shall be covered to prevent CTS and other wildlife from becoming entrapped. If it is not feasible to cover these excavations overnight, ramps shall be placed in the excavations to allow CTS to escape. Additionally, if these excavations will be left open for more than one night, boards or similar material shall be placed in the excavations to provide cover for CTS if they accidentally become entrapped. The excavations shall be inspected each morning prior to the commencement of the day's work and prior to filling. If any CTS are entrapped in the excavations, the Project Biologist or other Service-approved biologist shall be contacted to relocate the CTS prior to work in the immediate area.
- Surveys shall be conducted by the Project Biologist or other Service-Approved Biologist prior to removal of sediment from sediment basins that contain water.

Project Biologist:

Jami Davis

Digitally signed by Jami Davis
DN: cn=Jami Davis, o=DDA, ou,
email=jdavis@ddaplanning.com,
c=US
Date: 2015.10.08 13:32:35 -07'00'

Date: _____

QC Manager:

Chuck Clyde

Digitally signed by
cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2015.10.08 14:15:01 -07'00'

Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.13879
78115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2015.10.08 12:30:02 -07'00'

Date: _____

FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|---------|
| SITE: | Units 1, 2, 3, 7, 10, 33, WGBA Unburned Area | DATE: | 2-12-16 |
| WORK TO BE CONDUCTED: | Collection of chemical samples by hand auguring to a maximum depth of 2 feet and backfilling the hole. | | |

| | | | |
|-----------------------|---|------------------|--|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | |
| | <input type="checkbox"/> BLM | Location: | |
| | <input type="checkbox"/> Other: | Location: | |

| | | | |
|--|--|--|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked | | |
| Species: | Monterey spineflower, sand gilia, Seaside bird's-beak, HMP shrubs, CTS, BLL | | |
| Location: | See attached map for known locations of Monterey spineflower | | |
| Grid Numbers: | | | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. Report all encounters of BLL and follow the BLL encounter protocol. The Project Biologist shall accompany the sampling team in all areas where HMP annual plant populations may occur within the sampling locations (see attached maps). The Project Biologist will assess the sampling location to identify any HMP annual plants. If HMP annual plants are present within the sampling location the Project Biologist shall work with the sampling team to identify an appropriate sample location nearby that will avoid or reduce impacts to HMP annual plants. | | | |

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|---|---|--|--|
| 4. VERNAL POOLS/PONDS PRESENT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | | |
| Location: | | | |
| Grid Numbers: | | | |
| Work Can Proceed in Pools/Ponds: | <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Restrictions: | | | |

5. VEGETATION REMOVAL

| | |
|---|-----------|
| <input checked="" type="checkbox"/> No Removal Needed | Location: |
| <input type="checkbox"/> Manual Removal Needed | Location: |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |
| Vegetation Removal Restrictions: | |

6. EROSION CONCERNS/SITE RESTORATION:

| |
|--------|
| • None |
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7. SITE ACCESS:

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| • Vehicle access should be limited to existing roads. No interior access roads shall be used. |
|---|



8. INVASIVE SPECIES:

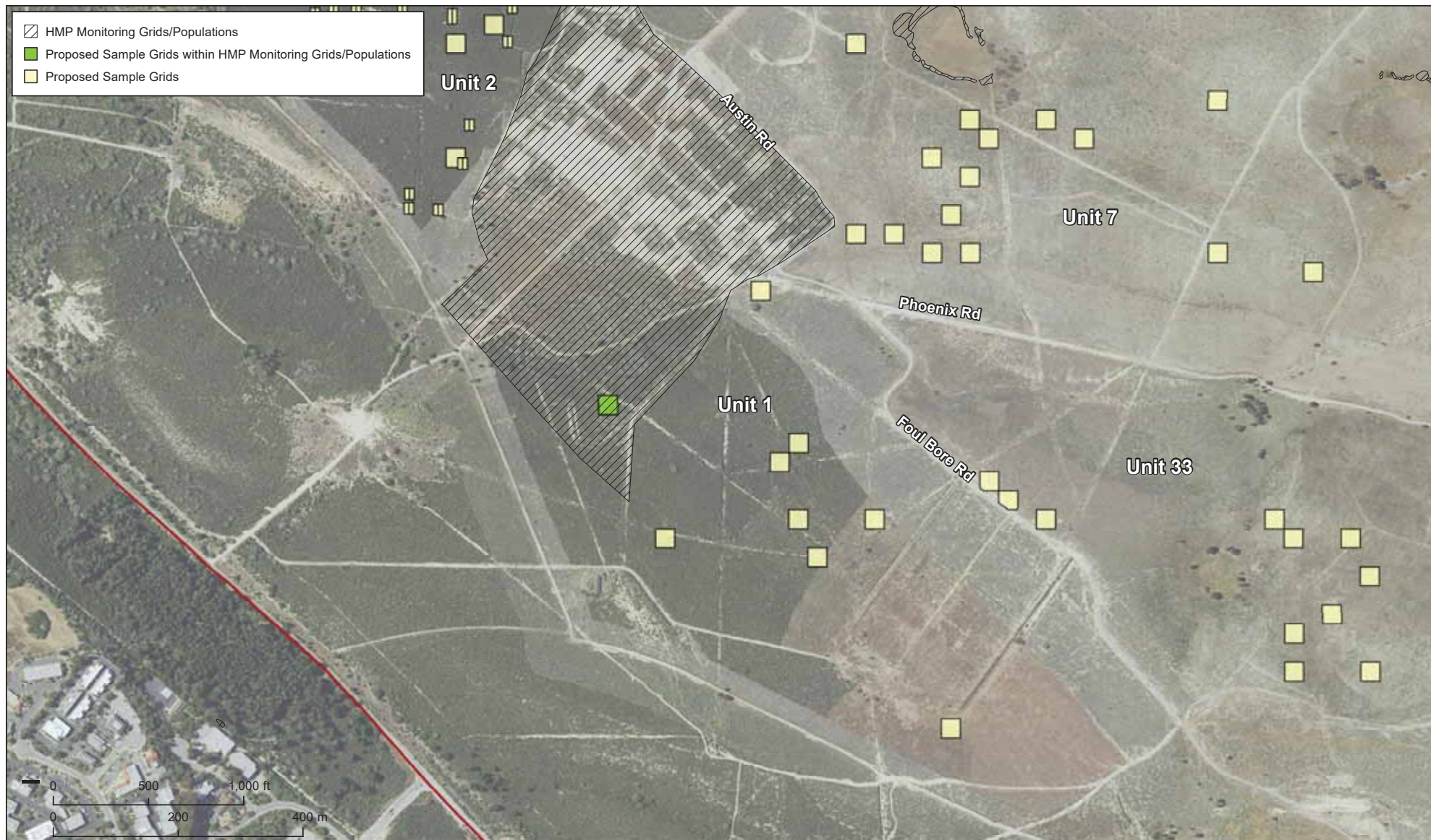
| |
|---|
| <ul style="list-style-type: none"> • All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species. • Staff working in Units 1 & the southern portion of Unit 2 (see attached map) shall clean boots and equipment daily before leaving the unit to reduce spread of pampas grass. Soil and plant material shall be removed using boot brushes or other types of brushes. Any caked-on soils or material that cannot be removed using brushes shall be washed off with water – washing of equipment and boots can be completed at the KEMRON Compound if necessary. |
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9. ADDITIONAL SITE CONCERNS:

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This checklist has been read, approved, and signed by the following:

| | | |
|---------------------------|--|--------------------|
| Project Biologist: |  Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.02.16 10:00:30 -08'00' | Date: _____ |
| QC Manager: |  Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.02.16 10:33:27 -08'00' | Date: _____ |
| BRAC Biologist: | KOWALSKI.BARTHOLOMEW.L.1387978115 Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115 Date: 2016.02.16 10:24:52 -08'00' | Date: _____ |



Title:

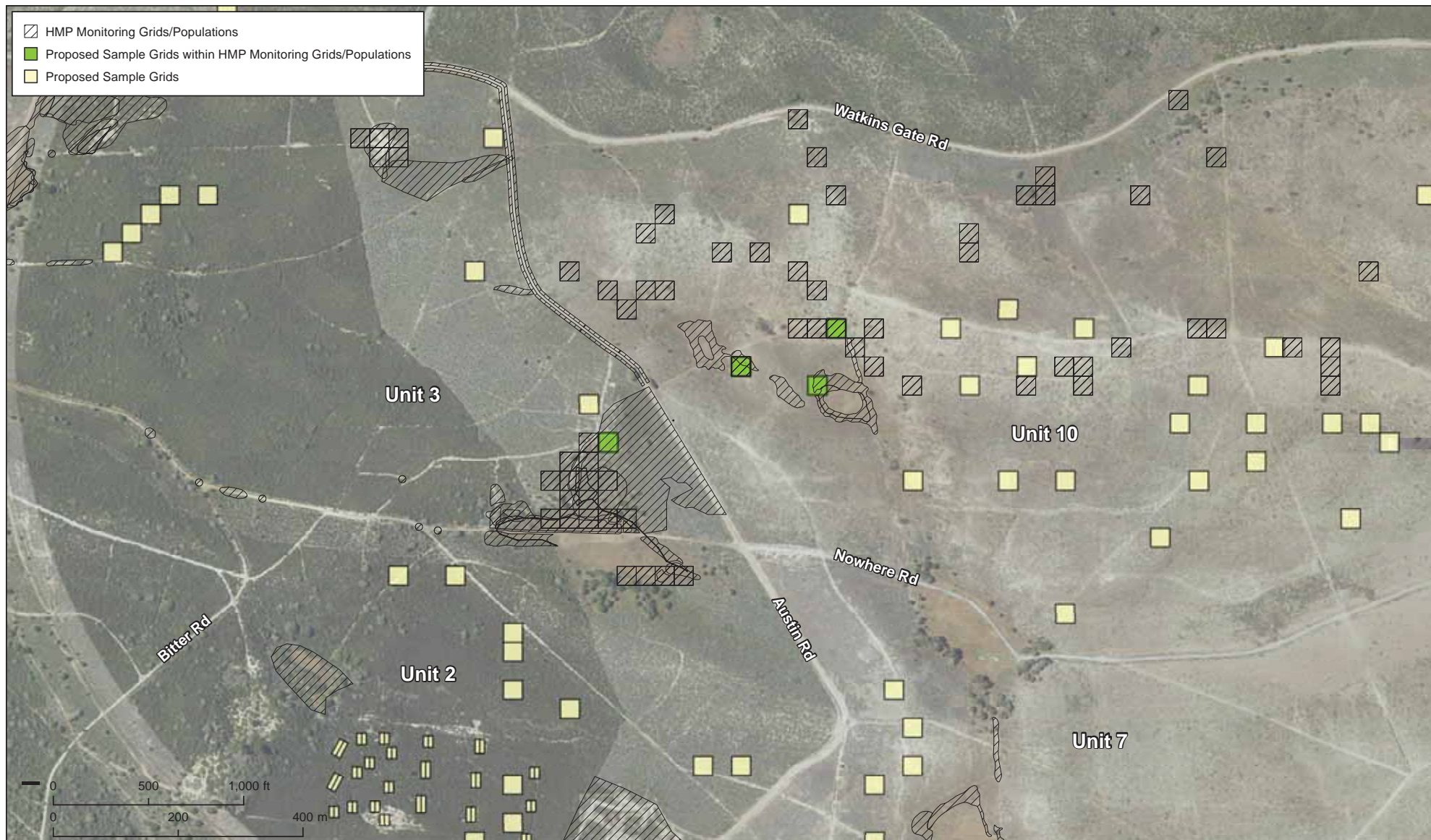
Proposed Sample Grids and HMP Annual Plant Monitoring Grids/Populations

Date: 02-12-2016

Scale: 1 inch = 0.09 miles



Monterey | San Jose
Denise Duffy and Associates, Inc.
 Environmental Consultants Resource Planners
 947 Cass Street, Suite 5
 Monterey, CA 93940
 (831) 373-4341



Title:

Proposed Sample Grids and HMP Annual Plant Monitoring Grids/Populations

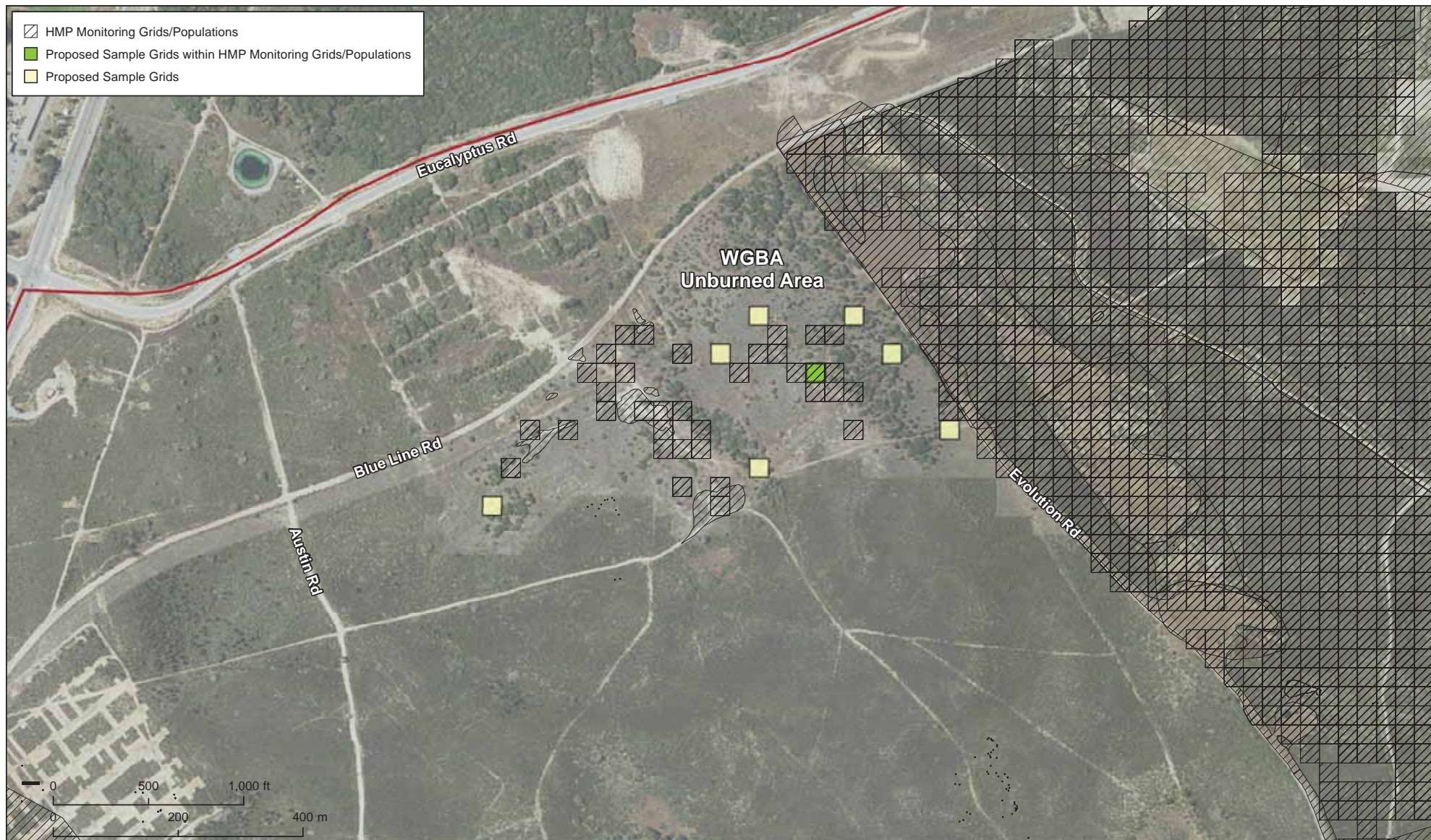
Date: 02-12-2016

Scale: 1 inch = 0.09 miles



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 Monterey, CA 93940
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Title:

Proposed Sample Grids and HMP Annual Plant Monitoring Grids/Populations

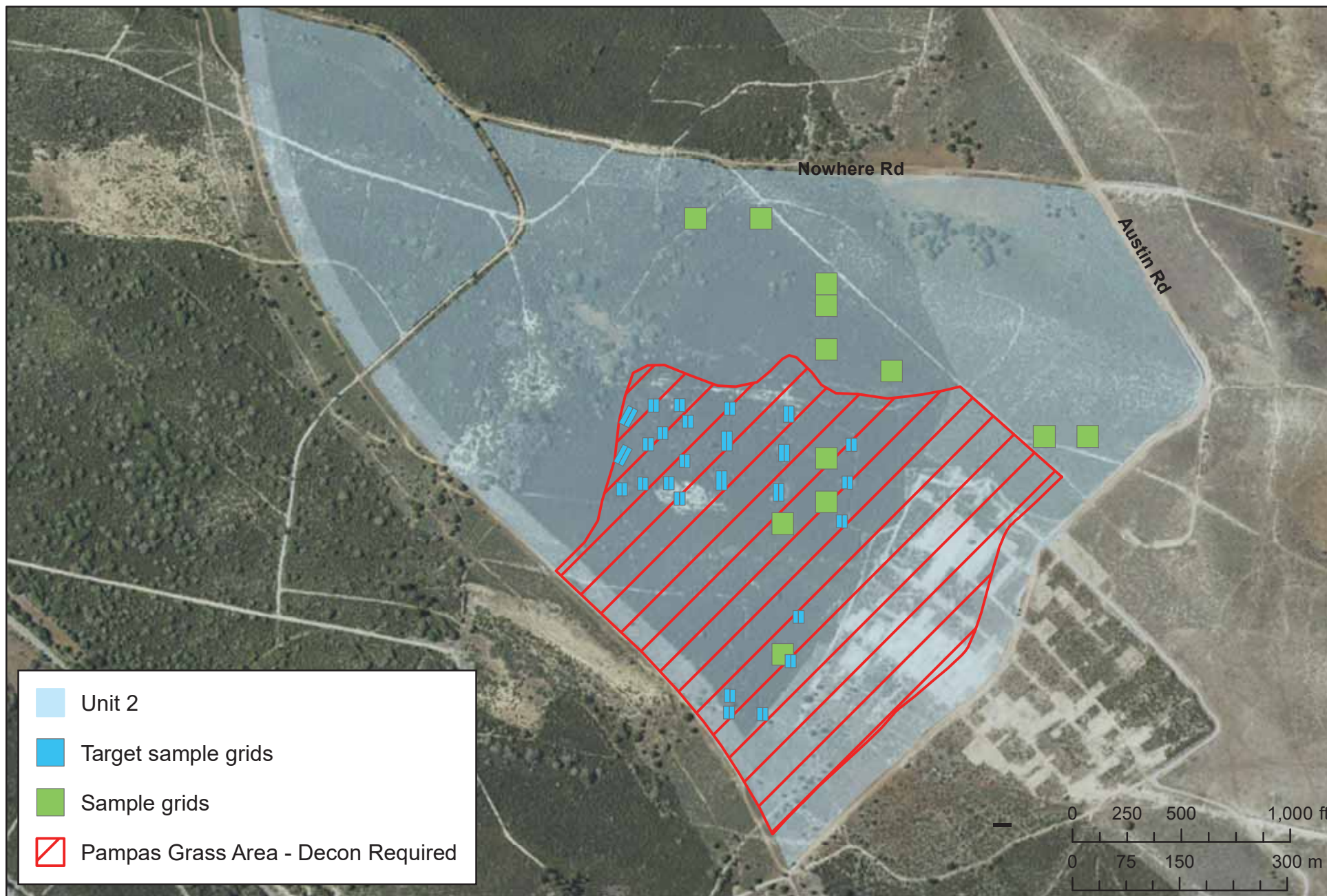
Date: 02-12-2016

Scale: 1 inch = 0.09 miles



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Unit 2 - Pampas Grass Area

Date: 02-12-2016

Scale: 1 inch = 607 feet



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FORT ORD SITE HABITAT CHECKLIST

The following are requirements to minimize biological disturbances to protected species and habitat.

Please notify Jami Davis, Project Biologist (925-783-3112), *before* proceeding if work tasks or work boundaries change, additional vegetation removal is necessary, vegetation cutting methods change, or any other conditions change. Field Supervisors must receive a copy of this checklist.

| | | | |
|------------------------------|--|--------------|---------|
| SITE: | Ponds; 60, 41, 16, 44, 43, 39, 40 North, 40 South, <i>42, 61, 3 North, 3 South, and 35</i> (Ponds listed in the order of decreasing priority. Ponds in italics are outside of the MEC remediation area) | DATE: | 10-3-16 |
| WORK TO BE CONDUCTED: | DGM, potentially including limited vegetation removal | | |

| | | | |
|-----------------------|---|------------------|-------------|
| 1. LAND USE: | <input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): | | |
| 2. LAND OWNER: | <input checked="" type="checkbox"/> Army | Location: | Impact Area |
| | <input checked="" type="checkbox"/> BLM | Location: | BLM Area B |
| | <input type="checkbox"/> Other: | Location: | |

| | | | |
|---|--|---|--|
| 3. ENDANGERED, THREATENED, RARE, OR HMP-LISTED SPECIES | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flagged/Marked | |
| Species: | CTS, Contra Costa Goldfields, HMP shrubs | | |
| Location: | CTS: Pond 16, 41, 42, 60, and 61; Goldfields: Pond 3 North, 61 | | |
| Grid Numbers: | | | |
| Restrictions: <ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Davis (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. If substantial rainfall (greater than 0.5 inch of rain in a 24-hour period) occurs, work activities must cease until the Service-approved biologist, and workers trained to identify CTS, have searched the work area for dispersing salamanders. Work activities may resume once the biologist and search crew have determined that CTS that could be killed or injured by work activities are not present in the work area. No work shall occur within Ponds 3 North and 61 between February 1 and June 30. The Project biologist shall survey the pond to ensure that all Contra Costa goldfields have senesced prior to work initiation. | | | |

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|---|--|---|-----------------------------|--|
| 4. VERNAL POOLS/PONDS PRESENT | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> Flagged/Marked |
| Location: | | | | |
| Grid Numbers: | | | | |
| Work Can Proceed in Pools/Ponds: | | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Restrictions: <ul style="list-style-type: none"> The boundaries of the ponds shall be staked and flagged prior to DGM work within the area. No heavy equipment shall be used within the ponds. Manual equipment shall be used to complete DGM work. No work shall occur within the wetted portions of the ponds. The limits of work within ponds that currently hold water shall be determined by the Project Biologist prior to initiation of work. If work occurs within periods of rain, the Project Biologist shall complete surveys following rain events to determine if work can proceed. | | | | |

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| 5. VEGETATION REMOVAL | |
| <input type="checkbox"/> No Removal Needed | Location: |
| <input checked="" type="checkbox"/> Manual Removal Needed | Location: Limited vegetation removal may be necessary at some ponds |
| <input type="checkbox"/> Mechanical Removal Needed | Location: |
| Vegetation Removal Restrictions: <ul style="list-style-type: none"> Any vegetation removal necessary will be coordinated with project biologist and it shall be completed manually using mowers, weed whackers, chainsaws, or similar equipment. No heavy equipment (such as a masticator) shall be used within the ponds. Only the minimum amount of vegetation removal necessary to complete work shall be conducted. | |



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| 6. EROSION CONCERNS/SITE RESTORATION: |
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|---|
| 7. SITE ACCESS: |
| <ul style="list-style-type: none"> Vehicle access should be limited to existing roads and trails and approved access routes. |

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|-----------------------------|
| 8. INVASIVE SPECIES: |
| |

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|-------------------------------------|
| 9. ADDITIONAL SITE CONCERNS: |
| |

This checklist has been read, approved, and signed by the following:

| | | |
|---------------------------|---|--------------------|
| Project Biologist: |  Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2016.10.13 09:44:00 -07'00' | Date: _____ |
| QC Manager: |  Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2016.10.20 10:11:49 -07'00' | Date: _____ |
| BRAC Biologist: | KOWALSKI.BARTHOLOMEW.L.1387978 Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978 Date: 2016.10.12 15:56:33 -07'00' | Date: _____ |