

2019-2020 ANNUAL BIOLOGICAL MONITORING REPORT
FORMER FORT ORD, CALIFORNIA

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

Submitted to:

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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
CDFW	California Department of Fish and Wildlife
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
HCL	Habitat Checklist
HMP	Habitat Management Plan
KEMRON	KEMRON Environmental Services, Inc.
MEC	Munitions and Explosives of Concern
MRA	Munitions Response Area
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 2019 and 2020 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 and the California Department of Fish and Wildlife (CDFW); 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. In 2015, the USFWS issued a Programmatic Biological Opinion (USFWS, 2015) that superseded the previous Biological Opinions. Then, on June 7, 2017, the USFWS issued a reinitiated Programmatic Biological Opinion that supersedes the 2015 Programmatic Biological Opinion (USFWS, 2017). 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, 2017) 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 (USACE, 1997) and/or the Programmatic Biological Opinion (USFWS, 2017) 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 Special Concern
- California tiger salamander (*Ambystoma californiense*; CTS) – Federally Threatened, State Threatened
- California red-legged frog (*Rana draytonii*; CRLF) – Federally Threatened, State Species of Special Concern
- California linderiella (*Linderiella occidentalis*)
- Western snowy plover (*Charadrius alexandrinus nivosus*) – Federally Threatened
- Monterey ornate shrew (*Sorex ornatus salarius*) – State Species of Special 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 to occur at 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 forest 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, 2017) 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 study the recovery of rare species and 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 2019 and 2020 and a description of the mitigations and avoidance measures, biological trainings, HMP species encounters, habitat and species protection measures required by the HMP (USACE, 1997) and the Programmatic Biological Opinion (USFWS, 2017), and other environmental protection measures implemented during project activities.

Work was conducted by KEMRON in 2019 at the following sites:

- **Soil remediation sites (Figure 1-1):**
 - Former Historical Areas (HAs) 27A, 34, and 37; and
- **Munitions remediation sites (Figure 1-2):**
 - Impact Area MRA Range 48, Watkins Gate Burn Area (WGBA), and Unit 23;
 - Bureau of Land Management (BLM) Area B Units A, B, B-2A, B-3 West, and C, including BLM Trails 62, 65 through 70, Old Trail 70, and 91 through 94;
 - Roads and fuel breaks along Orion Road, Impossible Canyon Road, Wildcat Ridge Road, Hawkeye Road, Riso Ridge, Nowhere Road, Mercury Road, Oscar Road, Felix Road, Hennekens Ranch Road, East Machine Gun Flats Road, West Machine Gun Flats Road, Watkins Gate Road, Eucalyptus Road, Addington Road, Barloy Canyon Road, Parker Flats Road, and Watkins Gate Spur Road;
 - Structures located in Impact Area MRA Units 1, 4, 5, 5A, 6, 9, 13, 18, 21, and 34, and BLM Area B Unit B-3 West.

Work was conducted by KEMRON in 2020 at the following sites:

- **Munitions remediation sites (Figure 1-3):**
 - Impact Area MRA Unit 13;
 - BLM Area B Unit A;
 - Roads and fuel breaks along Orion Road, Impossible Canyon Road, Hawkeye Road, Riso Ridge, Nowhere Road, Mercury Road, East Machine Gun Flats Road, West Machine Gun Flats Road, Watkins Gate Road, and Eucalyptus Road.

Please note that no work was conducted at soil remediation sites in 2020 and no further discussion is provided in this report for that year.

2.0 Site 39 - Soil Remediation Activities in 2019

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 (USACE, 2009). Soil remediation activities were completed in previous years and no soil sampling or remediation work was conducted in 2019. However, in 2019 site re-contouring and/or erosion control work was conducted at HA 27A, 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](#)).

Erosion problems at HA 27A, HA 34, and HA 37 were treated by a combination of light grading, straw wattles, and mulch. Mulch was obtained from vegetation removal/chipping activities at other locations of the cleanup project. The mulch contained trimmings from coast live oak limbs and maritime chaparral shrubs.

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, 2017), 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:

- Habitat Checklists (HCLs) were prepared by the Project Biologist outlining specific avoidance and minimization measures to be implemented during work activities. The HCLs were reviewed and approved by the Base Realignment and Closure (BRAC) Biologist and the Quality Control Manager. The avoidance and minimization measures were communicated to the project supervisors and field personnel in preparatory meetings prior to work initiation (see [Attachment A](#) for all HCLs implemented for work conducted in 2019).
- 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 and mulch stockpiling wherever available.
- Work was conducted prior to the rainy season to avoid impacts to CTS.
- Silt fencing was installed around the temporary mulch pile at HA 34 to preclude CTS from entering and erosion control materials were stored on pallets within this area to avoid creating refugia for CTS, in accordance with the requirements included in the Programmatic Biological Opinion (USFWS, 2017).

3.0 Munitions Remediation Activities in 2019 and 2020

During 2019, munitions and explosives of concern (MEC) remediation activities within the former Fort Ord Impact Area were conducted within Impact Area MRA Unit 23, Range 48, and WGBA; BLM Area B Units A, B, C, B-3 West, and B-2A; and various roads and fuel breaks (Figure 1-2). Activities within these areas included some or all of the following:

- Mastication and pruning of vegetation;
- Chipping and stockpiling of mulch;
- Surface MEC removal;
- Digital geophysical mapping (DGM) with EM61, MetalMapper and OPTEMA equipment;
- Subsurface and Near-Surface MEC removal where necessary;
- Demolition of live or suspected live MEC items;
- Fence installation along the Impact Area MRA boundary at Oscar and Felix Roads; and
- Vehicle use to support these activities.

Table 3-1 identifies the approximate acreage within each work area affected by the work activities in 2019. In addition, 32 structures were removed in 2019 from Impact Area MRA Units 1, 4, 5, 5A, 6, 9, 13, 18, 21, and 34, and BLM Area B Unit B-3 West (Figure 1-2).

During 2020, MEC remediation activities continued within various roads and fuel breaks and within MRA Unit 13 and BLM Area B Unit A¹ (Figure 1-3). Activities within these areas included some or all of the following:

- Subsurface MEC removal where necessary;
- Demolition of live or suspected live MEC items; and
- Vehicle use to support these activities.

Table 3-2 identifies the approximate acreage within each work area affected by the work activities in 2020.

3.1 HMP Species and Habitats Mitigation and Avoidance

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, 2017). Mitigation and protection measures that were implemented to avoid or reduce impacts to HMP species and habitats during this project are summarized below.

¹ Work within MRA Unit 13 and BLM Area B Unit A was conducted only to provide safe access to Ponds 16, 41, and 44 for future biological monitoring efforts.

3.1.1 Minimize Disturbance Associated with MEC Removal

Disturbances were limited to those required for the abovementioned 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 received training on former Fort Ord natural resource protection prior to starting work. In 2019, KEMRON provided natural resource training to 18 new employees and subcontract workers. No new employees or subcontractors were provided natural resource training in 2020.

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 the former 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, HCLs were prepared prior to each activity by the Project Biologist, outlining specific avoidance and minimization measures to be implemented during work activities. The HCLs were reviewed and approved by the BRAC Biologist and the Quality Control Manager. The avoidance and minimization measures were communicated to the project supervisors and field personnel in preparatory meetings prior to work initiation (see [Attachment A](#) for all HCLs implemented for work conducted in 2019 and 2020).

3.1.3 Avoid Disturbance of HMP Annual Plant Populations

Populations of HMP annual plants were identified during baseline and/or follow-up surveys within and adjacent to the following work areas:

- Monterey spineflower: Impact Area MRA Unit 23 and Range 48, and BLM Area B Unit B.
- Sand gilia: Impact Area MRA Range 48 and BLM Area B Unit B.
- Contra Costa Goldfields: BLM Area B Unit B.
- Seaside Bird's-Beak: Impact Area MRA Range 48.

In addition, populations of Seaside bird's-beak and Yadon's piperia were observed by the Project Biologist in previous years, and again in 2019, within several areas not identified during baseline surveys (KEMRON, 2018):

- Populations of seaside bird's-beak and Yadon's piperia were observed within Unit 23 near Pond 54.
- Populations of seaside bird's-beak and Yadon's piperia were observed within the Riso Ridge and Hawkeye Road fuel breaks.
- Populations of seaside bird's-beak were observed within the BLM Area B Unit B-2A.

Areas supporting populations of HMP annual plants were avoided from the time of assumed germination (February 1) to seed-set (assumed May 31 for Monterey spineflower and sand gilia; as observed by the Project Biologist in approximately August/September for seaside bird's-beak and Yadon's piperia). While MEC removal and DGM activities were necessary within population areas, no equipment or personnel were permitted within these areas during this period, and the populations were flagged off and a map of the locations was provided to all project 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. In 2019 the Monterey spineflower population within Range 48 continued to bloom past May 31, and as such, work activities did not commence within this area until June 12 to allow the species to set seed; sand gilia within Range 48 had gone to seed prior to May 31.

Subsurface MEC removal was conducted within Monterey spineflower and sand gilia population areas in Range 48. During this work activity, the top two to three inches of topsoil were preserved

and replaced on top of the backfilled holes. Subsurface MEC removal was not conducted within seaside bird's-beak population areas.

Subsurface MEC removal was conducted within one area known to support Yadon's piperia in June/July 2019 and December 2019, within the fuel break on Hawkeye Road (Figure 3-1). Fuel breaks are considered part of BLM's 2% development allowance and implementation of conservation measures is not required within development areas; however, the KEMRON Biologist evaluated the area prior to excavation. In June/July no Piperia plants were observed within the dig areas and in December the specific location of the plants could not be identified, therefore salvage efforts were infeasible. Following excavation, the KEMRON Biologist re-evaluated the site and determined that based on the approximated footprint of affected areas and previous Yadon's piperia locations, it is possible that up to three known individuals were impacted (Figure 3-1). However, following excavation the soil, including any Yadon's piperia tubers present, was returned to the excavated area. Additionally, the local population of Yadon's piperia appears to not have been affected as approximately 35 likely Piperia plants have been observed in the vicinity following the Subsurface MEC removal, and the soil conditions remain suitable for the species (Figure 3-2).

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

To minimize impacts to these species, project 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.

During structure demolition activities, the KEMRON Biologist conducted visual surveys for CTS (and other wildlife) prior to removal of the buildings and monitoring during removal of buildings located near known CTS breeding ponds.

Work within the vernal pool areas was only permitted during the dry season and heavy equipment was precluded to the greatest extent feasible. In 2019, the work conducted by KEMRON within vernal pools included surface clearance, DGM surveys using the EM61, and sub-surface MEC removal within Pond 74, located within BLM Area B Unit B-2A (Figure 1-2). Work activities were completed using manual equipment. No work activities were conducted within vernal pools in 2020.

No CRLF or California linderiella were encountered by KEMRON on the former Fort Ord in 2019 or 2020.

In 2019, there were two encounters of CTS by KEMRON on the former Fort Ord during structure demolition activities (Figures 3-3 and 3-4). A Field Report Form for CTS was completed by the Project Biologist for each encounter and provided to the BRAC Biologist, USFWS, and California Department of Fish and Wildlife (CDFW). No CTS were encountered by KEMRON in 2020. The following summarizes the encounters from 2019.

3.1.4.1 January 31, 2019

On January 31, 2019, one juvenile CTS was found during structure demolition activities within Unit 6 (Figure 3-3). The CTS was found immediately after the structure (an observation tower) had been knocked over and dragged toward the road. The CTS was observed by the site contractor while walking back towards the original structure location. Work was stopped and the KEMRON Biologist was contacted. The individual was likely in the rotting wood at the base of the structure. The work area was located approximately 0.4 mile from Pond 30, the nearest known CTS breeding resource; additional known breeding resources nearby include Pond 71 (0.6 mi), Pond 21 (1.0 mi), and Pond 49 (1.2 mi) (Figure 3-3). Pond 46 (0.3 mi) is also located in the vicinity; however, this pond is not currently known to support CTS breeding. Rain had occurred within the last 24 hours. The KEMRON Biologist has conducted a clearance survey for wildlife within the structure on January 21; no CTS or other wildlife were observed within the structure during the survey.

The CTS was moving when found and while being measured, but was more reactive than active. An injury was present behind the head and consisted of a portion of the left and right front leg structures protruding through the skin (Figure 3-4). The KEMRON Biologist measured, weighed, and photographed the individual, then released it to a mammal burrow outside of the work area (Figure 3-3). While still alive when relocated, it is unknown if the CTS would survive the injury.

3.1.4.2 March 14, 2019

On March 14, 2019, one juvenile CTS was found during structure demolition activities within Unit 34 (Figure 3-5). The CTS was found immediately after the structure (a latrine) had been demolished and removed. The CTS was observed by the site contractor while removing remaining wood from the structure location. Work was stopped and the KEMRON Biologist was contacted. The KEMRON Biologist had conducted a clearance survey for CTS and other wildlife within the structure immediately prior to removal; however, none were observed. The individual was likely underneath the rotting wood at the base of the structure and not visible during the survey. The work area was located approximately 0.2 mile from Pond 10, the nearest known CTS breeding resource; additional known breeding resources nearby include Pond 8 (0.5 mi), Pond 11 (0.7 mi), and Pond 42 (0.7 mi) (Figure 3-5). Additional ponds in the vicinity not currently known to support CTS include Ponds 3 North and South (0.3 mi), Pond 35 (0.5 mi), Pond 39 (0.5 mi), and Ponds 40 North and South (0.6 mi). Rain had occurred within the last 24 hours.

The CTS was alive, active, and uninjured (Figure 3-6). The KEMRON Biologist measured, weighed, and photographed the individual, then released it to a mammal burrow outside of the work area (Figure 3-5).

3.1.5 Minimize Impacts to Black Legless Lizard

To minimize impacts to BLL, project 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.

No BLL were encountered during work activities by KEMRON on the former Fort Ord in 2019 or 2020.

3.2 Additional Environmental Protections

In addition to the mitigation and protection measures described above to avoid or reduce impacts to HMP species and habitats, the following environmental protection measures were implemented during this project.

3.2.1 Invasive Weed Control

Several invasive plant species are known to occur on the former Fort Ord, including iceplant (*Carpobrotus sp.*), French broom (*Genista monspessulana*), jubata (pampas) grass (*Cortaderia jubata*), and Klamathweed (*Hypericum perforatum*). 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 the former Fort Ord work areas, including those of subcontractors, before they are allowed to enter the site; 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 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 2019, activities within portions of Units 1 and 5A included demolition of structures and equipment and vehicle use to support these activities. Previous evaluation of the presence or absence of invasive plant species within Unit 1 was completed by the KEMRON Biologist in 2014 and significant populations of jubata grass were identified. Jubata grass was also identified within the Unit 5A work area by the KEMRON Biologist prior to structure demolition activities.

Decontamination by pressure washing was required for vegetation removal equipment prior to leaving areas infested with invasive weeds. 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.

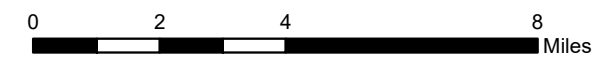
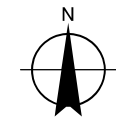
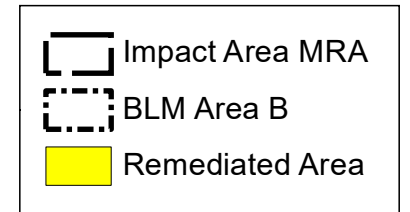
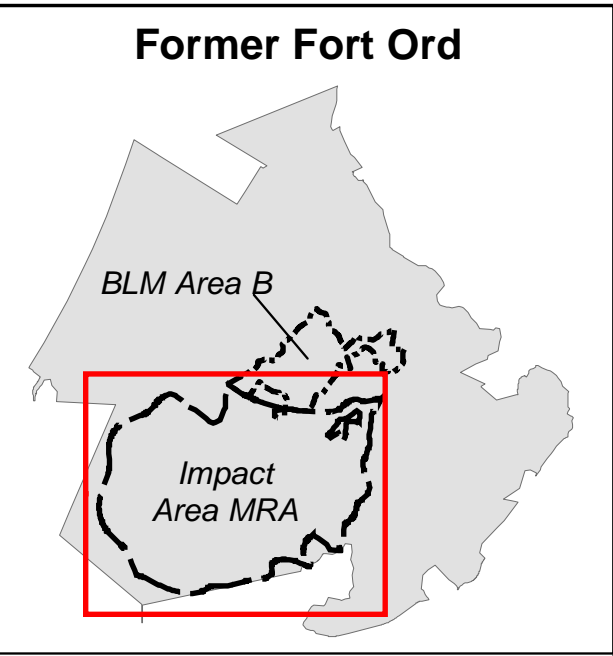
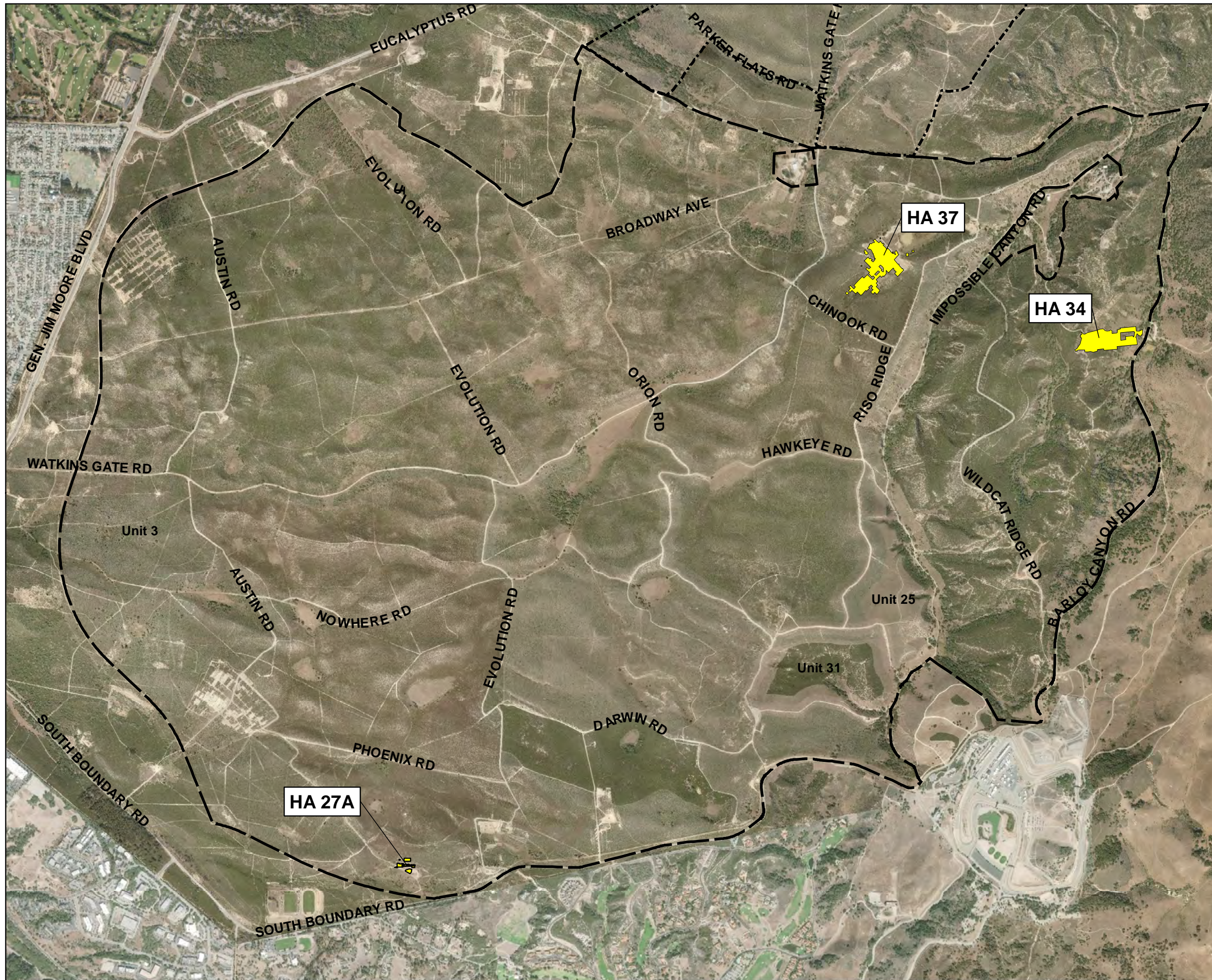
3.2.2 Erosion Control

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 KEMRON Biologist. Additionally, in 2019 DGM work in BLM Area B was halted following a period of heavy rain that resulted in saturated soils in order to avoid creating erosion issues. The soil conditions were monitored until it was determined that the soils were no longer saturated and work could proceed without causing erosion. No erosion control materials were installed within munitions remediation areas in 2019 or 2020. Please see Section 2.1 above for erosion control implemented associated with soil remediation activities.

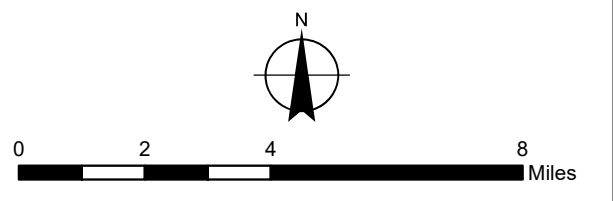
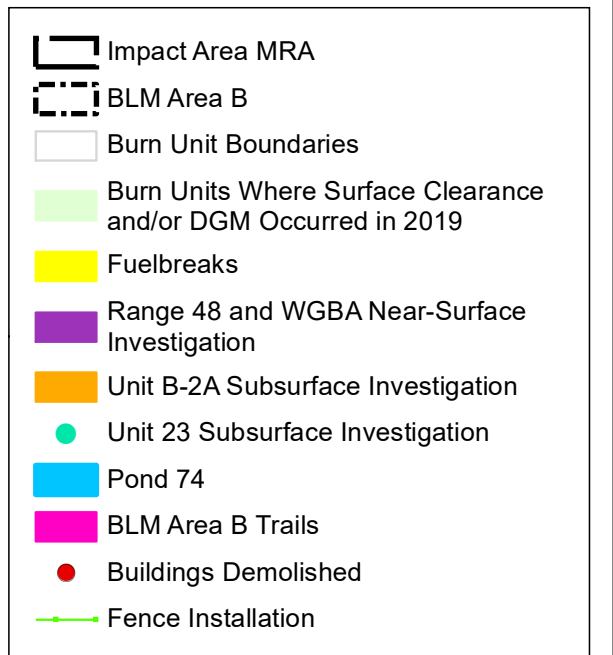
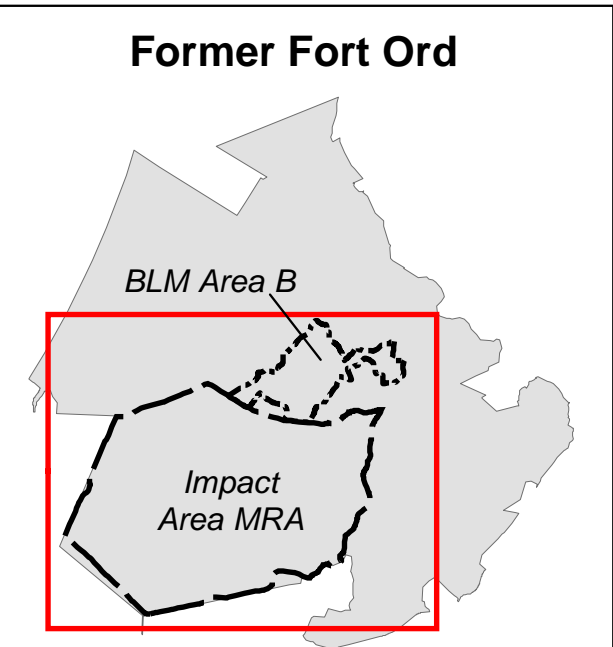
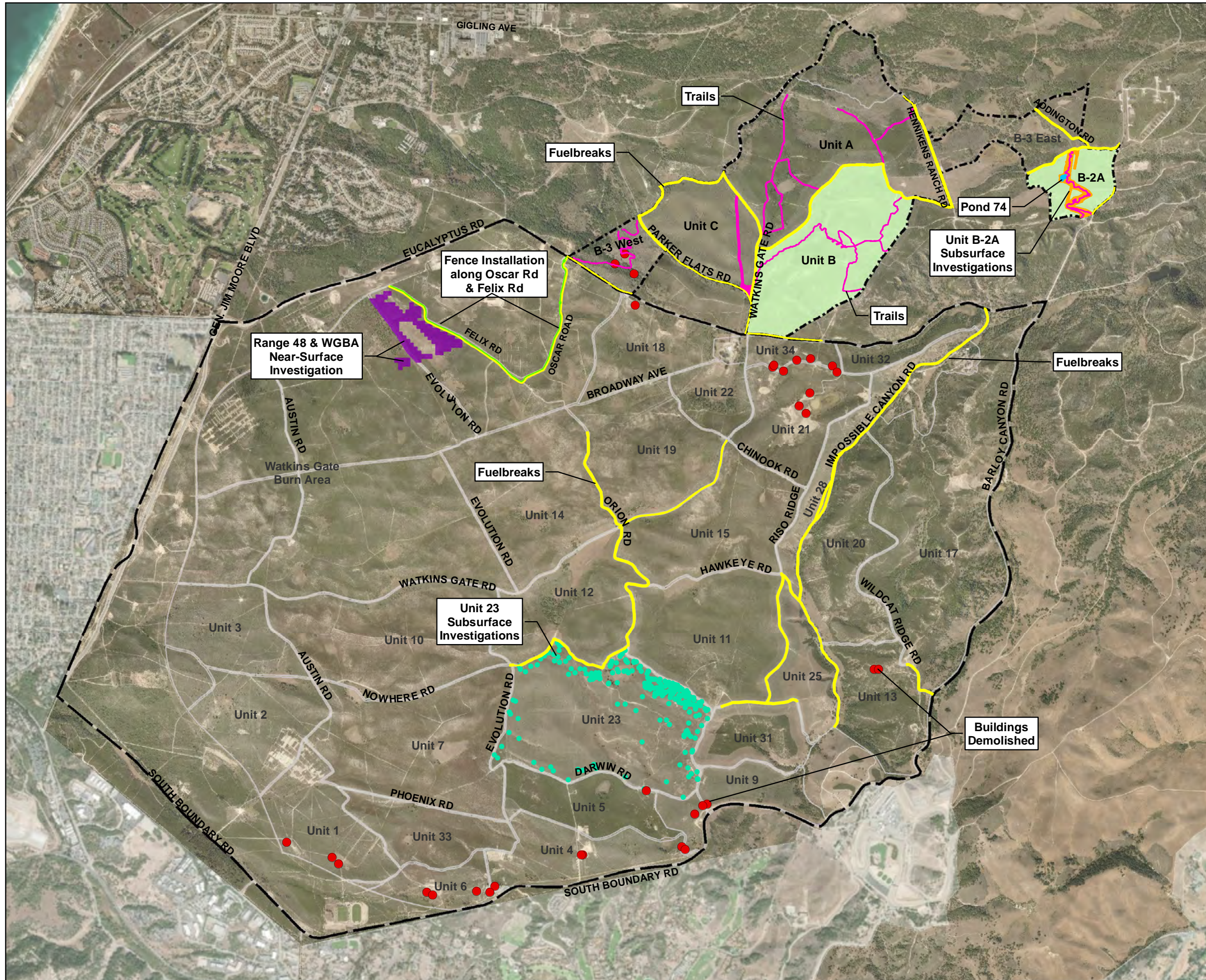
4.0 References

- California Invasive Plant Council (CIPC). 2011. *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*.
- KEMRON Environmental Services, Inc. (KEMRON). 2018. *2017 Annual Biological Monitoring Report, Former Fort Ord, California*. Prepared by Denise Duffy & Associates, Inc. February. (AR# BW-2851)
- U.S. Army Corps of Engineers (USACE), 1997. *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord*. April. (AR# BW-1787)
- USACE, 2006. *Wetland Monitoring and Restoration Plan for Munitions and Contaminated Soil Remedial Activities at Former Fort Ord*. September. (AR# BW-2453)
- USACE, 2009. *Final, Record of Decision Amendment, Site 39 Inland Ranges, Former Fort Ord, California*. August. (AR# RI-041E).
- 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)*. October. (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. (AR# BW-2747)
- USFWS, 2017. *Reinitiation of Formal Consultation for Cleanup and Property Transfer Actions Conducted at the Former Fort Ord, Monterey County, California (Original Consultation 8-8-09-F-74, 81440-2009-F-0334)*. June. (AR# BW-2747A)

Figures



U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 1-1	2019-2020 Annual Biological Monitoring Report Site 39 Soil Remediation Areas Where Biological Monitoring Occurred in 2019	
DATE	PROJECT NUMBER	FILE NAME
1/21/2020	WP001	SEE FOOTER

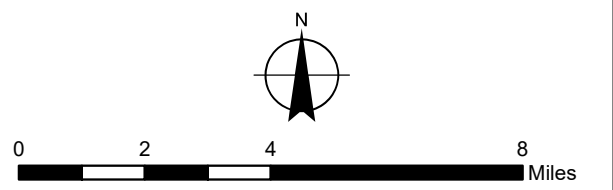
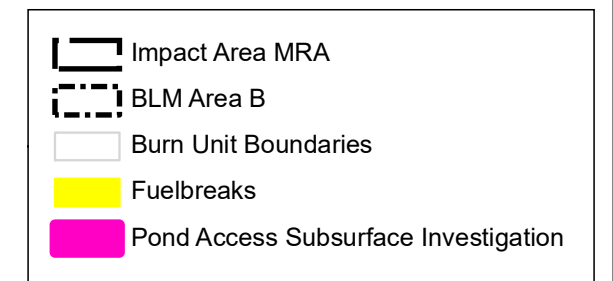
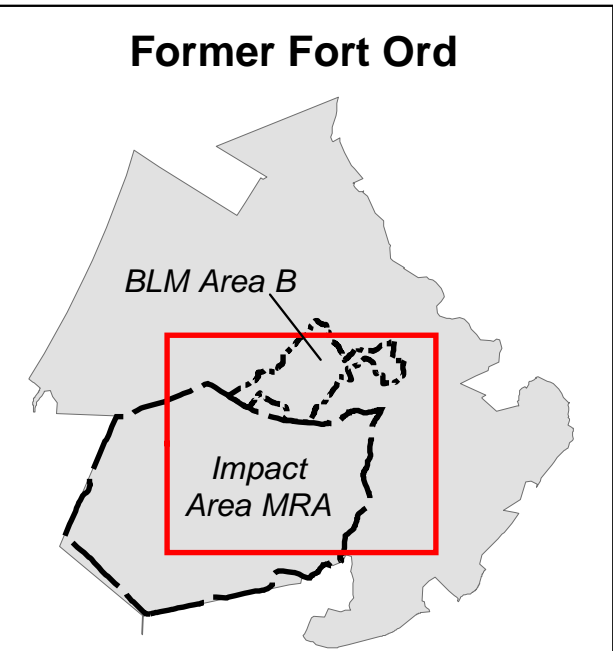
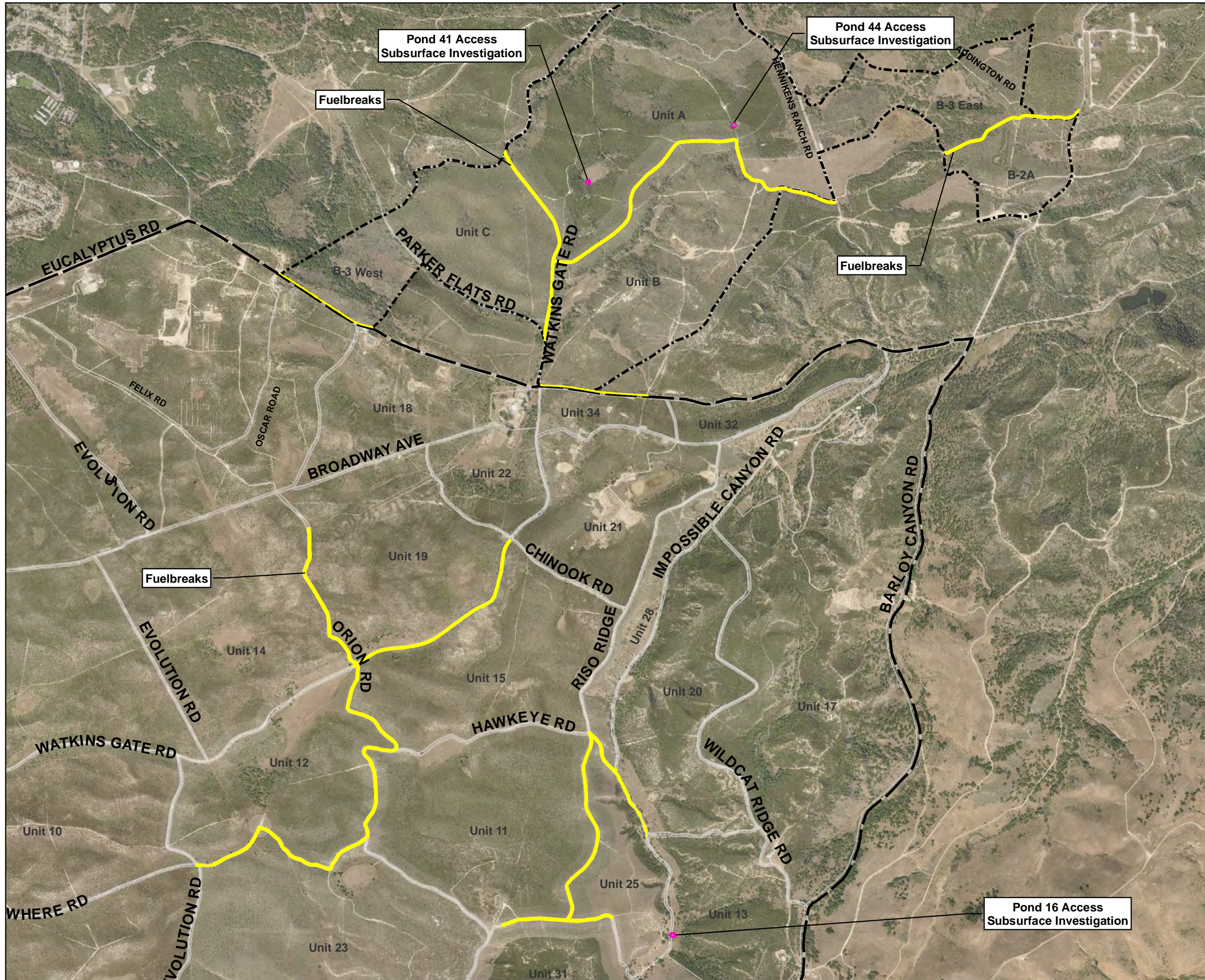


U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

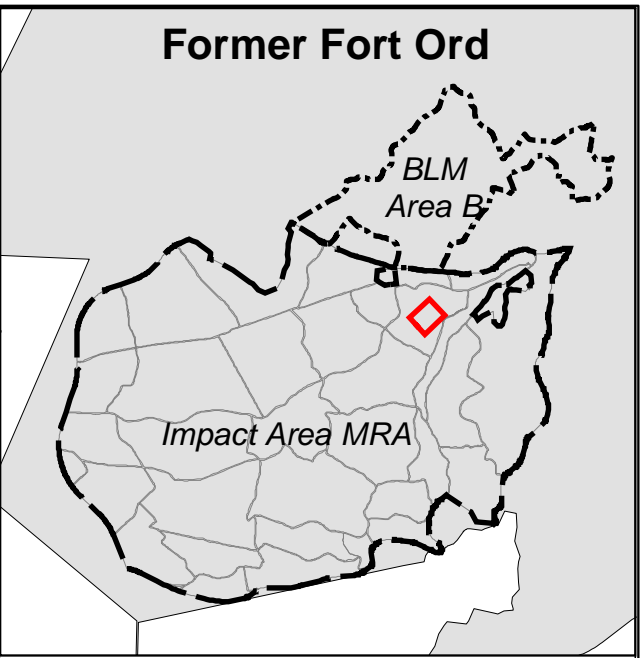
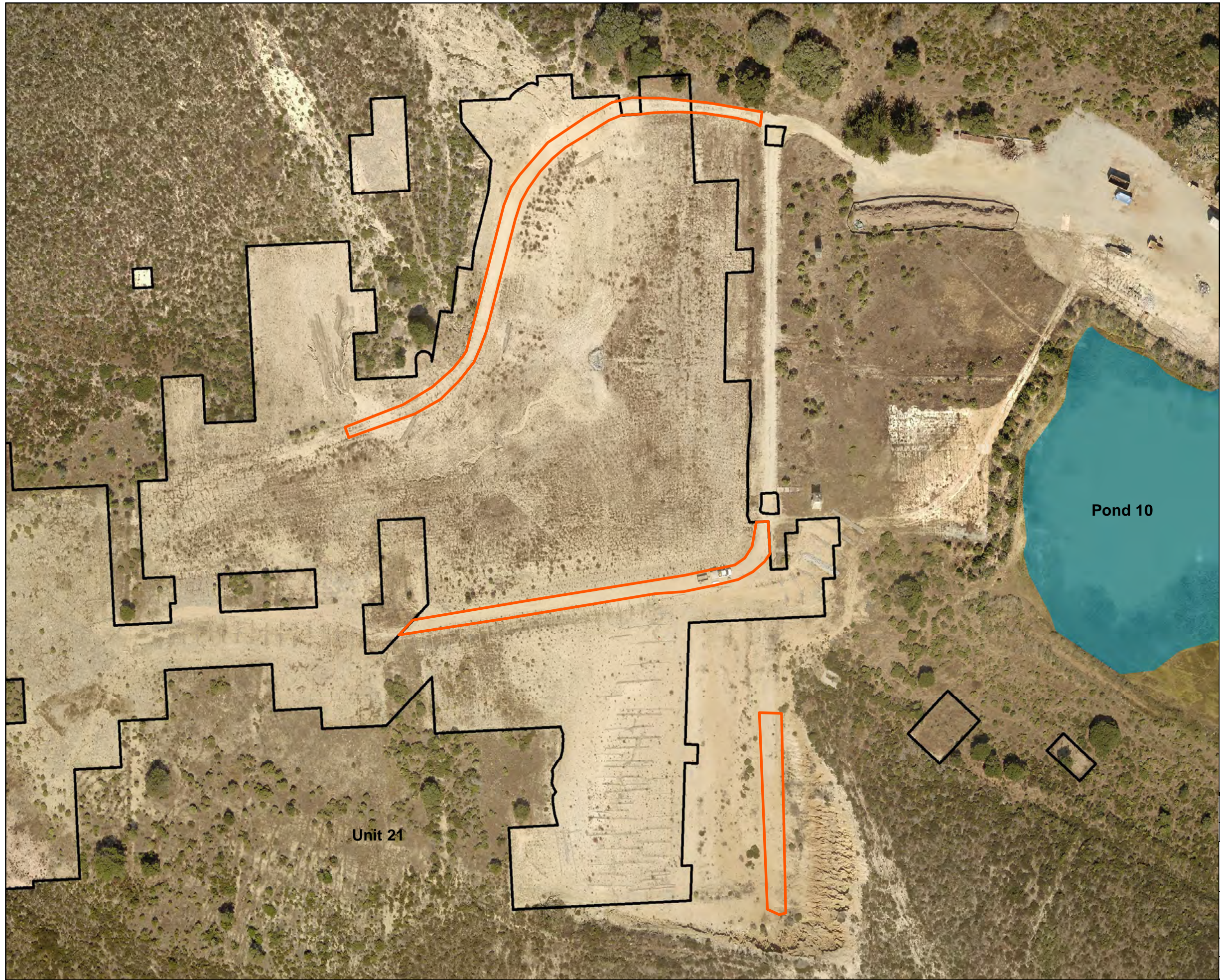
FORMER FORT ORD




FIGURE NUMBER: 1-2
2019-2020 Annual Biological Monitoring Report
Munitions Remediation Areas Where
Biological Monitoring Occurred in 2019

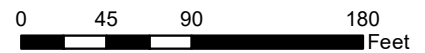
DATE: 3/11/2020	PROJECT NUMBER: WP001
FILE NAME: SEE FOOTER	



U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 1-3	2019-2020 Annual Biological Monitoring Report Munitions Remediation Areas Where Biological Monitoring Occurred in 2020	
DATE	PROJECT NUMBER	FILE NAME
3/11/2020	WP001	SEE FOOTER



	Restoration Area
	2019 Erosion Control Areas
	Pond



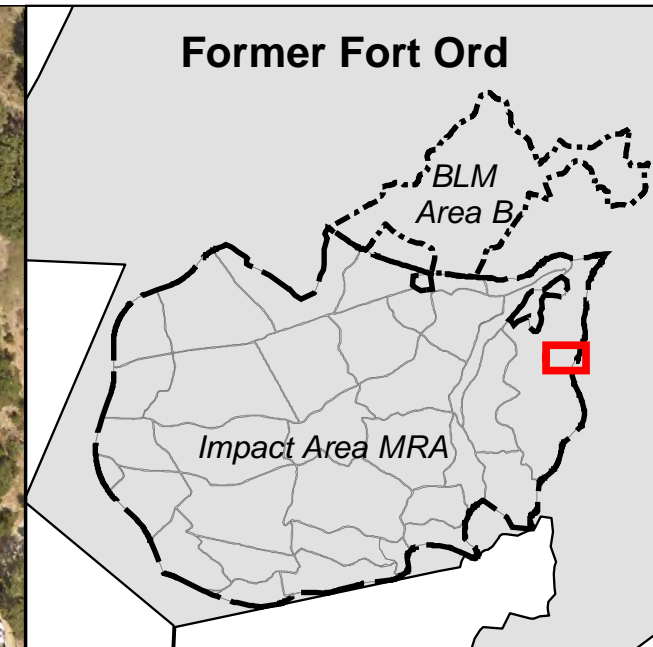
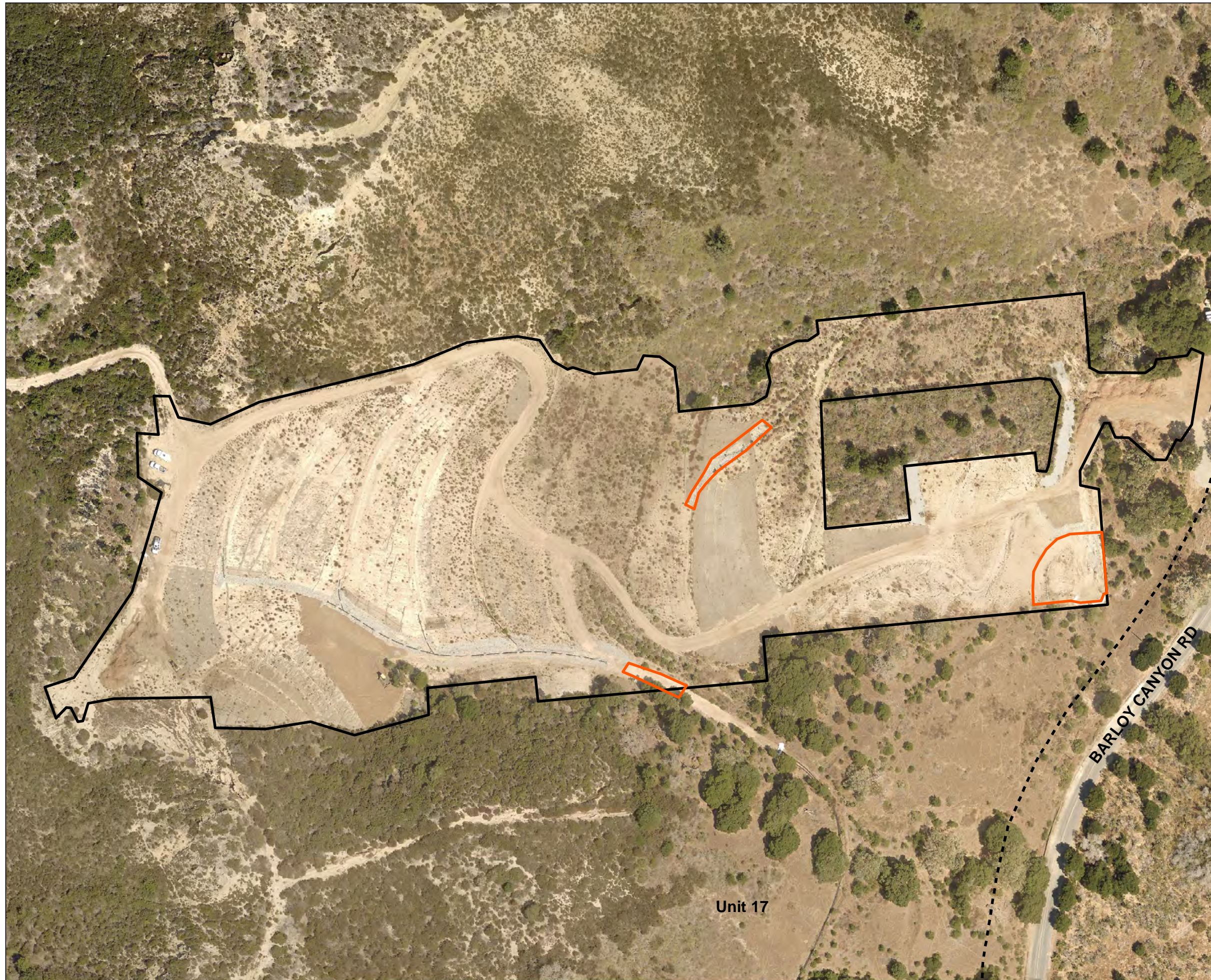
U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT




FORMER FORT ORD

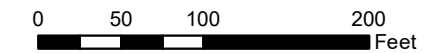
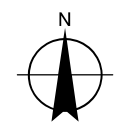
FIGURE NUMBER: 2-1
2019-2020 Annual Biological Monitoring Report
Erosion Repair Areas Within HA 37



DATE	PROJECT NUMBER	FILE NAME
1/21/2020	WP001	SEE FOOTER



-  Unit Boundaries
-  Restoration Area
-  2019 Erosion Control Areas



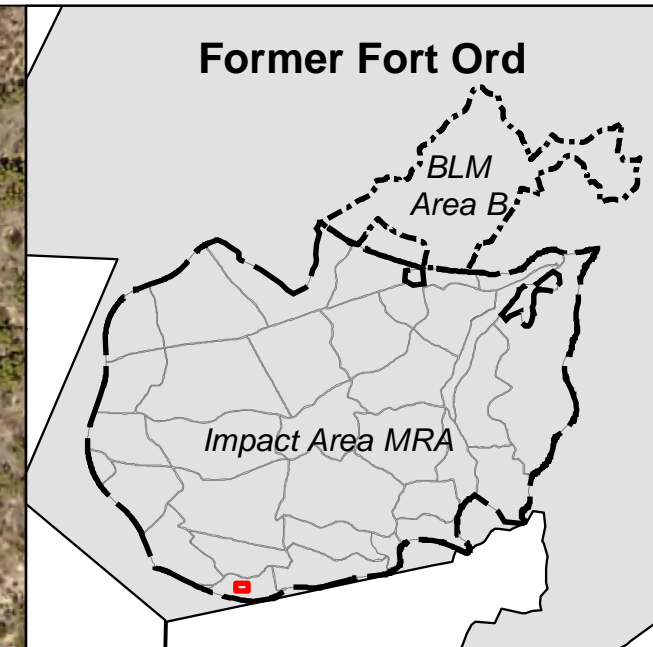
U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT




FORMER FORT ORD

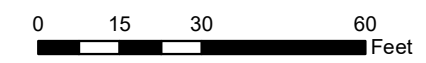
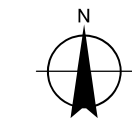
FIGURE NUMBER 2-2
2019-2020 Annual Biological Monitoring Report
Erosion Repair Areas Within HA 34



DATE	PROJECT NUMBER	FILE NAME
1/21/2020	WP001	SEE FOOTER



-  Unit Boundaries
-  Restoration Area
-  2019 Erosion Control Areas



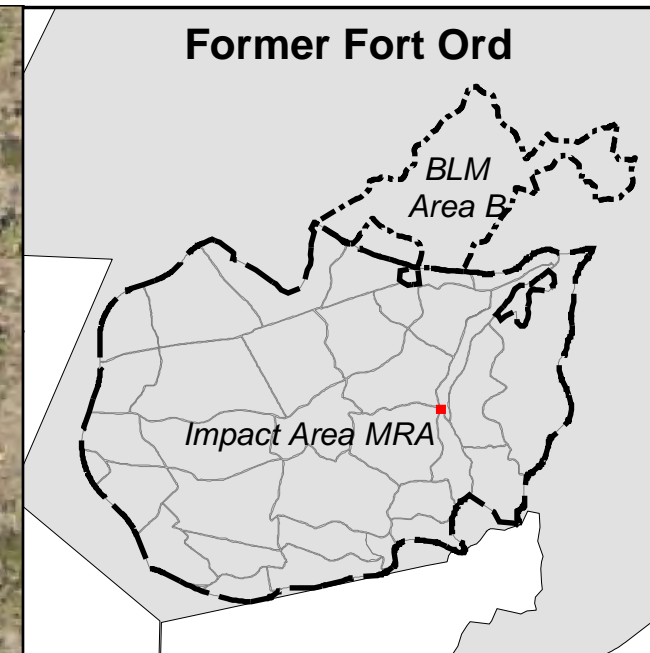
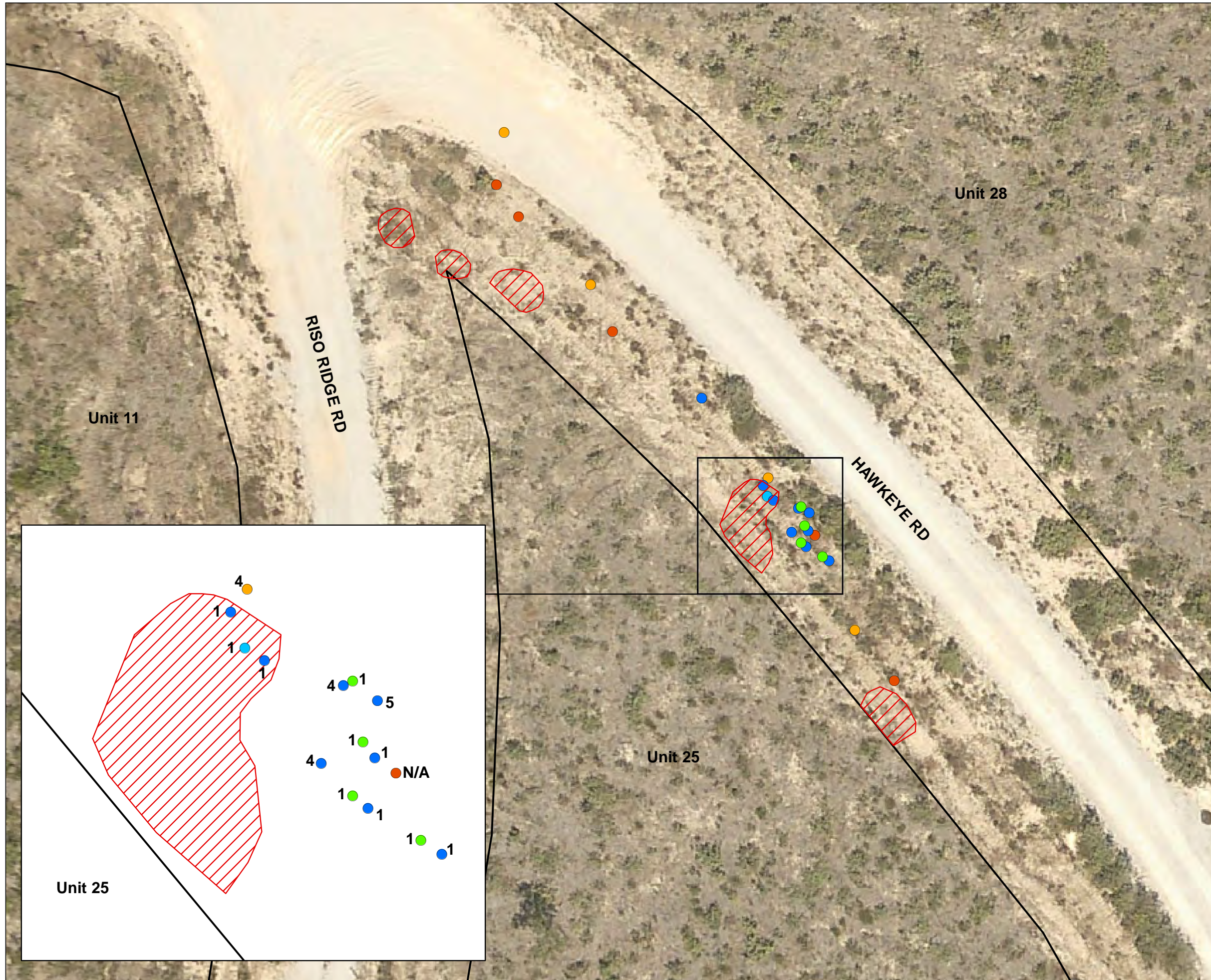
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SACRAMENTO DISTRICT

FORMER FORT ORD

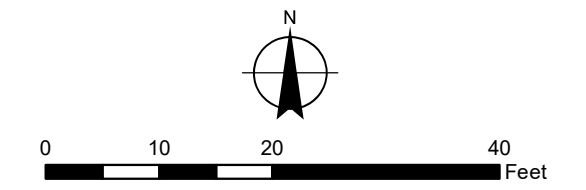
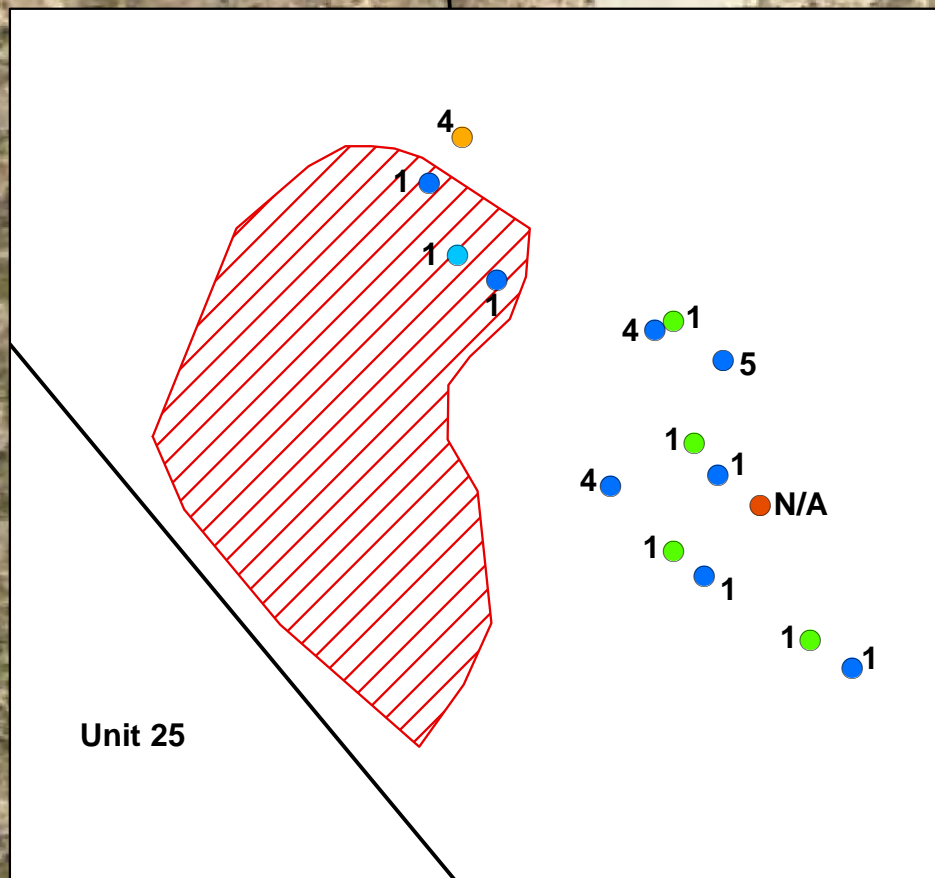
FIGURE NUMBER 2-3
2019-2020 Annual Biological Monitoring Report
Erosion Repair Area Within HA 27A



DATE	PROJECT NUMBER	FILE NAME
3/12/2020	WP001	SEE FOOTER



Burn Units Boundaries
 Disturbed areas near Yadon's piperia
Yadon's Piperia
● 4/2/2018
● 6/30/2017
● 7/19/2012
● 6/29/2010
● Date Unknown



U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 3-1	2019-2020 Annual Biological Monitoring Report Yadon's Piperia Disturbance Area - Hawkeye Road	
DATE	PROJECT NUMBER	FILE NAME
3/17/2020	WP001	SEE FOOTER

1.



2.



3.






4.

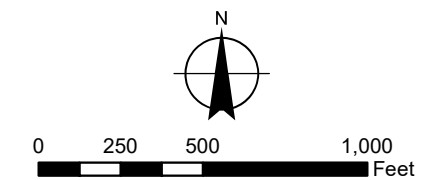
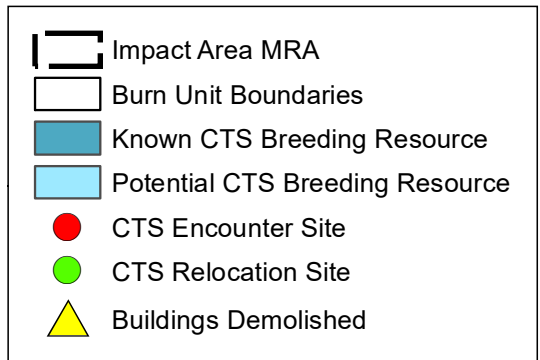
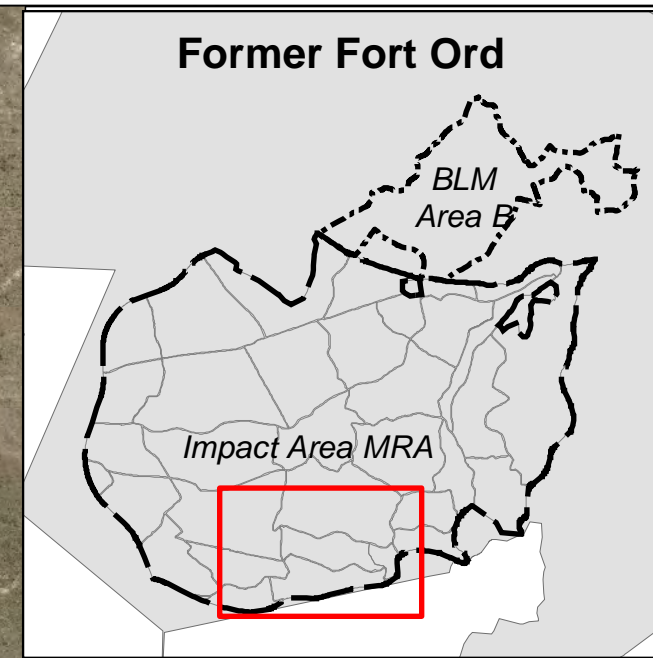
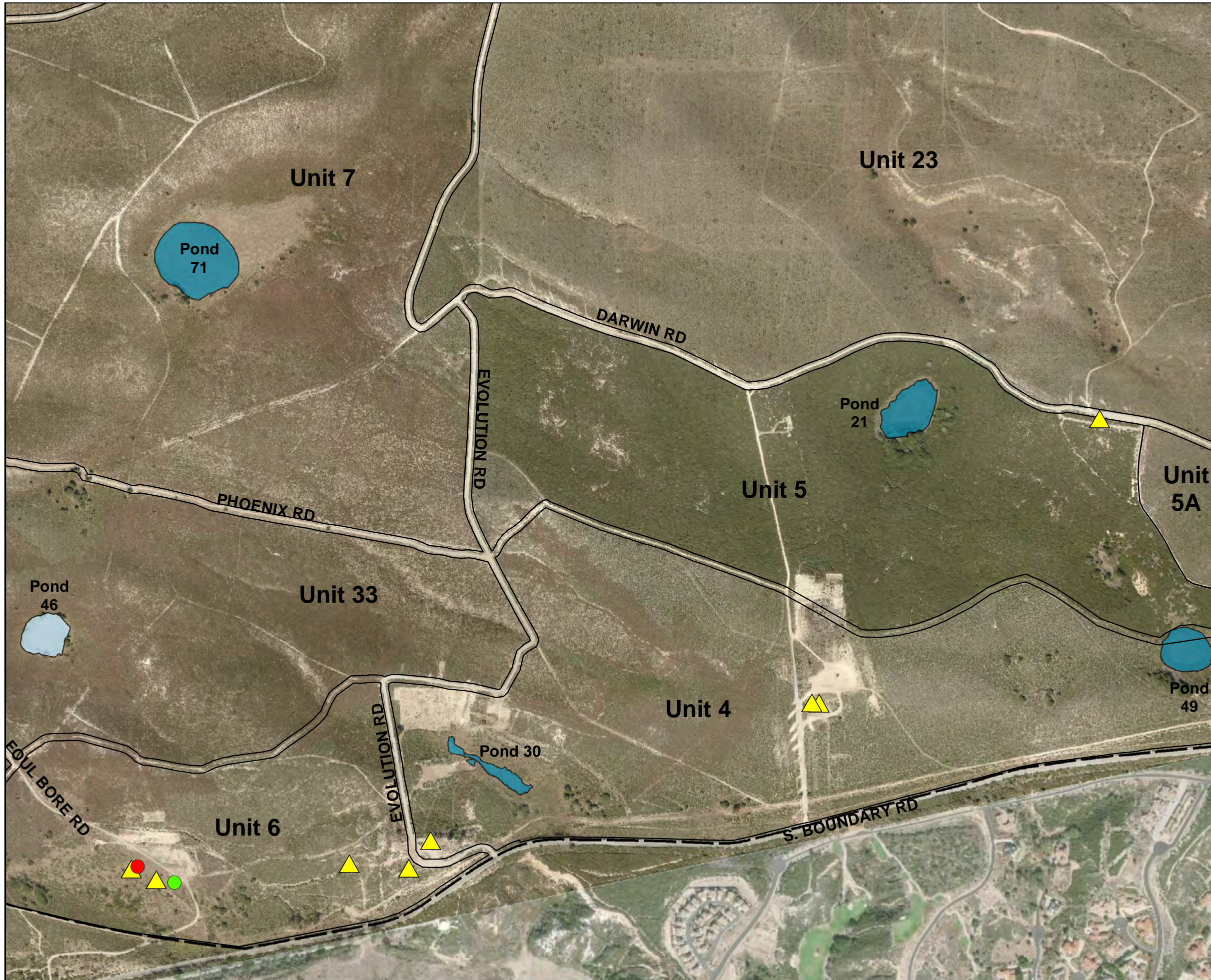


5.



1. Post remediation soil conditions on Hawkeye Rd looking SE.
2. Post remediation soil conditions on Hawkeye Rd looking NW.
3. Close up of post remediation soil conditions on Hawkeye Rd.
4. Close up of post remediation soil conditions on Hawkeye Rd.
5. Emerging leaves of piperia plants in the vicinity of remediation areas (March 12, 2020).

U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 3-2	2019-2020 Annual Biological Monitoring Report Yadon's Piperia Disturbance Area Photographs - Hawkeye Road	
		
DATE	PROJECT NUMBER	FILE NAME
3/17/2020	WP001	SEE FOOTER



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER 3-3
2019-2020 Annual Biological Monitoring Report
California Tiger Salamander Encounter and Release Location, January 31, 2019

DATE	PROJECT NUMBER	FILE NAME
1/29/2020	WP001	SEE FOOTER

1.



2.



3.






4.

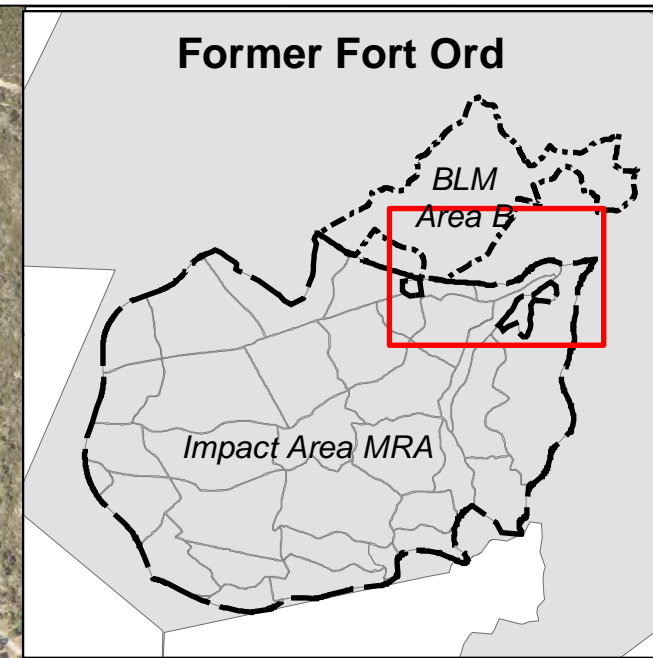
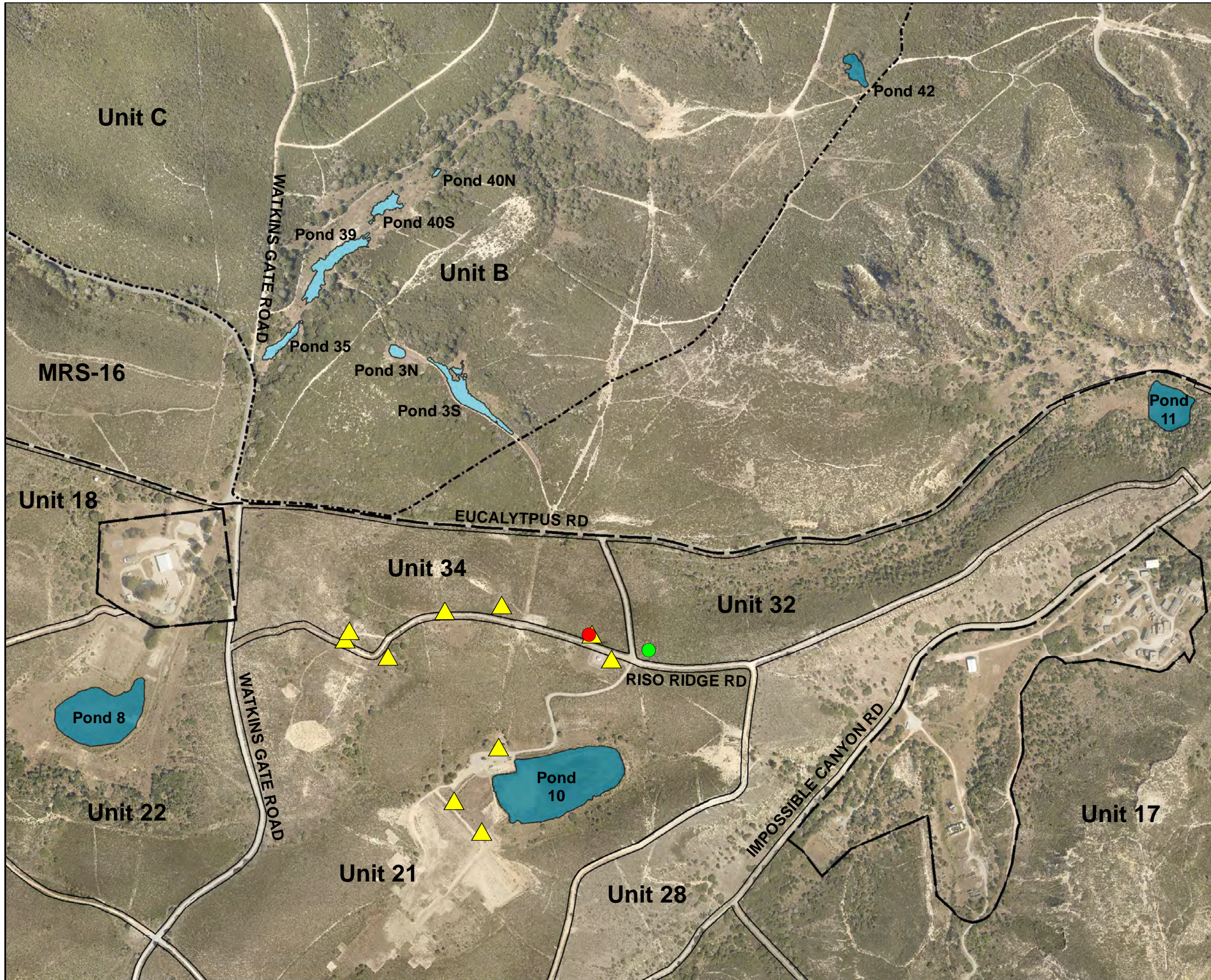


5.

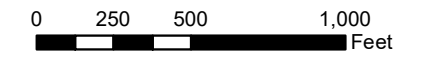
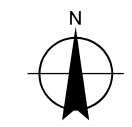


1. CTS was found on January 31, 2019 near structure demolition debris.
2. CTS as it was being measured by the KEMRON biologist.
3. CTS as it was being measured by the KEMRON biologist.
4. CTS relocated to a mammal burrow outside of the work area.
5. CTS relocated to a mammal burrow outside of the work area.

U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 3-4	2019-2020 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs, January 31, 2019	
		
DATE	PROJECT NUMBER	FILE NAME
1/08/2020	WP001	SEE FOOTER



- Impact Area MRA
- BLM Area B
- Burn Unit Boundaries
- Known CTS Breeding Resource
- Potential CTS Breeding Resource
- Encounter Site
- Relocation Site
- Buildings Demolished



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER 3-5
2019-2020 Annual Biological Monitoring Report
California Tiger Salamander Encounter
and Release Location, March 14, 2019



DATE	PROJECT NUMBER	FILE NAME
1/29/2020	WP001	SEE FOOTER

1.



2.



3.






4.



5.



1. CTS was found on March 14, 2019 at structure demolition site.
2. CTS relocated to a mammal burrow outside of the work area.
3. CTS relocated to a mammal burrow outside of the work area.
4. CTS as it was being measured by the KEMRON biologist.
5. CTS as it was being measured by the KEMRON biologist.

U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER 3-6	2019-2020 Annual Biological Monitoring Report California Tiger Salamander Encounter Photographs, March 14, 2019	
		
DATE	PROJECT NUMBER	FILE NAME
1/08/2020	WP001	SEE FOOTER

Tables

Table 3-1. 2019 Work Area Activity Acreages

Location	2019 Acres				
	Mechanical Vegetation Mastication	Manual Vegetation Removal	Surface MEC Removal	Subsurface MEC Removal	DGM (EM61, Metal Mapper, & OPTEMA)
Impact Area MRA					
Range 48	29.65			29.00 ²	29.00
WGBA	1.84			1.84 ³	1.84
Unit 23				N/A ⁴	
BLM Area B					
Unit A	3.52			3.74 ⁵	
Unit B				3.14 ⁶	90.22
Unit C				3.89 ⁷	
Unit B-2A	7.77	1.23	11.12	13.76 ⁸	10.62
Unit B-3 West				0.10 ⁹	
Roads and Fuel Breaks					
Roads and Fuel Breaks ¹⁰	8.69 ¹¹			49.31	54.41
Total	51.47	1.23	11.12	104.78	186.09

² Subsurface work within Range 48 was considered “near-surface” work as excavation to depth was not conducted.

³ Subsurface work within WGBA was considered “near-surface” work as excavation to depth was not conducted.

⁴ Subsurface work included investigation of 267 target locations utilizing the metal mapper – the area of the investigations was not quantified.

⁵ Subsurface work within Unit A was within Trails 65-69.

⁶ Subsurface work within Unit B was within Trails 91-94.

⁷ Subsurface work within Unit C was within the New Trail 70 and the Old Trail 70

⁸ Subsurface work within Unit B-2A was within Trail 62 and buffer, Pond 74, and future BLM restoration sites.

⁹ Subsurface work within Unit B-3 West was within Trail 65.

¹⁰ Road and fuel break work in 2019 was conducted Orion Road, Impossible Canyon Road, Wildcat Ridge Road, Hawkeye Road, Riso Ridge, Nowhere Road, Mercury Road, Oscar Road, Hennekens Ranch Road, East Machine Gun Flats Road, West Machine Gun Flats Road, Watkins Gate Road, Addington Road, Barloy Canyon Road, Parker Flats Road, Eucalyptus Road, and Watkins Gate Spur Road.

¹¹ Mastication within fuel breaks occurred along Oscar Road and Felix Road associated with fence installation.

Table 3-2. 2020 Work Area Activity Acreages

Location	2020 Acres				
	Mechanical Vegetation Mastication	Manual Vegetation Removal	Surface MEC Removal	Subsurface MEC Removal	DGM (EM61, Metal Mapper, & OPTEMA)
Impact Area MRA					
Unit 13 ¹²				0.006	
BLM Area B					
Unit A ¹³				0.003	
Roads and Fuel Breaks					
Roads and Fuel Breaks ¹⁴				2.65	
Total	0	0	0	2.66	0

¹² Subsurface work within Unit 13 was conducted to provide a safe access route to Pond 16 for biological monitoring.

¹³ Subsurface work within Unit A was conducted to provide a safe access route to Ponds 41 and 44 for biological monitoring.

¹⁴ Road and fuel break work in 2020 was conducted Orion Road, Impossible Canyon Road, Hawkeye Road, Riso Ridge, Nowhere Road, Mercury Road, East Machine Gun Flats Road, West Machine Gun Flats Road, Watkins Gate Road, and Eucalyptus Road.

Attachment A
Habitat Checklists (HCLs) for
Work Completed in 2019 and 2020

Attachment A Table of Contents

HA 37, HA 34, and HA 28 Erosion Control Activities HCL and Amendment
BLM Area B Units B/C Containment Lines, B-3 East, B-3 West, & B-2A Surface Clearance and DGM HCL
BLM Area B Roads: Portions of West Machine Gun Flats, Watkins Gate, Watkins Gate Spur, Parker Flats,
and Hennekens Ranch Subsurface Investigation HCL
BLM Area B Units B/C Burned Areas Vegetation Removal and Surface Clearance HCL
Units 1, 4, 5, 5A, 6, 9, 13, 18, 21, 34, and B-3 West Deconstruction and Removal of Thirty-two Structures
HCL
Impossible Canyon Road Fuel Break Vegetation Removal HCL
Trail 62 within BLM Area B Unit B-2A Subsurface Clearance HCL
Fuel Breaks along Watkins Gate, Orion, Hawkeye, Nowhere, Mercury, and Riso Ridge Roads QC Digs
HCL
HA-27A Erosion Control Activities HCL
Oscar and Felix Roads (Range 43-48) Fence Installation HCL and Amendment
BLM Area B B-3 East and West Trail Realignments Subsurface Investigation (Trails 16, 56, 57, and 65)
HCL
Ponds 3 North, 3 South, 16, 35, 39, 40 North, 40 South, 41, 42, 43, 44, 60, 61, and 73 Subsurface
Investigation HCL
BLM Area B Unit C Trail 70 Subsurface Investigation HCL and Amendment
Range 48 (29.6 ac) and WGBA (1.8 ac) Near-Surface Investigation HCL
BLM Area B Unit A Trails Vegetation Removal and Subsurface Investigation HCL
BLM Area B Unit B Trails Subsurface Investigation HCL
BLM Area B Unit B-2A Subsurface Investigation of Future BLM Restoration Areas HCL

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:	<ul style="list-style-type: none"> • 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: 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
ccl Clyde@gilbaneco.com
DN: cn=ccl Clyde@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 Colley, 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:	BLM Area B Units B/C Containment Lines, B-3 East, B-3 West, & B-2A	DATE:	6-15-17
WORK TO BE CONDUCTED:	Surface MEC removal and DGM		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve	<input checked="" type="checkbox"/> Development Area	<input type="checkbox"/> Other (specify):
2. LAND OWNER:	<input checked="" type="checkbox"/> Army	Location:	
	<input checked="" type="checkbox"/> BLM	Location:	
	<input checked="" 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), Yaden's piperia, Monterey spineflower, sand gilia, HMP shrubs
Location:	
Grid Numbers:	

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (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 Figure 2).
- No work shall occur in flagged areas of Yaden'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 Figure 2).
- Heavy equipment shall avoid impacting Toro manzanitas that were left standing in the cut-only areas following vegetation removal.

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"> No work shall occur within the vernal ponds until the ponds have dried, as determined by the Project Biologist. No work shall occur within Pond 3 North 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. Heavy equipment shall not be permitted within the vernal ponds identified (see Figure 2). Manual equipment shall be used to complete DGM work. 				

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:
<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:
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only as shown on Figure 4. Heavy equipment transport from site to site must be along existing roads only. BLM Restoration Areas within B-2A shall not be used as regular tracking/access routes (see Figure 4).



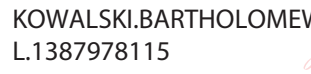
8. INVASIVE SPECIES:

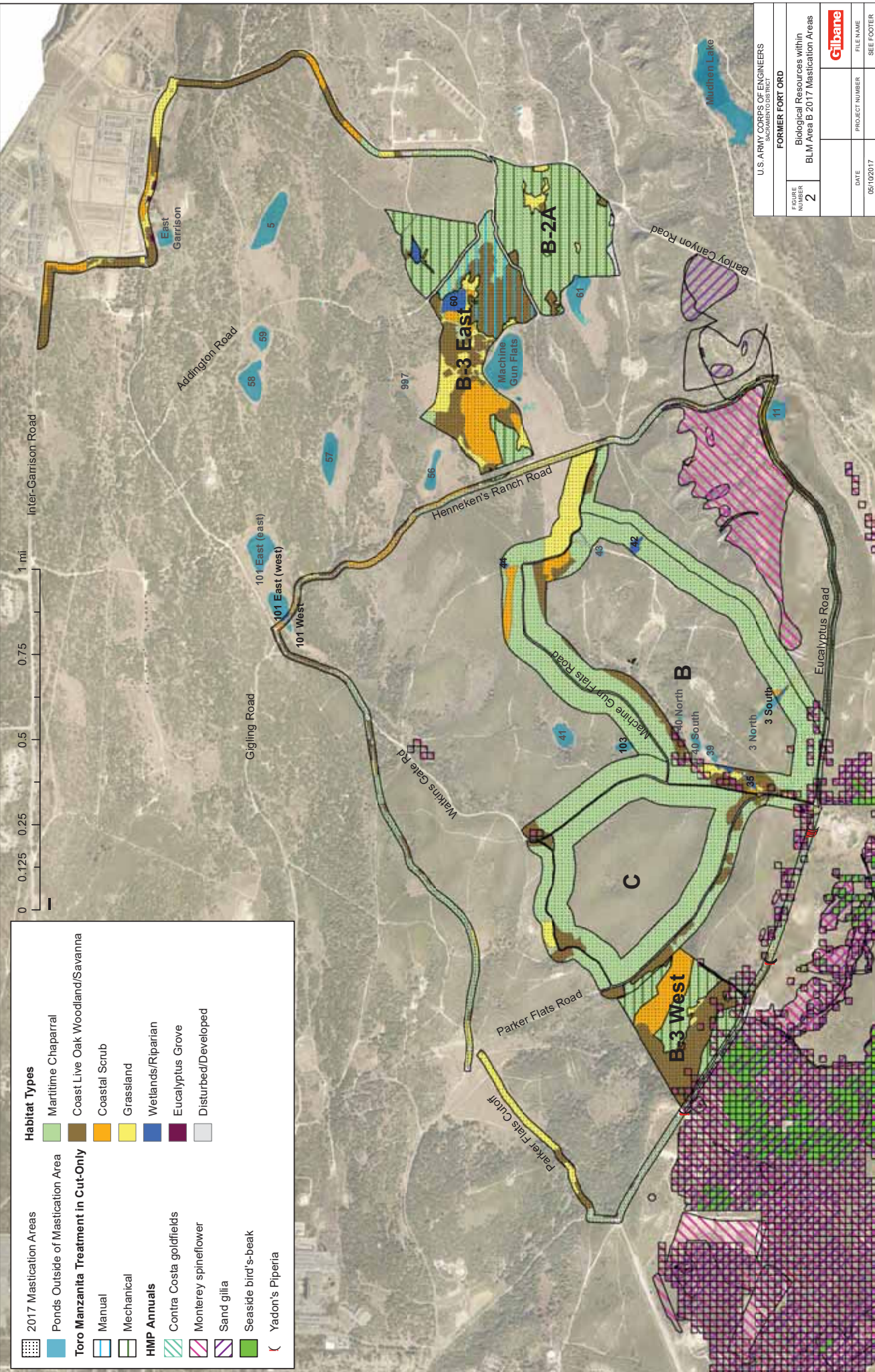
- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.
- Teams working within areas infested with Klamath weed (see Figure 5) shall clean boots and equipment daily before leaving the area to reduce spread of invasive species. Soil and plant material shall be removed using boot brushes or other types of brushes. Decon of hand tools and boots shall be completed within the work area. 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 equipment is necessary, it must be completed on-site prior to leaving the area.
- Unnecessary movement of DGM equipment from the areas infested with Klamath weed to other areas shall be minimized. When working in the large infested areas (see Figure 5), DGM shall work only within the infested areas to the greatest extent feasible, then decon before moving into uninfested areas. DGM Equipment used in these areas shall be pressure-washed daily on-site prior to moving to other areas to remove invasive plant seeds.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved 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.

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

Project Biologist:	<p>Jami Davis</p> 	<p>Digitally signed by Jami Davis DN: cn=Jami Davis, o=DDA, ou, email=jdavis@ddaplanning.com, c=US Date: 2017.06.15 16:48:15 -07'00'</p>	Date: _____
QC Manager:	<p>Chuck Clyde</p> 	<p>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2017.06.16 10:58:31 -07'00'</p>	Date: _____
BRAC Biologist:	<p>KOWALSKI.BARTHOLOMEW. L.1387978115</p> 	<p>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: 2017.06.16 10:25:51 -07'00'</p>	Date: _____

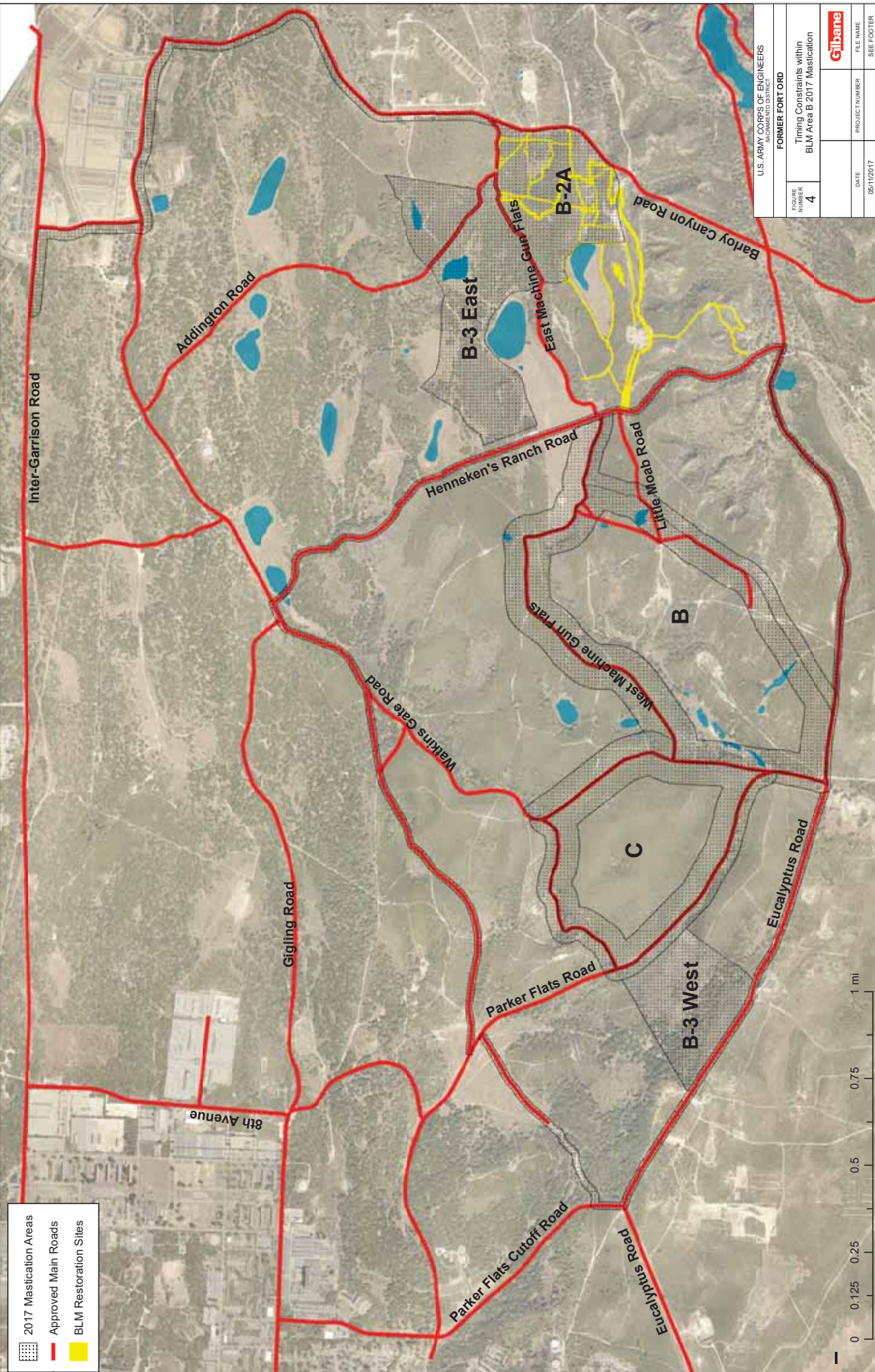





Habitat Types	
	Maritime Chaparral
	Coast Live Oak Woodland/Savanna
	Coastal Scrub
	Grassland
	Wetlands/Riparian
	Eucalyptus Grove
	Disturbed/Developed

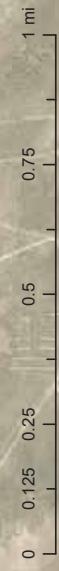
2017 Mastication Areas	
	Ponds Outside of Mastication Area
	Toro Manzanita Treatment in Cut-Only
	Manual
	Mechanical
	HMP Annuals
	Contra Costa goldfields
	Monterey spinnelower
	Sand gilia
	Seaside bird's-beak
	Yadon's Piperia

U.S. ARMY CORPS OF ENGINEERS MADRID DISTRICT	
FORMER FORT ORD	
MAP SHEET NUMBER 2	FILE NAME
Biological Resources within BLM Area B 2017 Mastication Areas	
DATE 06/10/2017	PROJECT NUMBER
SEE FOOTER	

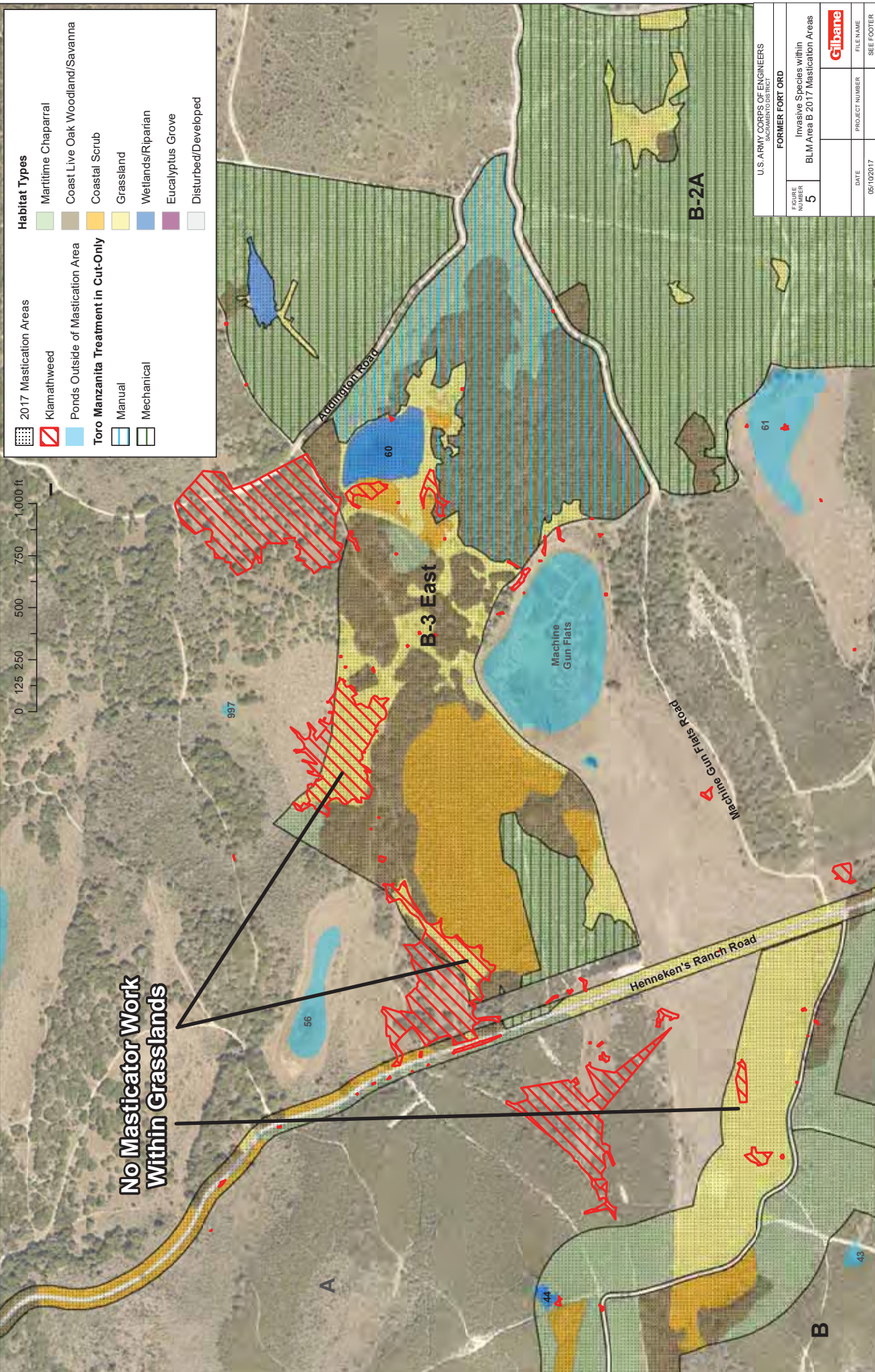




-  2017 Mastication Areas
-  Approved Main Roads
-  BLM Restoration Sites



U.S. ARMY CORPS OF ENGINEERS AS AN AGENT OF THE FORMER FORT ORD	
FIGURE NUMBER 4	FILE NAME Timing Constraints within BLM Area B 2017 Mastication
DATE 05/11/2017	PROJECT NUMBER SEE FOOTER
	

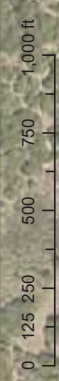


2017 Mastication Areas

- Klamathweed
- Ponds Outside of Mastication Area
- Toro Manzanita Treatment in Cut-Only
 - Manual
 - Mechanical

Habitat Types

- Maritime Chaparral
- Coast Live Oak Woodland/Savanna
- Coastal Scrub
- Grassland
- Wetlands/Riparian
- Eucalyptus Grove
- Disturbed/Developed



**No Masticator Work
Within Grasslands**

U.S. ARMY CORPS OF ENGINEERS MADRID DISTRICT	
FORMER FORT ORD	
FILE NUMBER 5	PROJECT NUMBER
DATE 06/10/2017	FILE NAME SEE FOOTER
Gilbane	

Invasive Species within
BLM Area B 2017 Mastication Areas

FORT ORD SITE HABITAT CHECKLIST

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

Please notify Jami Colley, 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:	BLM Area B Roads: Portions of West Machine Gun Flats, Watkins Gate, Watkins Gate Spur, Parker Flats, and Hennekens Ranch	DATE:	10-2-17
WORK TO BE CONDUCTED:	Subsurface MEC removal		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve <input checked="" type="checkbox"/> Development Area <input type="checkbox"/> Other (specify):		
2. LAND OWNER:	<input type="checkbox"/> Army	Location:	
	<input checked="" type="checkbox"/> BLM	Location:	BLM Area B Roads
	<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), HMP shrubs, sand gilia, and Monterey spineflower		
Location:	See attached map for known locations of HMP species and other sensitive resources.		
Grid Numbers:			
Restrictions:			
<ul style="list-style-type: none"> • CTS encounters must be reported immediately to field supervisor and KEMRON Biologist. Contact Jami Colley (925-783-3112) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. • If greater than 0.5 inch of rain in a 24-hour period occurs, work activities must cease until the site 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 the BLL encounter protocol. 			

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked		
Location:	Pond 35 is adjacent to the work site		
Grid Numbers:			
Work Can Proceed in Pools/Ponds:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Restrictions:			
<ul style="list-style-type: none"> • No work shall occur within the adjacent vernal pond. 			

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:
<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.

7. SITE ACCESS:
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. Heavy equipment transport from site to site must be along 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.

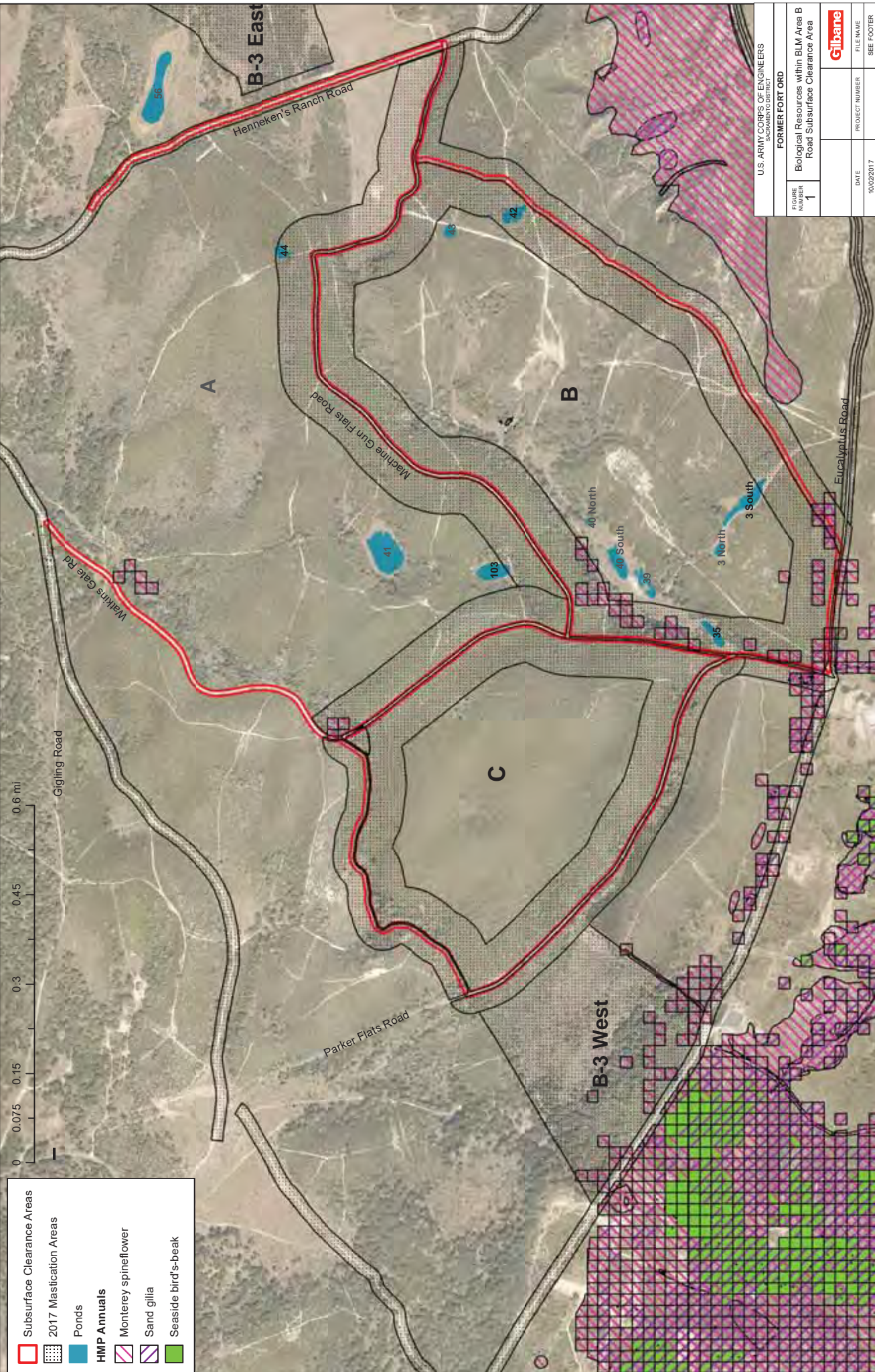
9. ADDITIONAL SITE CONCERNS:
<ul style="list-style-type: none"> Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews. No refueling shall occur within 400 feet of the vernal ponds.

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

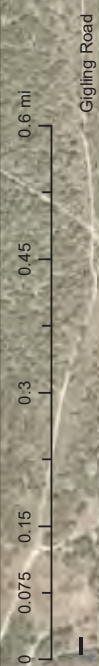
Project Biologist: _____ *Jami Colley* _____ Date: 10-2-17

QC Manager: _____ **Charles Clyde** _____ Date: _____
Digitally signed by Charles Clyde
 DN: C=US, E=cclyde@gilbaneco.com,
 O=Gilbane, CN=Charles Clyde
 Date: 2017.10.11 13:19:56-07'00'

BRAC Biologist: _____ **KOWALSKI.BARTHOLOMEW.L.1387978115** _____ Date: _____
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: 2017.10.03 09:24:23 -07'00'



- Subsurface Clearance Areas
- 2017 Mastication Areas
- Ponds
- HMP Annuals**
- Monterey spineflower
- Sand gilia
- Seaside bird's-beak



U.S. ARMY CORPS OF ENGINEERS WASCO DISTRICT	
FORMER FORT ORD	
FIGURE NUMBER 1	Biological Resources within BLM Area B Road Subsurface Clearance Area
DATE 10/02/2017	PROJECT NUMBER SEE FOOTER
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 Colley, 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:	BLM Area B Units B/C Burned Areas	DATE:	10-11-17
WORK TO BE CONDUCTED:	Mechanical and manual vegetation removal for post burn clean up, and surface clearance		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve <input checked="" type="checkbox"/> Development Area <input type="checkbox"/> Other (specify):		
2. LAND OWNER:	<input checked="" type="checkbox"/> Army	Location:	
	<input checked="" type="checkbox"/> BLM	Location:	
	<input checked="" 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), Monterey spineflower, sand gilia, Contra Costa goldfields, HMP shrubs		
Location:			
Grid Numbers:			

Restrictions:

All Areas

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (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

Habitat Reserve Areas

- No work shall occur in the HMP grids containing Monterey spineflower, and/or sand gilia from approximately February 1 to May 31 (see Figure 1).
- No work shall occur in the HMP grids containing Contra Costa goldfields from approximately February 1 until the ground has completely dried and the plants have set seed (approximately May 31), as determined by the Project Biologist (see Figure 1).
- Piling of cut vegetation in areas known to support Monterey spineflower and/or sand gilia (see Figure 1) shall be reduced to the greatest extent feasible. No piling of cut vegetation shall occur in areas known to support Contra Costa goldfields. 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.

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:				
All Areas				
<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. Vernal ponds (3 north, 3 south, 35, 39, 40 north, 40 south, 42, and 43) shall be staked and flagged (pink and black striped flagging) for avoidance in coordination with the Project Biologist prior to vegetation removal within the area. Masticators shall not be permitted within 50 feet of the vernal ponds identified (see Figure 1). Small equipment, such as a bobcat or other manual equipment may be used to remove vegetation within the vernal ponds if necessary, and after the Project Biologist has determined the pond is dried completely. 				

5. VEGETATION REMOVAL	
<input type="checkbox"/> No Removal Needed	Location:
<input checked="" type="checkbox"/> Manual Removal Needed	Location: Areas of dense oak woodland, within 50 feet of vernal ponds, and areas inaccessible to masticators.
<input checked="" type="checkbox"/> Mechanical Removal Needed	Location:
Vegetation Removal Restrictions:	
All Areas	
<ul style="list-style-type: none"> Masticators shall not be used in dense areas of oak woodland or within 50 feet of 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. 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. Retained coast live oak trees may be limbed up to 6 feet to allow access beneath the trees. 	

6. EROSION CONCERNS/SITE RESTORATION:
All Areas
<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:

All Areas

- Vehicle access should be limited to existing roads only (see Figure 2). Any need of interior access by vehicles shall be coordinated with the Project Biologist prior to use.
- Heavy equipment transport from site to site must be along existing roads only.
- Equipment (skid steer) traffic to access stockpiled vegetation shall be minimized to the greatest extent feasible.

8. INVASIVE SPECIES:

Habitat Reserve Areas

- 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:

All Areas

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved 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.

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: 2017.10.11 10:23:05 -07'00'

Date: _____

QC Manager:

Charles Clyde

Digitally signed by Charles Clyde
DN: C=US, E=ccl Clyde@gilbaneco.com,
O=Gilbane, CN=Charles Clyde
Date: 2017.10.11 14:05:57 -07'00'

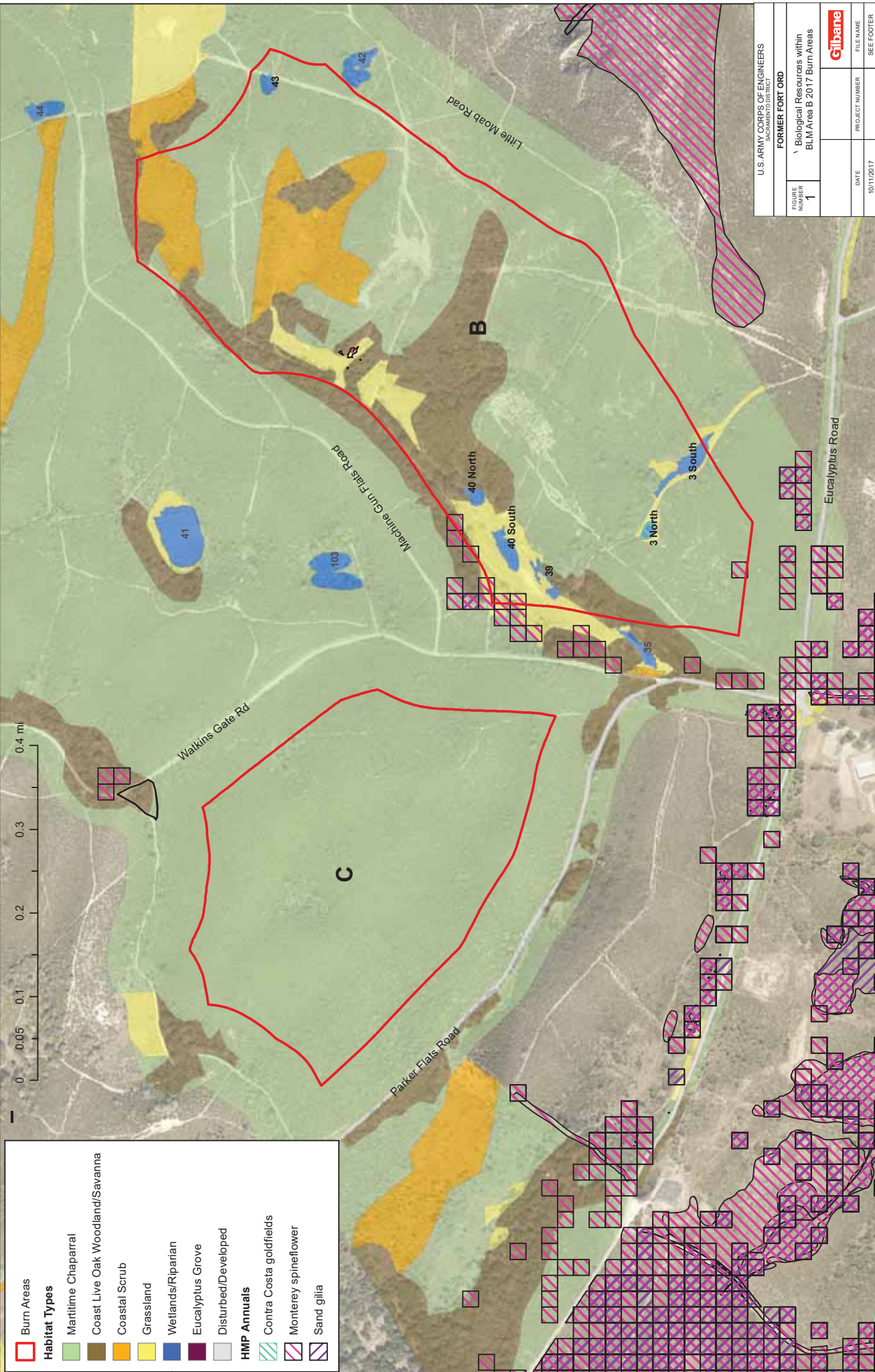
Date: _____

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: 2017.10.11 13:18:37 -07'00'

Date: _____



Burn Areas

Habitat Types

- Maritime Chaparral
- Coast Live Oak Woodland/Savanna
- Coastal Scrub
- Grassland
- Wetlands/Riparian
- Eucalyptus Grove
- Disturbed/Developed

HMP Annuals

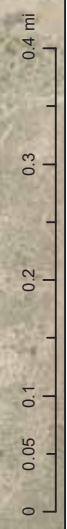
- Contra Costa goldfields
- Monterey spineflower
- Sand gillia

U.S. ARMY CORPS OF ENGINEERS WACAMOND DISTRICT	
FORMER FORT ORD	
FIGURE NUMBER 1	Biological Resources within BLM Area B 2017 Burn Areas
DATE 10/11/2017	PROJECT NUMBER
	FILE NAME
	SEE FOOTER





	Burn Areas
	Approved Main Roads
	Ponds



U.S. ARMY CORPS OF ENGINEERS WASH DC METRO DISTRICT	
FORMER FORT ORD	
FIGURE NUMBER	2
Access Roads Within BL M Area B 2017 Burn Area	
DATE	10/11/2017
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 Colley, 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, 4, 5, 5A, 6, 9, 13, 18, 21, 34, & B-3West	DATE:	7/30/2018
WORK TO BE CONDUCTED:	Deconstruction and Removal of Thirty-two Structures		

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 checked="" 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, Yadon's piperia, sand gilia, CTS, 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. • No work shall occur in the grids known to support Monterey spineflower and/or sand gilia from Approximately February 1 to June 1 (see attached maps). • The Project Biologist shall survey the work area near Structure #7 (on Darwin Road), and Structures #9 and #10 (in Unit 6), to identify any Yadon's piperia within or adjacent to the work area. If individuals are found, they shall be flagged for avoidance. • The Project Biologist shall survey all structures for nesting birds and other wildlife species prior to the deconstruction process. If a nest is found to be active, the structure will be avoided until young have fledged and are no longer dependent on the nest. 	

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Flagged/Marked
Location:	Units 5a ("Quarry" Pond and Pond 18) and 21 (Pond 10)		
Grid Numbers:			
Work Can Proceed in Pools/Ponds:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Restrictions:			
<ul style="list-style-type: none"> • Access to buildings in Units 5a and 21 shall avoid impacts to the adjacent ponds. Access to the buildings shall be along the routes identified in the attached maps. No access is allowed along the previously used interior access route in Unit 5a where it intersects with Pond 18 (see attached maps). 			

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:
<ul style="list-style-type: none"> • Use of 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.

7. SITE ACCESS:
<ul style="list-style-type: none"> • Vehicle access should be limited to existing roads and fuel breaks, and the approved access routes identified on the attached maps. Access to structures in Units 5a and 21 shall avoid impacts to the adjacent ponds. If additional access routes are necessary, the Project 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:
<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. • While working in Unit 1 and on Nason Road in Unit 5a, unnecessary movement of equipment from the area infested with pampas grass to other areas shall be minimized. Equipment shall be pressure-washed on-site (Foul Bore Road in Unit 1 and intersection of Nason and Darwin) prior to moving to other areas to remove invasive plant seeds. Water from pressure-washing shall not be allowed to enter the adjacent ponds.

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:

Patric Krabacher

Digitally signed by Patric Krabacher
DN: cn=Patric Krabacher, o=Denise Duffy and Associates,
Inc., ou, email=pkrabacher@ddaplaning.com, c=US
Date: 2018.07.30 14:47:19 -07'00'

Date: _____

QC Manager:

Chuck Clyde

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cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2018.08.02 07:27:12 -07'00'

Date: _____

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.
L.1387978115

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DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2018.07.30 17:43:00 -07'00'

Date: _____

Former Fort Ord



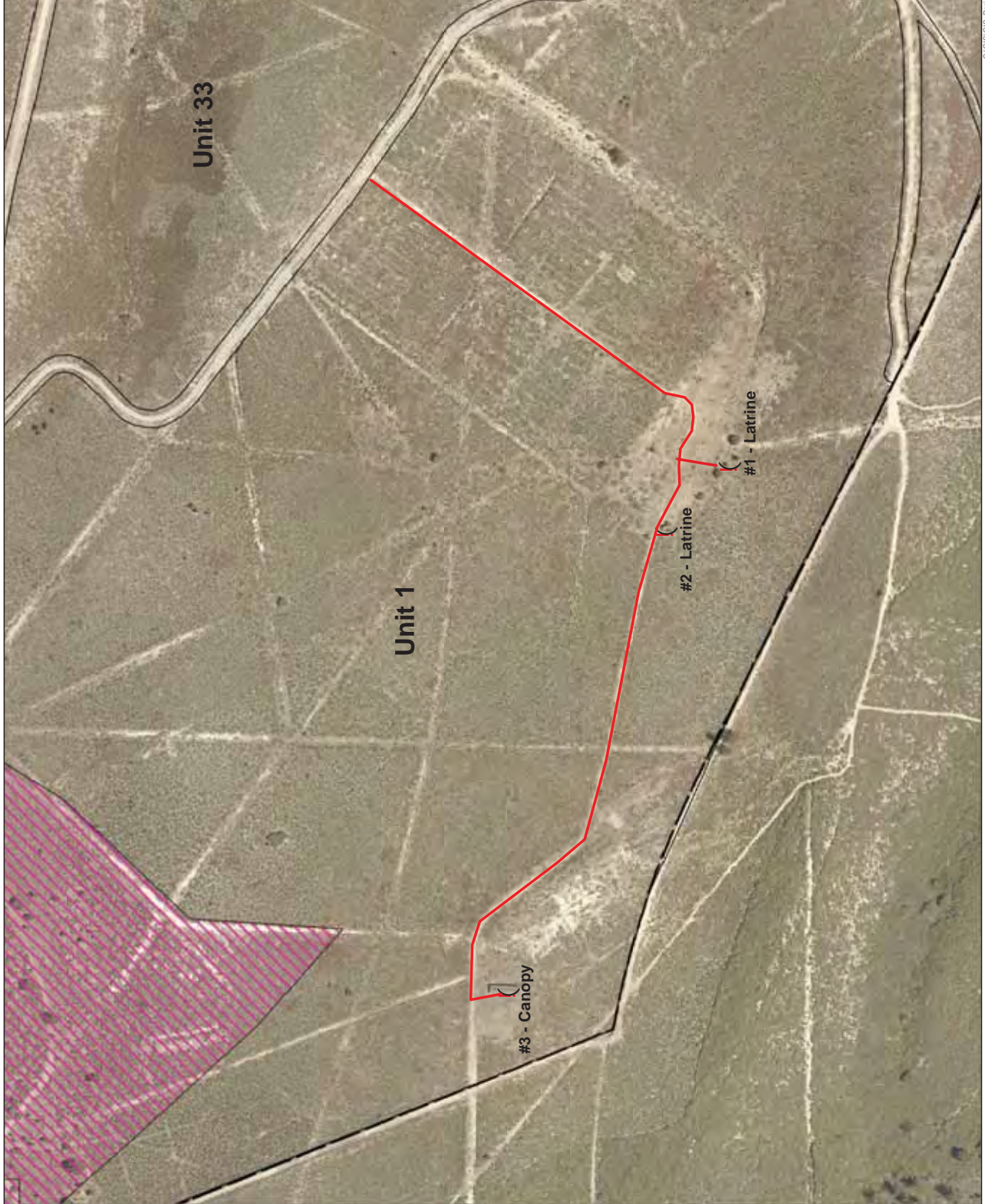
- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
- Monterey spineflower
- Sand gilia
- Seaside bird's-beak
- Spineflower and Sand gilia
- Yadon's Piperia
- Access Routes



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER	Building Demolition Biological Resources & Access		
DATE	PROJECT NUMBER	FILE NAME	
7/26/2018	WP001	SEE FOOTER	



Former Fort Ord



- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
- Monterey spineflower
- Sand gilia
- Seaside bird's-beak
- Spineflower and Sand gilia
- Yadon's Piperia
- Access Routes

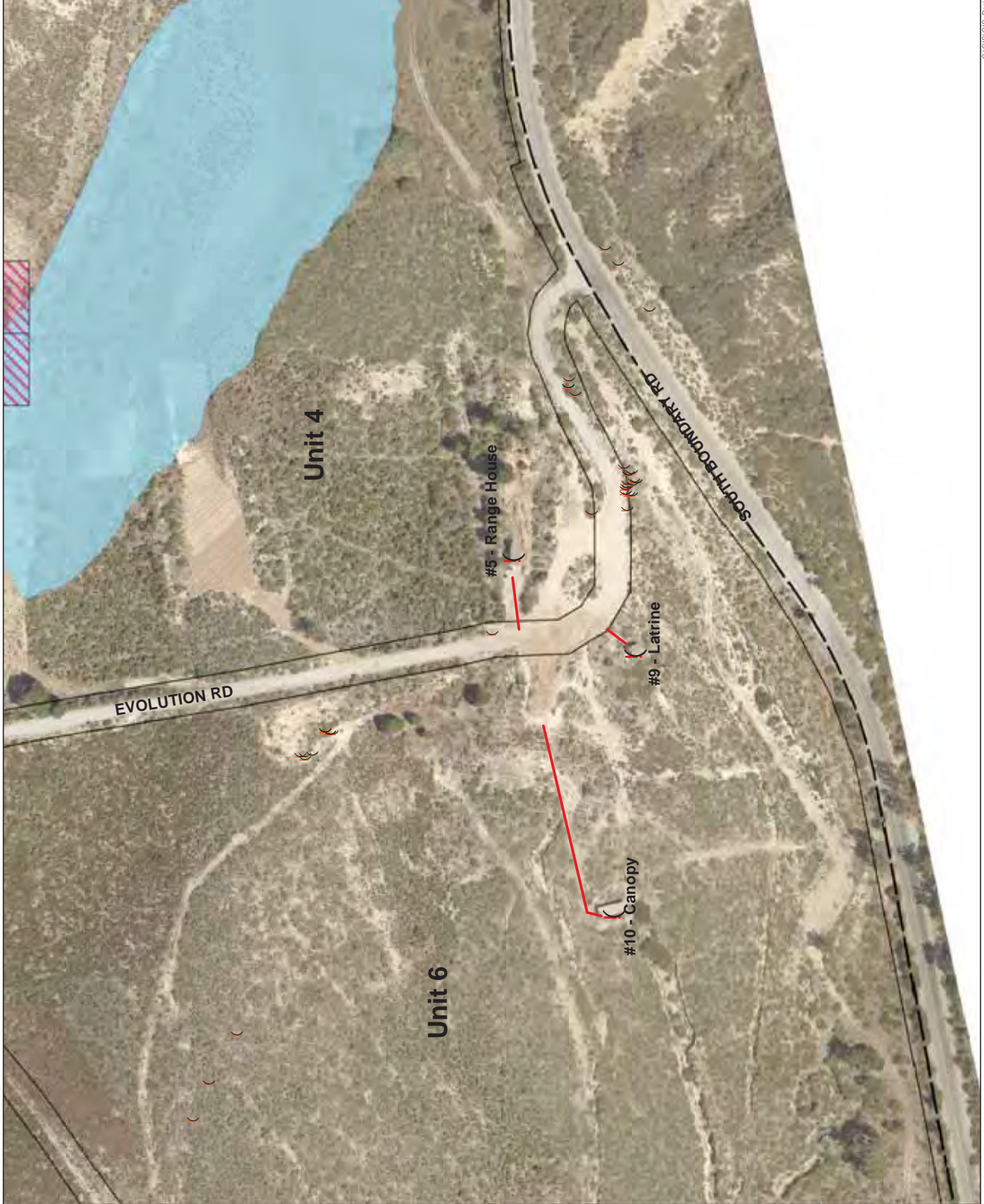


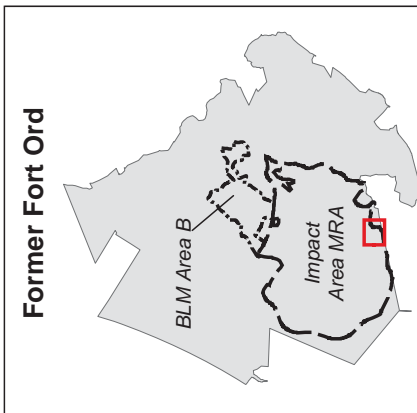
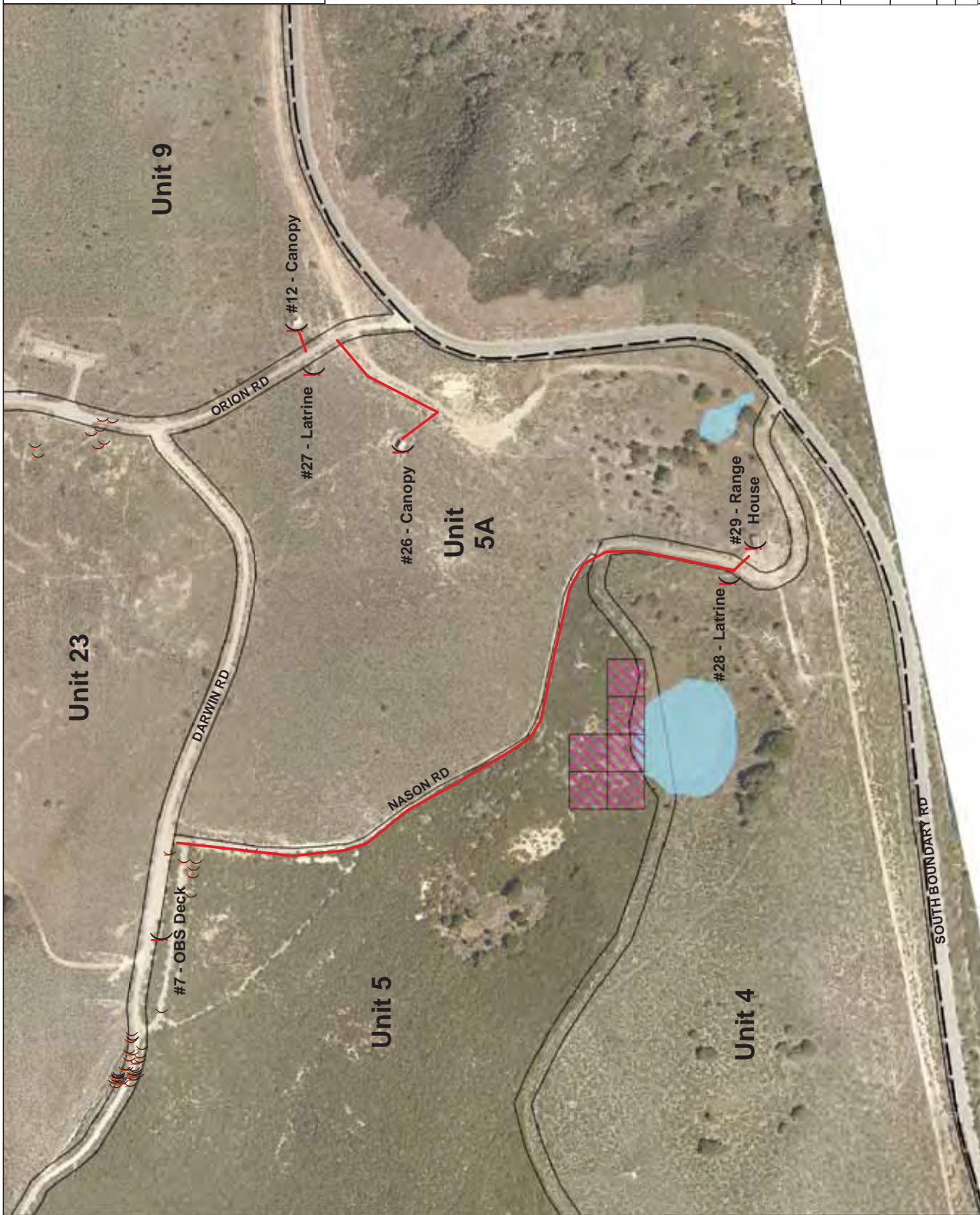
U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

Building Demolition
Biological Resources & Access

DATE	PROJECT NUMBER	FILE NAME
7/26/2018	WP001	SEE FOOTER





Unit Boundaries

Buildings Scheduled for Demo

Ponds

Monterey spineflower

Sand gilia

Seaside bird's-beak

Spineflower and Sand gilia

Yadon's Piperia

Access Routes

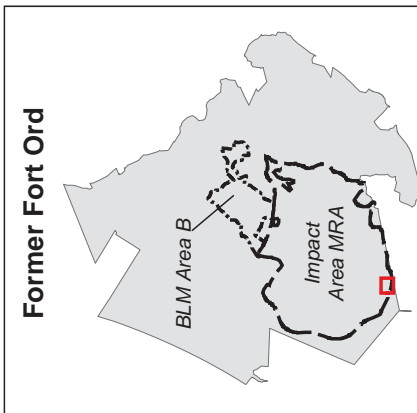
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U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

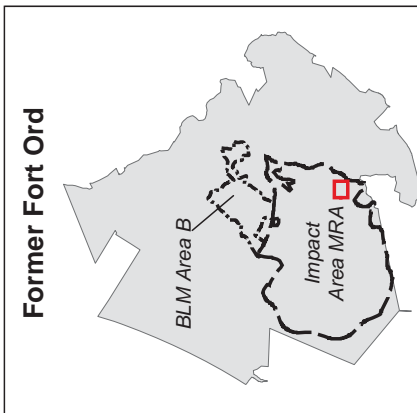
Building Demolition
Biological Resources & Access

DATE	PROJECT NUMBER	FILE NAME
7/26/2018	WP001	SEE FOOTER



- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
- Monterey spineflower
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- Spineflower and Sand gilia
- Yadon's Piperia
- Access Routes

U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT	
FORMER FORT ORD	
Building Demolition Biological Resources & Access	
FIGURE NUMBER	
DATE	FILE NAME
7/29/2018	WP001
	SEE FOOTER

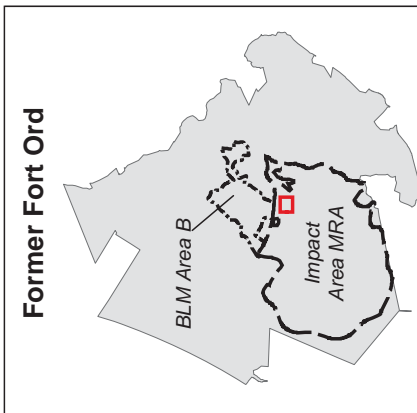
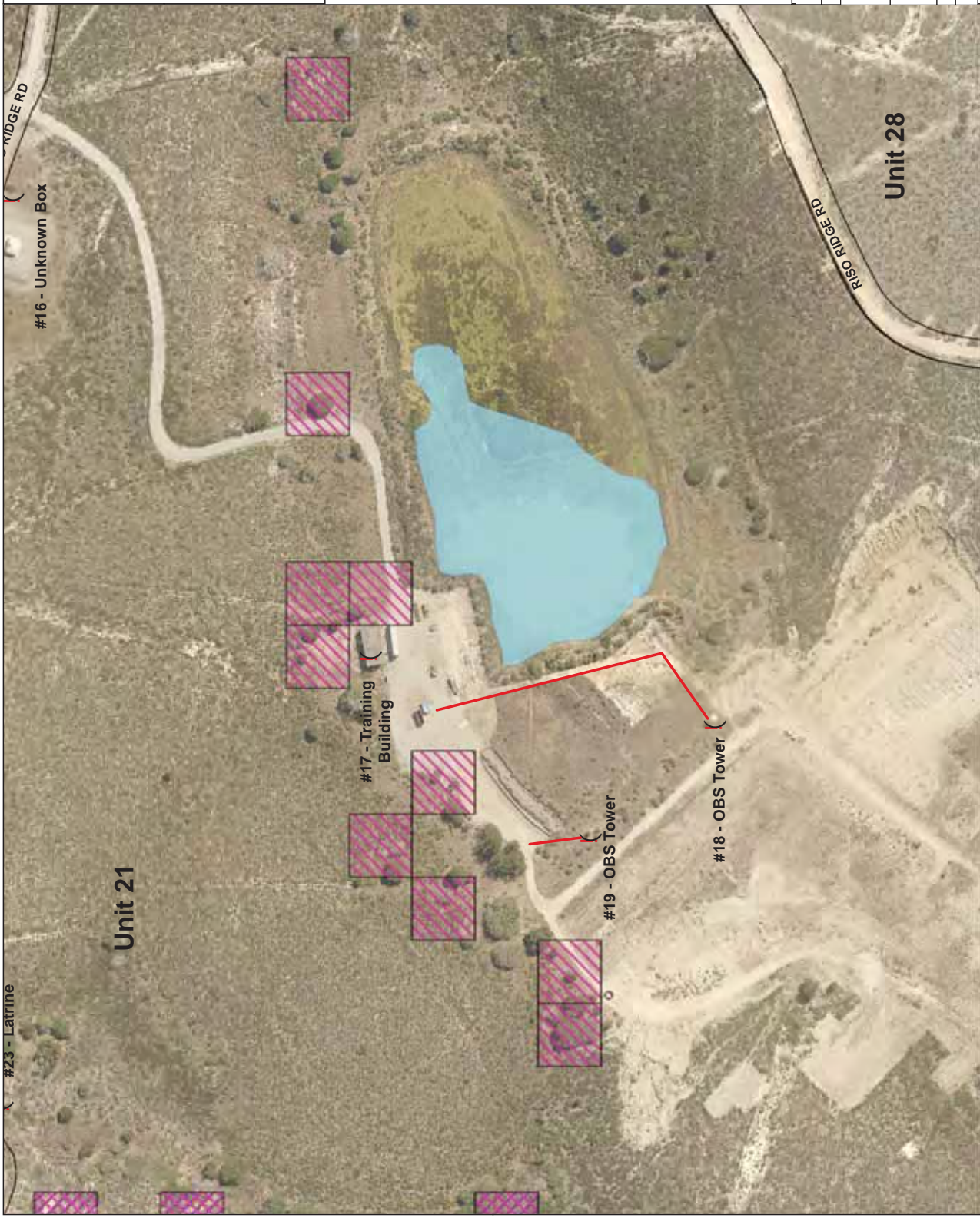


- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
- Monterey spineflower
- Sand gilia
- Seaside bird's-beak
- Spineflower and Sand gilia
- Yadon's Piperia
- Access Routes



U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT	
FORMER FORT ORD	
Building Demolition Biological Resources & Access	

FIGURE NUMBER	PROJECT NUMBER	FILE NAME
	WP001	SEE FOOTER
DATE	SEE FOOTER	
7/26/2018		



- Unit Boundaries
- Buildings Scheduled for Demo
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- Monterey spineflower
- Sand gilia
- Seaside bird's-beak
- Spineflower and Sand gilia
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- Access Routes

0 2 4 8 Miles

U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT	
FORMER FORT ORD	
FIGURE NUMBER	Building Demolition Biological Resources & Access
DATE	PROJECT NUMBER
7/29/2018	WP001
	FILE NAME
	SEE FOOTER



Former Fort Ord



- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
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- Access Routes



0 2 4 8 Miles

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

FIGURE NUMBER: Building Demolition
Biological Resources & Access

DATE	PROJECT NUMBER	FILE NAME
7/26/2018	WP001	SEE FOOTER

Former Fort Ord



- Unit Boundaries
- Buildings Scheduled for Demo
- Ponds
- Monterey spineflower
- Sand gilia
- Seaside bird's-beak
- Spineflower and Sand gilia
- Yadon's Piperia
- Access Routes

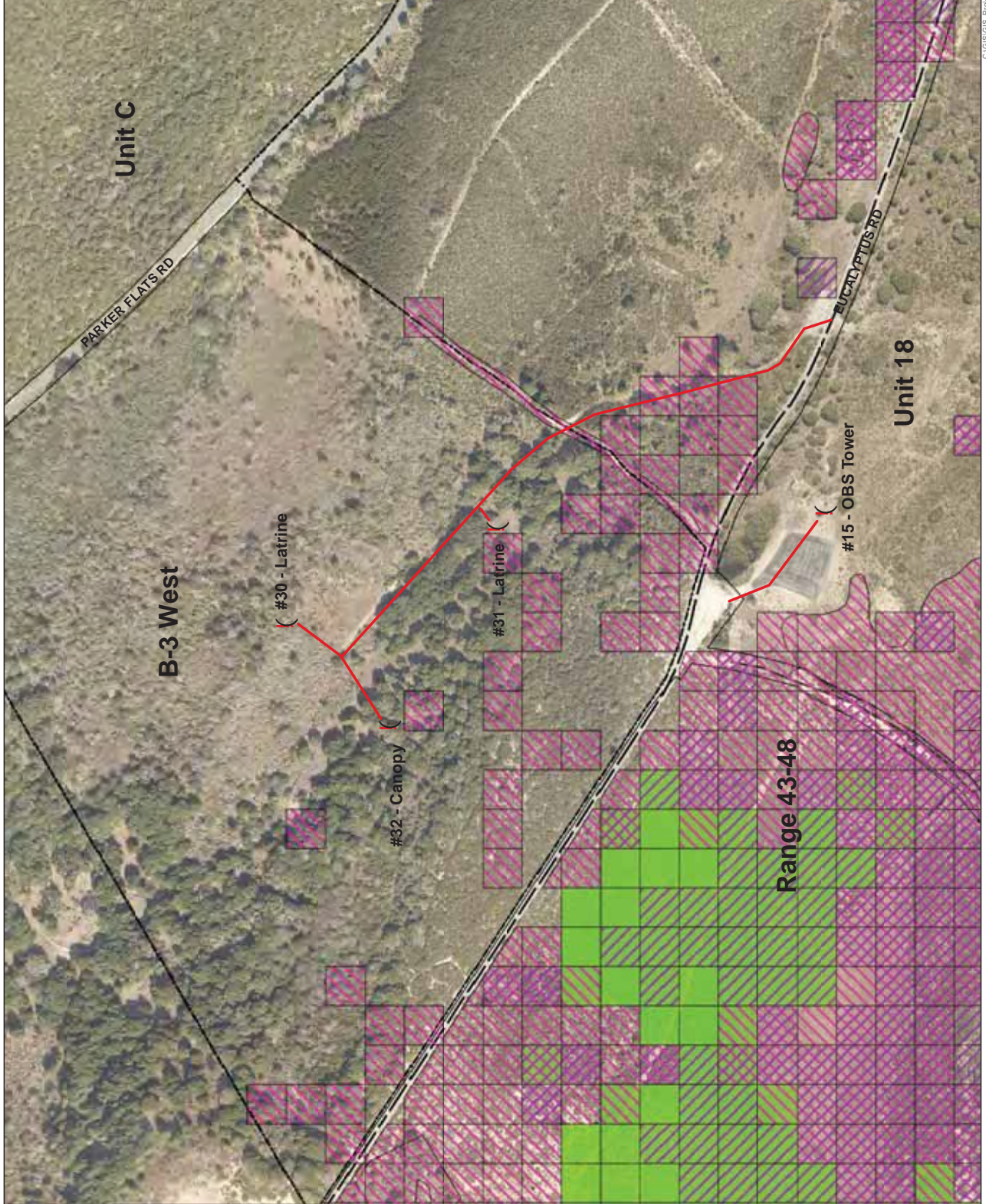


0 2 4 8 Miles

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD	
FIGURE NUMBER	Building Demolition
Biological Resources & Access	

DATE	PROJECT NUMBER	FILE NAME
7/26/2018	WP001	SEE FOOTER



Former Fort Ord



- Unit Boundaries
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- Monterey spineflower
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- Access Routes

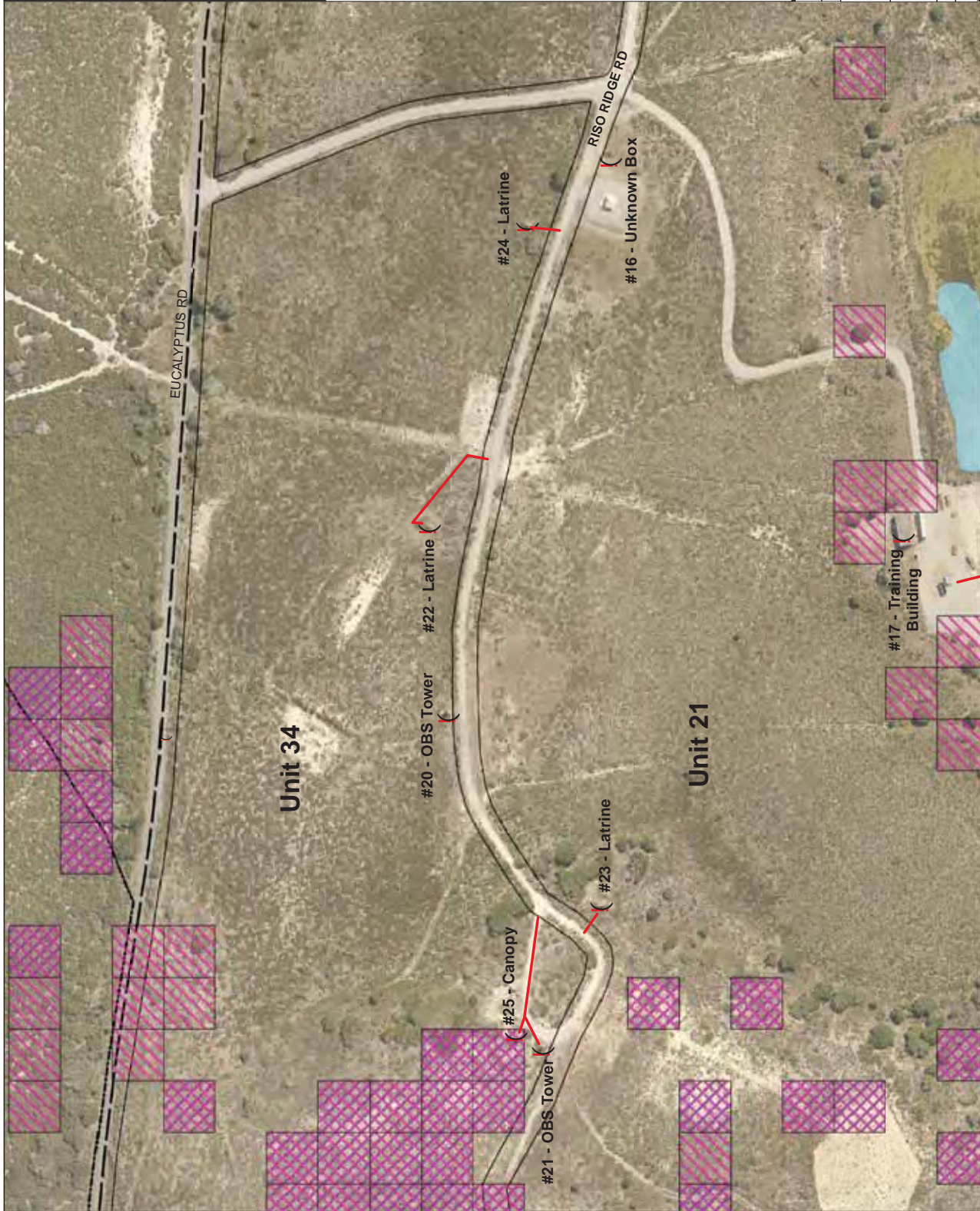


U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

Building Demolition
Biological Resources & Access

DATE	PROJECT NUMBER	FILE NAME
7/26/2018	WP001	SEE FOOTER



FORT ORD SITE HABITAT CHECKLIST

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

Please notify Jami Colley, 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:	Impossible Canyon Road Vegetation Removal	DATE:	8-8-18
WORK TO BE CONDUCTED:	Mechanical and manual vegetation removal for containment lines		

1. LAND USE:	<input 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 checked="" 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), Monterey spineflower, sand gilia
Location:	
Grid Numbers:	

Restrictions:

All Areas Excluding Impossible Canyon Road Realignment Area

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514) 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
- Woodchips shall not be broadcast outside of the fuel breaks into areas known to support Monterey spineflower and/or sand gilia (see Figure 1).

Within Impossible Canyon Road Realignment Area

- No vegetation removal shall occur in the habitat reserve areas from approximately February 1 to May 31 due to the presence of Monterey spineflower and sand gilia (see Figure 2).
- Piling of cut vegetation in areas known to support Monterey spineflower and/or sand gilia (see Figure 2) shall be reduced to the greatest extent feasible. 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.

4. VERNAL POOLS/PONDS PRESENT		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Flagged/Marked
Location:	Unit 11: Ponds 16			
Grid Numbers:				
Work Can Proceed in Pools/Ponds:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Restrictions:				
All Areas				
<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. Vernal ponds shall be staked and flagged for avoidance in coordination with the Project Biologist prior to vegetation removal within the area. Masticators shall not be permitted within 50 feet of the vernal ponds (see Figure 1). Small equipment, such as a bobcat or other manual equipment may be used to remove vegetation within the vernal pond if necessary. 				

5. VEGETATION REMOVAL	
<input type="checkbox"/> No Removal Needed	Location:
<input checked="" type="checkbox"/> Manual Removal Needed	Location: Areas of dense oak woodland, within 50 feet of vernal pond, and areas inaccessible to masticators.
<input checked="" type="checkbox"/> Mechanical Removal Needed	Location:
Vegetation Removal Restrictions:	
All Areas	
<ul style="list-style-type: none"> Masticators shall not be used in dense areas of oak woodland or within 50 feet of 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, excluding the Impossible Canyon Realignment Area. Removal of coast live oak trees smaller than 4" in diameter shall be minimized to the greatest extent feasible. Coast live oak trees may be limbed up to 6 feet to allow access beneath the trees. 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:
All Areas
<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:
All Areas
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. No interior access roads shall be used unless coordinated with the Project Biologist. Heavy equipment transport from site to site must be along existing roads only. Equipment (skid steer) traffic to access stockpiled vegetation shall be minimized to the greatest extent feasible.

8. INVASIVE SPECIES:

Habitat Reserve Areas

- 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:

All Areas

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved 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.

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=pkkrabacher@ddaplanning.com, c=US
Date: 2018.08.08 19:40:46 -07'00'

Date: _____

QC Manager:

Chuck Clyde

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cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2018.08.09 10:50:35 -07'00'

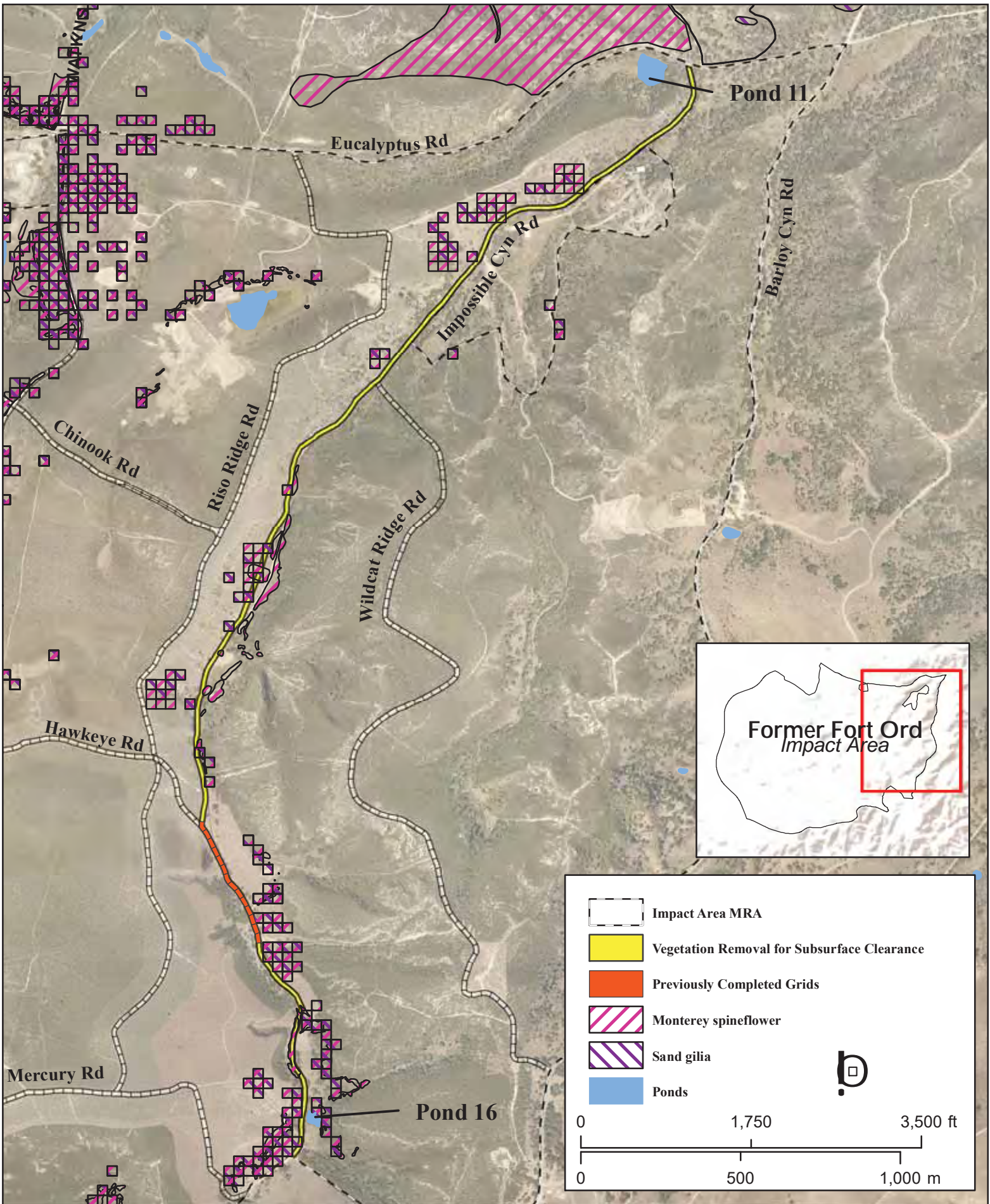
Date: _____

BRAC Biologist:

**KOWALSKI.BARTHOLOM
EW.L.1387978115**

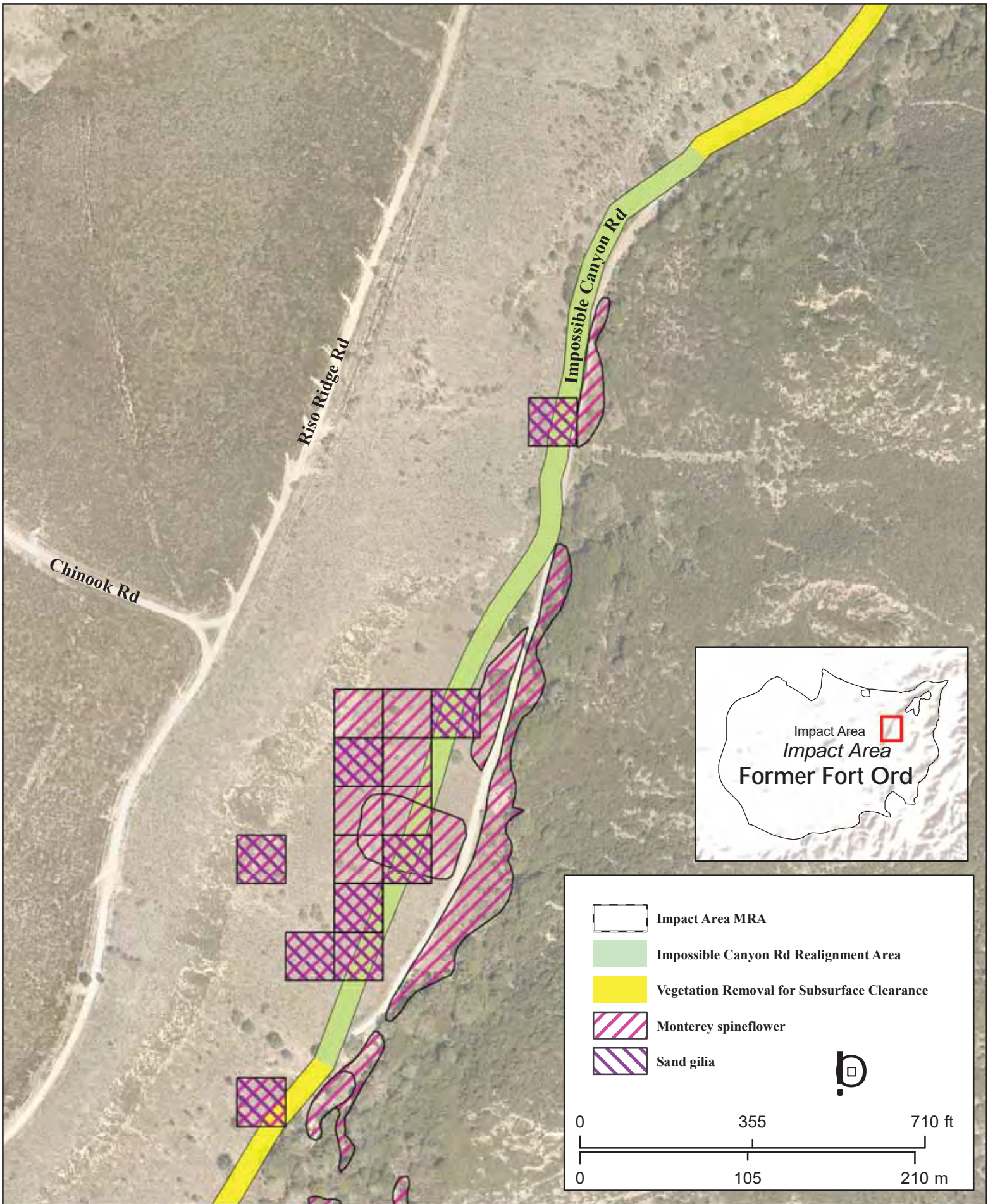
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ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEWL.1387978115
Date: 2018.08.09 09:45:55 -07'00'

Date: _____



Impossible Canyon Road
Former Fort Ord, California

Figure 1
Impossible Canyon Road



Impossible Canyon Road
Former Fort Ord, California

Figure 2
Impossible Canyon Road Realignment
Biological Constraints

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s) Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514), *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:	Trail 62 within BLM Area B Unit B-2A	DATE:	8-22-18
WORK TO BE CONDUCTED:	Subsurface Investigation		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve <input checked="" type="checkbox"/> Development Area <input type="checkbox"/> Other (specify):		
2. LAND OWNER:	<input type="checkbox"/> Army	Location:	
	<input checked="" 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), HMP shrubs		
Location:			
Grid Numbers:			

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- 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 shall be contacted to relocate the CTS prior to work in the immediate area.
- Report all encounters of BLL and follow the BLL encounter protocol

4. VERNAL POOLS/PONDS PRESENT	<input type="checkbox"/> Yes <input 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:	<ul style="list-style-type: none"> • No work shall occur within the adjacent vernal pond. 		

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:
<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:
<ul style="list-style-type: none"> • Vehicle access should be limited to existing roads only. • Heavy equipment transport from site to site must be along 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 approved 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: _____ **Date:** _____

QC Manager: _____ **Date:** _____

BRAC Biologist: _____ **Date:** _____

FORT ORD SITE HABITAT CHECKLIST

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

Please notify Project Biologist(s), Jami Davis (925-783-3112) or Patric Krabacher (970-216-3514), *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:	Fuel Breaks along Watkins Gate, Orion, Hawkeye, Nowhere, Mercury, and Riso Ridge Roads	DATE:	8/22/18
WORK TO BE CONDUCTED:	Subsurface QC investigation within fuel breaks – analog removal and advanced classification		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify): Although work is within a Habitat Reserve area, the road and fuel break portion are considered part of BLM's 2% development allowance		
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
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Species:	CTS, BLL, Monterey spineflower, sand gilia, Yadon's piperia, Seaside bird's-beak, 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), Patric Krabacher (970-216-3514), or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered. 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 shall be contacted to relocate the CTS prior to work in the immediate area. Report all encounters of BLL and follow the BLL encounter protocol. Following advanced classification, the Project Biologist shall review the target locations determine if Yadon's piperia may be impacted. If the Project Biologist identifies potential impacts to Yadon's piperia, an effort shall be made to preserve the plants according to the methodology identified above.
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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:	
<ul style="list-style-type: none"> • Heavy equipment should minimize topsoil disturbance as much as possible and avoid making hard turns. • Excavation 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. • To the greatest extent feasible, vehicles should avoid parking and driving within bare areas of the fuel breaks where erosion is already occurring. 	

7. SITE ACCESS:	
<ul style="list-style-type: none"> • 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. If equipment transport is required along Hawkeye Road, the fuelbreak on the north side of the road (within Unit 15) shall be used to avoid the vernal pool in Unit 11. 	

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:

Jami Colley

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m

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cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2018.08.28 10:50:11 -07'00'

Date: _____

QC Manager:

KOWALSKI.BARTHOLOMEW.L.
1387978115

Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2018.08.22 15:38:43 -07'00'

Date: _____

BRAC Biologist:

Date: _____



Subsurface Removal Approach

- Advanced Classification (25.3 acres)
- Analog Removal (0.2 acres)
- Current Impact Area MRA Fuel Break System
- Impact Area MRA Unit
- Impact Area MRA



Technical Information Paper
 Supplemental Quality Control Investigation
 Impact Area Munitions Response Area Permanent Fuel Breaks
 Former Fort Ord, California

Figure 11
 Additional Subsurface Removal Approach

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s), Jami Davis (925-783-3112) or Patric Krabacher (970-216-3514), *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-27A	DATE:	8-22-18
WORK TO BE CONDUCTED:	Placement of Mulch within Eroded Areas		

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:	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 Colley (925-783-3112), Patric Krabacher (970-216-3514), 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. • Mulch should be applied directly to the site and shall not be stockpiled to avoid impacts to CTS. If stockpiling of mulch is necessary, mulch should be in rows no higher than 8 feet and the base of piles should not be over 16 feet and silt fencing shall be installed around the stockpile. 			

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:

- Small equipment (e.g. skid steer) or hand tools shall be used to place the mulch to avoid damaging existing vegetation within or adjacent to the restoration area.

7. SITE ACCESS:

- Vehicle access should be limited to existing roads only.
- The site shall be accessed from foul bore road.



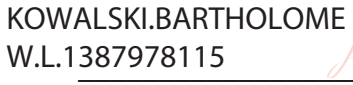
8. INVASIVE SPECIES:

- 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:

- No mulch shall be placed in areas supporting wetland plants. These areas shall be flagged by the Project Biologist prior to the placement of mulch.
- 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:	<p>Jami Colley</p>  <p>Digitally signed by Jami Colley DN: cn=Jami Colley, o=Denise Duffy & Associates, Inc., ou, email=jdavis@ddaplanning.com, c=US Date: 2018.08.23 11:47:35 -07'00'</p>	Date: _____
QC Manager:	<p>Chuck Clyde</p>  <p>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2018.08.23 11:44:26 -07'00'</p>	Date: _____
BRAC Biologist:	<p>KOWALSKI.BARTHOLOME W.L.1387978115</p>  <p>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: 2018.08.22 15:15:12 -07'00'</p>	Date: _____



Apply mulch in shown areas in at HA27A. Access site from the south avoiding restoration area.

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s) Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514), *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:	Oscar & Felix Roads (Range 43-48)	DATE:	8-28-18
WORK TO BE CONDUCTED:	New fence installation along the northern border		

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 type="checkbox"/> Flagged/Marked
Species:	California Tiger Salamander (CTS), Black Legless Lizard (BLL), HMP shrubs, Monterey spineflower, Sand gilia			
Location:				
Grid Numbers:				
Restrictions:				
<ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), 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. Topsoil from the newly graded areas shall be placed on top of the abandoned portions of the existing road alignment in order to facilitate restoration and revegetation and to preserve the seedbank of any HMP species present. 				

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	
Restrictions:				

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

Vegetation Removal Restrictions:

- None.

6. EROSION CONCERNS/SITE RESTORATION:

- 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 only, except within the new road alignments.
- Heavy equipment transport from site to site must be along fuelbreaks; roads may be used when necessary.

8. INVASIVE SPECIES:

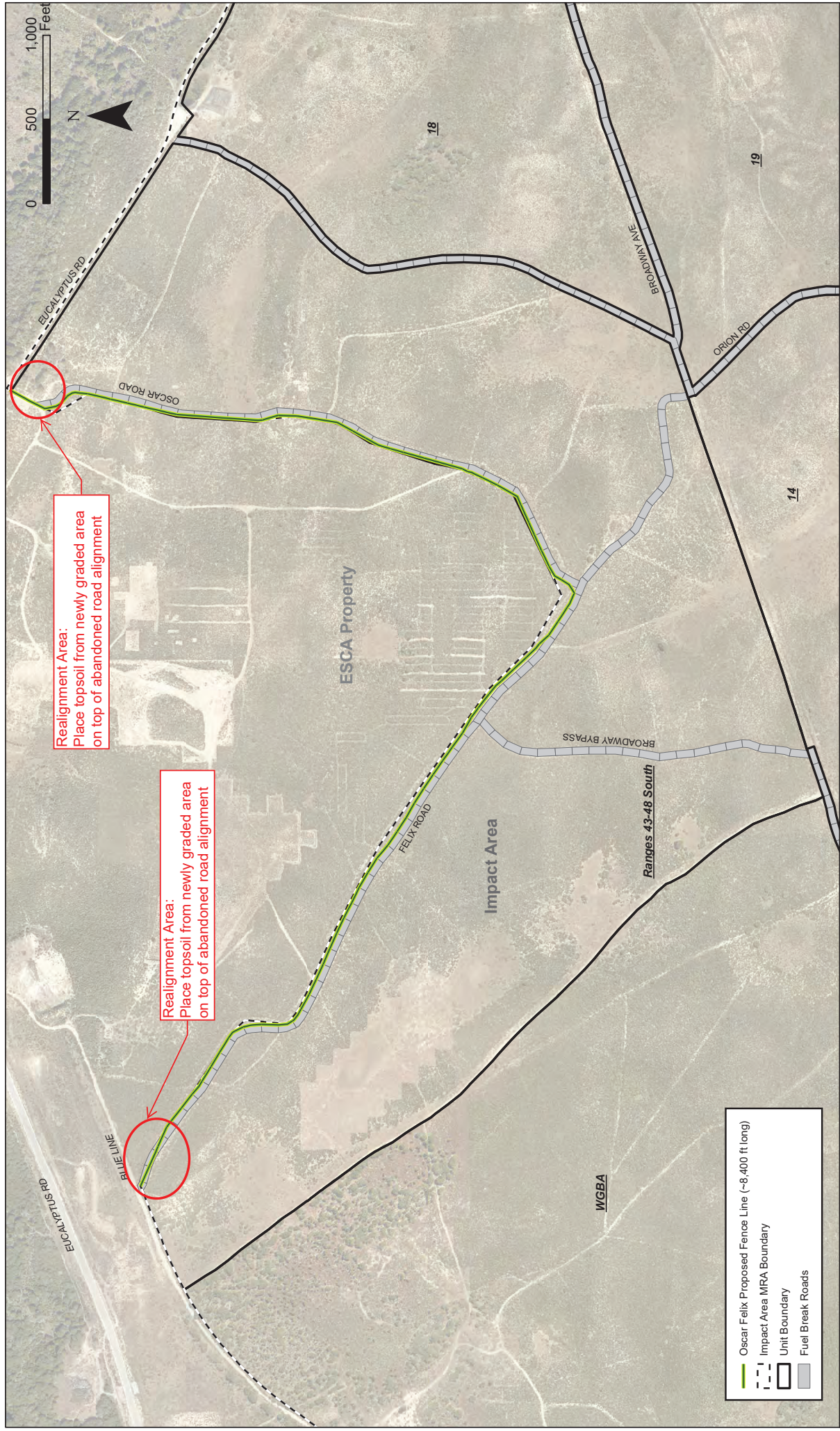
- All equipment coming from off-site must be pressure-washed prior to entering habitat reserve areas to reduce the potential for spread of invasive plant species.

9. ADDITIONAL SITE CONCERNS:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved 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:	<p>Jami Colley cclyde@gilbaneco.com</p>	<p>Digitally signed by Jami Colley DN: cn=Jami Colley, o=Denise Duffy & Associates, Inc., ou, email=jdavis@ddaplanning.com, c=US Date: 2018.08.28 09:42:27 -07'00'</p>	Date: _____
QC Manager:	<p>neco.com</p>	<p>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2018.08.28 10:48:49 -07'00'</p>	Date: _____
BRAC Biologist:	<p>KOWALSKI.BARTHOLOMEW.L 1387978115</p>	<p>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: 2018.08.28 10:15:39 -07'00'</p>	Date: _____



Realignment Area:
Place topsoil from newly graded area
on top of abandoned road alignment

Realignment Area:
Place topsoil from newly graded area
on top of abandoned road alignment

- Oscar Felix Proposed Fence Line (~8,400 ft long)
- Impact Area MRA Boundary
- Unit Boundary
- Fuel Break Roads



Former Fort Ord
Ranges 43-48 South

Figure 1
Fence Line
Ranges 43-48 South



Denise Duffy & Associates, Inc.

PLANNING AND ENVIRONMENTAL CONSULTING

MEMORANDUM

Date: January 29, 2019

From: Amendment to the Oscar and Felix Roads (Range 43-48) Fenceline Habitat Checklist
(Dated 8-28-18)

The Oscar and Felix Roads (Range 43-48) Fenceline Habitat Checklist (HCL) will be amended to include approximately 0.02 acre of subsurface clearance within the designated fuelbreak. As identified in the HCL, although work is within a Habitat Reserve area, the road and fuel break portion are considered part of BLM's 2% development allowance. As such, measures identified in the HCL will avoid or reduce potential impacts and no additional measures are necessary.

Project Biologist:

Jami Colley

cclyde@gilbaneco.com

Digitally signed by cclyde@gilbaneco.com
DN: cn=cclyde@gilbaneco.com
Date: 2019.01.29 12:57:55 -08'00'

Date: 1-29-19

QC Manager:

KOWALSKI.BARTHOLO
MEW.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: 2019.01.29 11:42:56 -08'00'

Date: _____

BRAC Biologist:

Date: _____

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s) Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514), *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:	BLM Area B-3 East and West Trail Realignment and Subsurface Investigations (Trails 16, 56, 57, and 65)	DATE:	9-20-18
WORK TO BE CONDUCTED:	Subsurface Investigation		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve	<input type="checkbox"/> Development Area	<input type="checkbox"/> Other (specify):
2. LAND OWNER:	<input type="checkbox"/> Army	Location:	
	<input checked="" 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), sand gilia, Monterey spineflower, HMP shrubs		
Location:			
Grid Numbers:			

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- 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 shall be contacted to relocate the CTS prior to work in the immediate area.
- No work shall occur from approximately February 1 to May 31 due to the presence of Monterey spineflower or sand gilia (see attached maps).
- When excavating within areas containing HMP annual plant species (see attached maps), 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.
- Report all encounters of BLL and follow the BLL encounter protocol

4. VERNAL POOLS/PONDS PRESENT		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Flagged/Marked
Location:	Pond 73, Machine Gun Flats, and Pond 60 are adjacent to the work areas			
Grid Numbers:				
Work Can Proceed in Pools/Ponds:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Restrictions:				
<ul style="list-style-type: none"> No work shall occur within the adjacent vernal ponds. 				

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:
<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:
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. Heavy equipment transport from site to site must be along 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 approved 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.

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

Project Biologist:

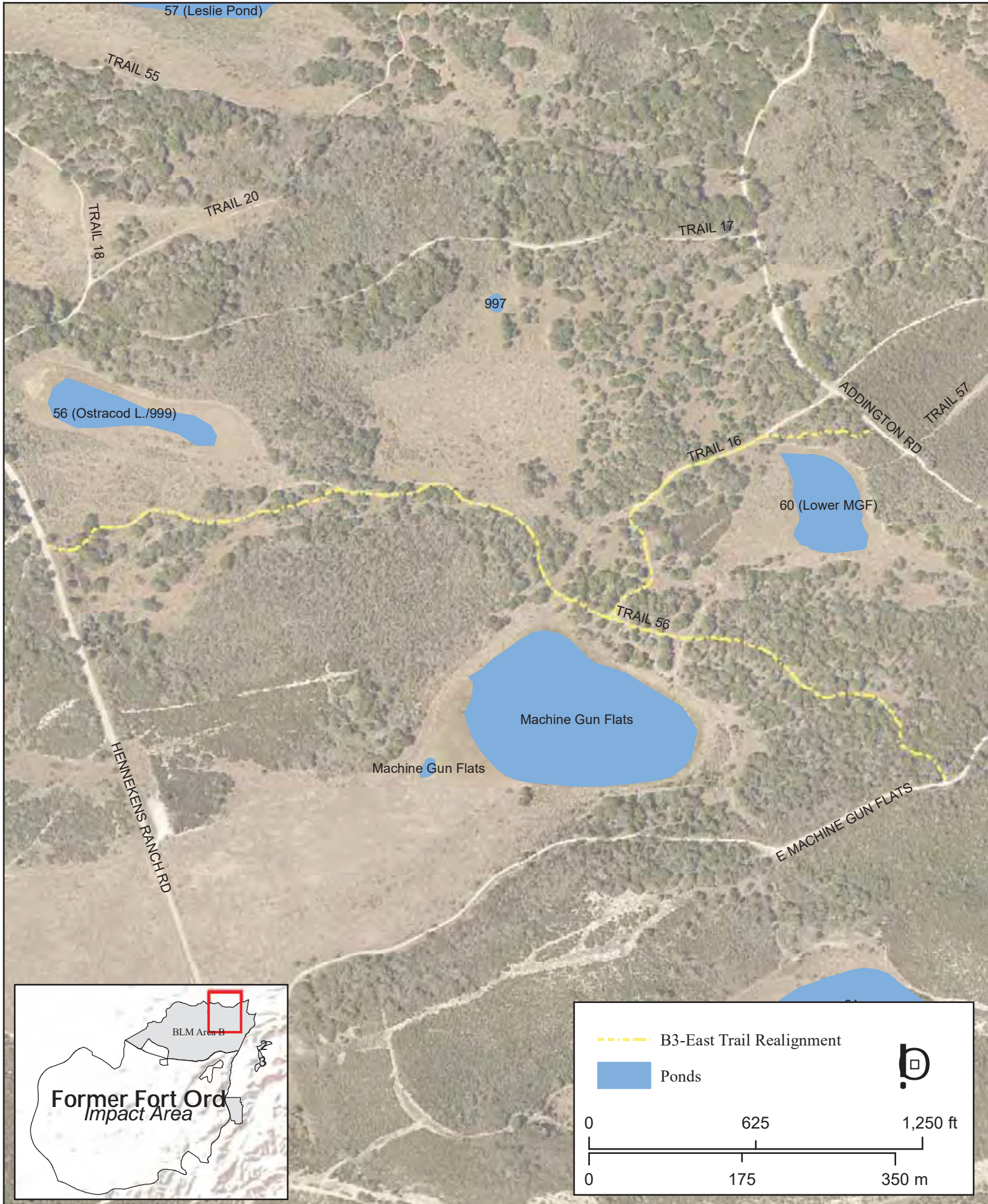
Jami Colley **Date:** 9-20-18
cclyde@gilbane Digitally signed by
cclyde@gilbaneco.com

QC Manager:

CO.COM **Date:** _____
DN: cn=cclyde@gilbaneco.com
Date: 2018.09.24 08:01:54 -07'00'

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.13879 Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
78115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=CONTRACTOR,
cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2018.09.21 10:24:15 -07'00' **Date:** _____



BLM Area B3 East and West Trail Realignment
Fort Ord, California

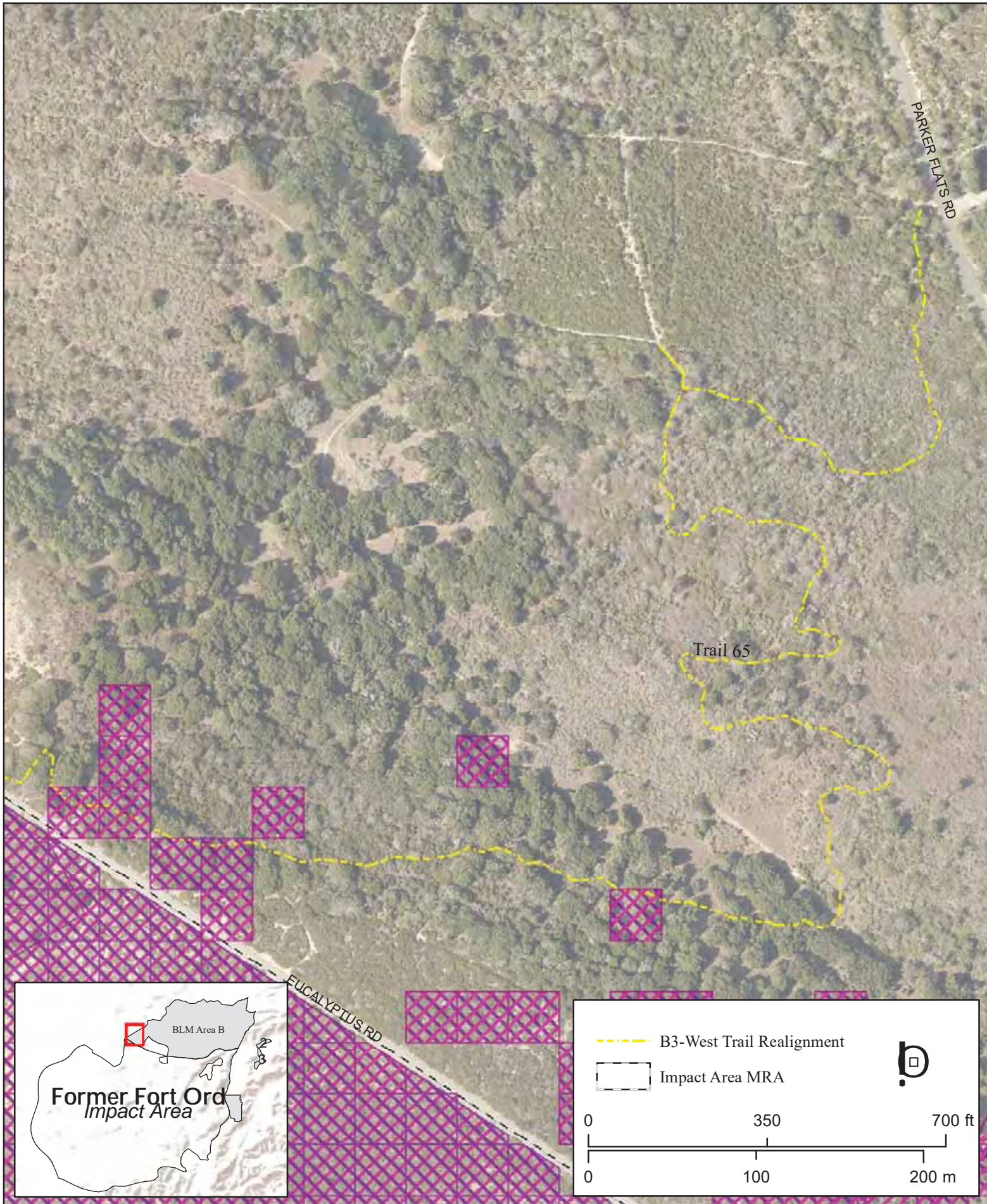
**Figure
1**





BLM Area B3 East and West Trail Realignment
Fort Ord, California

**Figure
2**



BLM Area B3 East and West Trail Realignment
Fort Ord, California

**Figure
3**

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s) Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514), *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 3 North, 3 South, 16, 35, 39, 40 North, 40 South, 41, 42, 43, 44, 60, 61, and 73	DATE:	10-9-18
WORK TO BE CONDUCTED:	Subsurface 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:	Unit 13
	<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:	California Tiger Salamander (CTS), Contra Costa Goldfields		
Location:	CTS: Pond 16, 41, 42, and 60; Goldfields: Ponds 3 North and 61		
Grid Numbers:			
Restrictions:			
<ul style="list-style-type: none"> • CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), 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 			

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes <input 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
Restrictions:			
<ul style="list-style-type: none"> • Work shall be conducted as described in the SOP. • No work shall occur while the ponds hold water or are saturated, as determined by the Project Biologist. • If work occurs within periods of rain, the Project Biologist shall complete surveys following rain events to determine if work can proceed. 			

FORT ORD SITE HABITAT CHECKLIST

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

Please notify the Project Biologist(s) Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514), *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:	BLM Area B Unit C Trail 70	DATE:	11-5-18
WORK TO BE CONDUCTED:	Subsurface Investigation		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve	<input checked="" type="checkbox"/> Development Area	<input type="checkbox"/> Other (specify):
2. LAND OWNER:	<input type="checkbox"/> Army	Location:	
	<input checked="" 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), HMP shrubs
Location:	
Grid Numbers:	

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- 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 shall be contacted to relocate the CTS prior to work in the immediate area.
- HMP grids in the adjacent BLM Area B Unit B shall be avoided (see attached map).
- Report all encounters of BLL and follow the BLL encounter protocol

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Flagged/Marked
Location:	Pond 35		
Grid Numbers:			
Work Can Proceed in Pools/Ponds:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Restrictions:			
<ul style="list-style-type: none"> • No work shall occur within the adjacent vernal pond. 			

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:
<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.

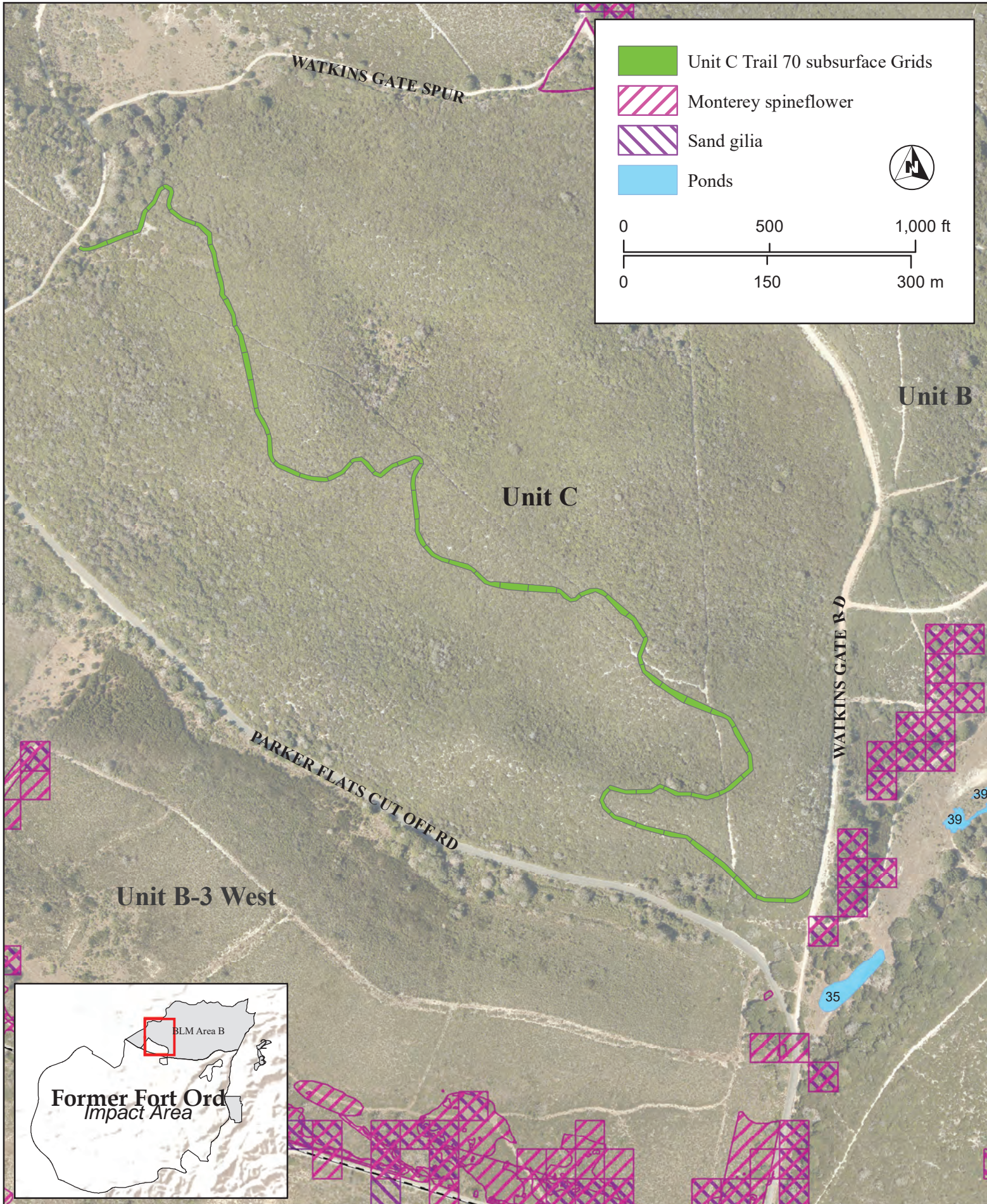
7. SITE ACCESS:
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. Heavy equipment transport from site to site must be along existing roads only.

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 approved 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.

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

Project Biologist:	 Patric Krabacher <small>Digitally signed by Patric Krabacher DN: cn=Patric Krabacher, o=Denise Duffy and Associates, Inc., ou, email=pkkrabacher@ddaplanning.com, c=US Date: 2018.11.05 14:54:41 -08'00'</small>	Date: _____
QC Manager:	 cclyde@gilbaneco.com <small>Digitally signed by cclyde@gilbaneco.com DN: cn=cclyde@gilbaneco.com Date: 2018.11.05 16:31:44 -08'00'</small>	Date: _____
BRAC Biologist:	 KOWALSKI.BARTHOLOME W.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: 2018.11.05 16:06:34 -08'00'</small>	Date: _____



BLM Area B Unit C Trail 70 Subsurface
Fort Ord, California

Figure
1



Denise Duffy & Associates, Inc.

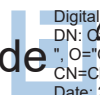

PLANNING AND ENVIRONMENTAL CONSULTING

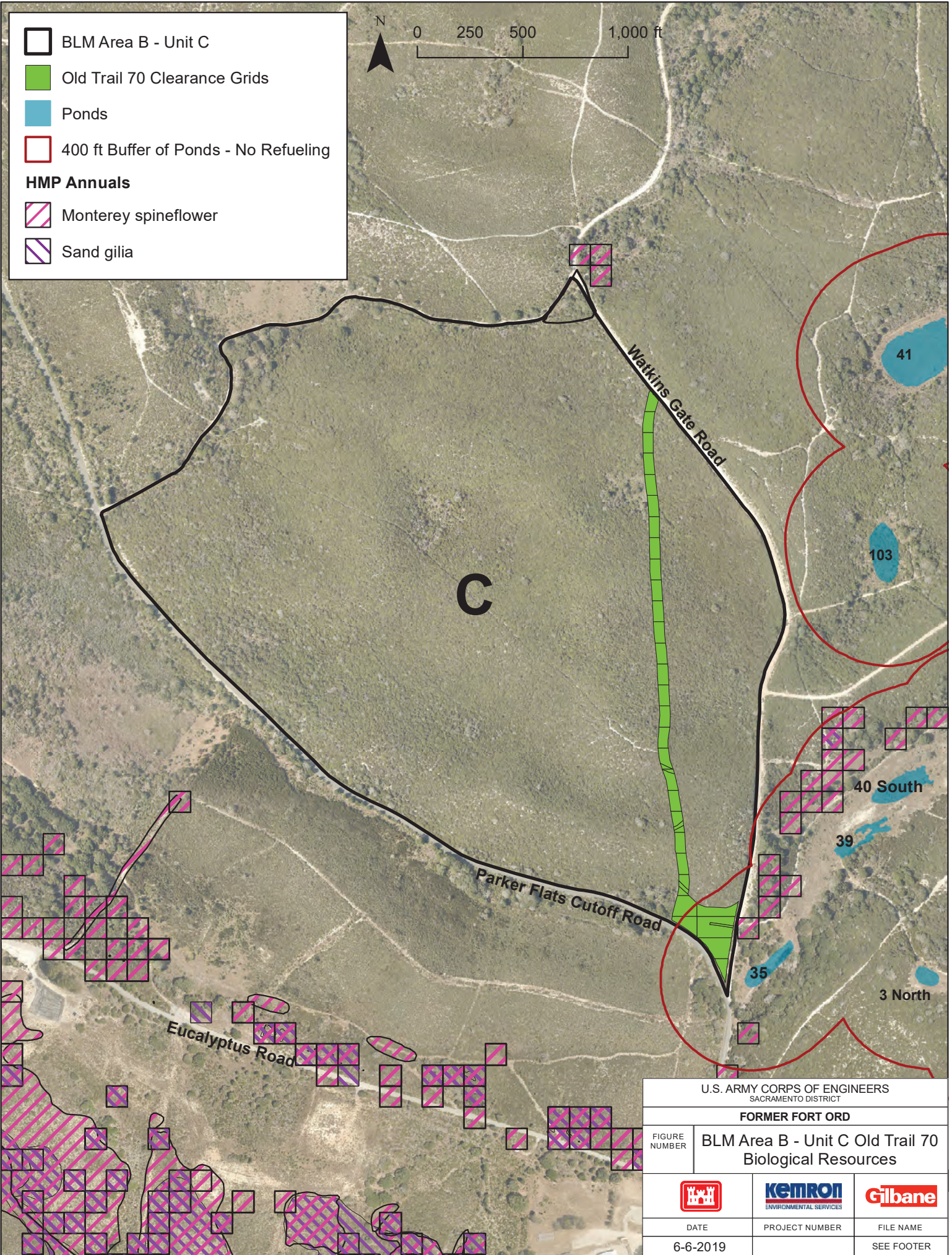
MEMORANDUM

Date: June 6, 2019

From: Amendment to the BLM Area B Unit C Trail 70 Subsurface Investigation Habitat Checklist (Dated 11-5-18)

The BLM Area B Unit C Trail 70 Subsurface Investigation Habitat Checklist (HCL) will be amended to include subsurface work within the alignment of the Old Trail 70, as shown on the attached map. No additional measures beyond those identified in the HCL are necessary.

Project Biologist:	<u><i>Jami Colley</i></u>	Date: <u>6-6-19</u>
QC Manager:	 <u>Charles Clyde</u>	Date: _____
BRAC Biologist:	 <u>KOWALSKI.BARTHOLOMEW.L.1387978115</u> <u>EW.L.1387978115</u>	Date: _____



BLM Area B - Unit C
 Old Trail 70 Clearance Grids
 Ponds
 400 ft Buffer of Ponds - No Refueling
HMP Annuals
 Monterey spineflower
 Sand gilia



U.S. ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT		
FORMER FORT ORD		
FIGURE NUMBER	BLM Area B - Unit C Old Trail 70 Biological Resources	
DATE	PROJECT NUMBER	FILE NAME
6-6-2019		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 (29.6 ac) and WGBA (1.8 ac)	DATE:	1-3-19
WORK TO BE CONDUCTED:	Vegetation removal and shallow (up to 6 inches) subsurface investigation using a Hoe-matic		

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:

- 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), Patric Krabacher (970-216-3514) or Bart Kowalski (832-595-5569) to document, handle, or relocate CTS if encountered.
- No work shall occur in areas known to support Monterey spineflower or sand gilia (all areas within Range 48) 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).
- If excavation deeper than 6 inches or excavation using shovels or excavators is necessary, the top 2-3 inches of the topsoil for all investigations within Range 48 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.

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:			

Former Fort Ord



- Work Area
- Restoration Areas
- Impact Area MRA
- Unit Boundaries
- Seaside bird's-beak
- Monterey spineflower
- Sand gilia
- Spineflower and Sand gilia



U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

FORMER FORT ORD

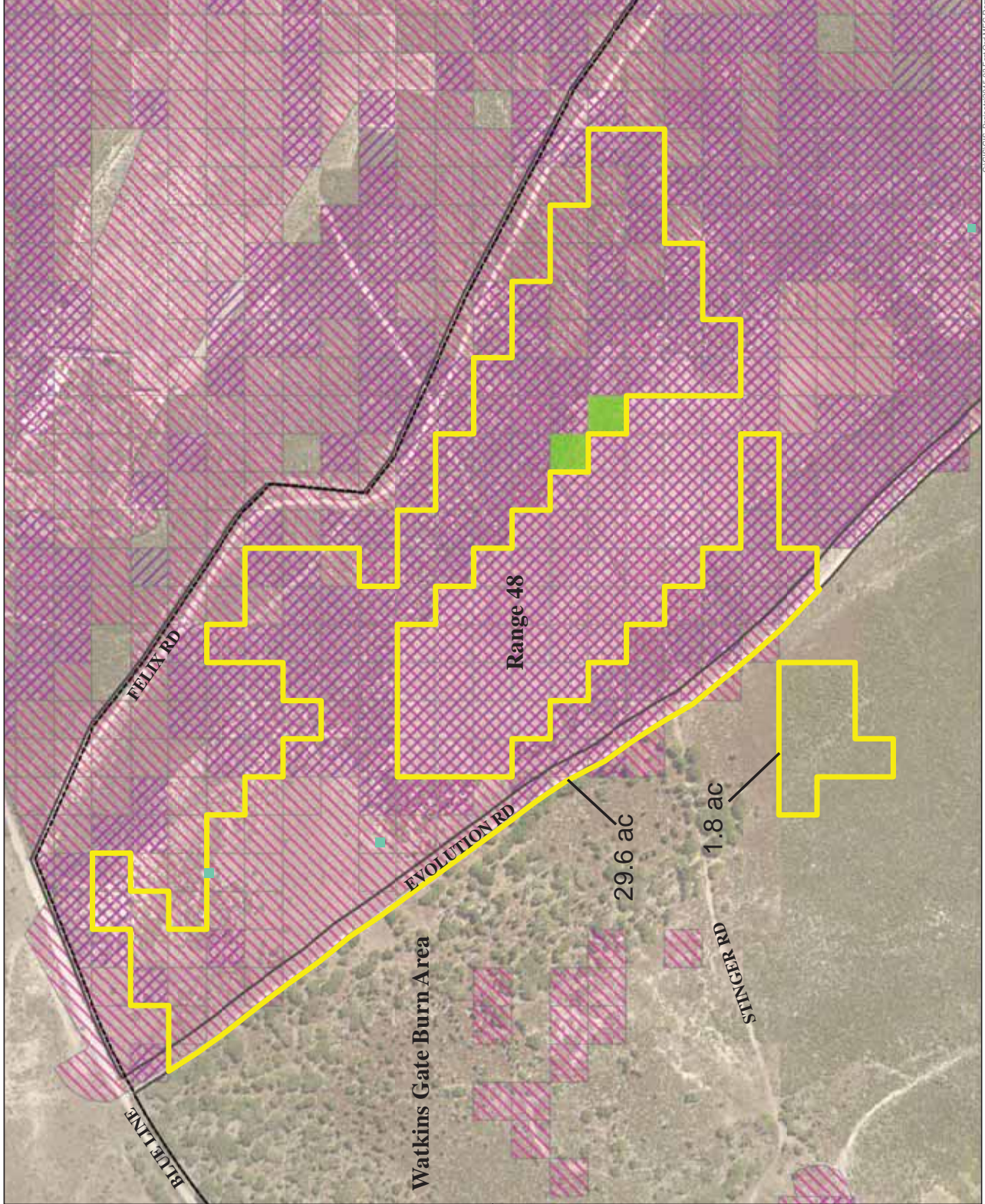
Range 48 and WGBA Subsurface Clearance
Biological Constraints

FIGURE NUMBER	1
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DATE	1/2/2019
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PROJECT NUMBER	WP001
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FILE NAME	SEE FOOTER
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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 Colley, 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:	BLM Area B Unit A Trails	DATE:	1-11-19
WORK TO BE CONDUCTED:	Mechanical and manual vegetation removal and surface 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 type="checkbox"/> Army	Location:	
	<input checked="" 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), HMP shrubs, and Monterey spineflower (adjacent)		
Location:			
Grid Numbers:			

Restrictions:	<ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), 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 known HMP grids adjacent to the project site (see Figure 1). Mature Toro manzanitas (approximately 6 feet in height or taller) that provide an important seed source for the species shall be retained at intervals of approximately 50-feet. Masticator operators shall receive additional training from the Project Biologist in Toro manzanita identification. 		
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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:	Ponds 41, 44, and 103			
Grid Numbers:				
Work Can Proceed in Pools/Ponds:		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Restrictions:				
<ul style="list-style-type: none"> Masticators shall not be permitted within 50 feet of the ponds 41 and 44 (see attached figure). Small equipment, such as a bobcat or other manual equipment may be used to remove vegetation adjacent to the vernal ponds if necessary. No work shall occur within the vernal ponds adjacent to Trail 62 and Trail 65 until the ponds have dried, as determined by the Project Biologist (see attached figure). No subsurface removal shall occur within the ponds as this work has already been completed The pond shall be staked and flagged for avoidance in coordination with the Project Biologist prior to vegetation removal within the area. 				

5. VEGETATION REMOVAL	
<input type="checkbox"/> No Removal Needed	Location:
<input checked="" type="checkbox"/> Manual Removal Needed	Location: Areas of dense oak woodland, within 50 feet of vernal pond, 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 within 50 feet of the vernal pond. 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. Removal of coast live oak trees smaller than 4" in diameter shall be minimized to the greatest extent feasible. Coast live oak trees may be limbed up to 6 feet to allow access beneath the trees. 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:
<ul style="list-style-type: none"> Vehicle access should be limited to existing roads only. Heavy equipment transport from site to site must be along existing roads only. Equipment (skid steer) traffic to access stockpiled vegetation shall be minimized to the greatest extent feasible.

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:

- Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved 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.

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

Project Biologist:

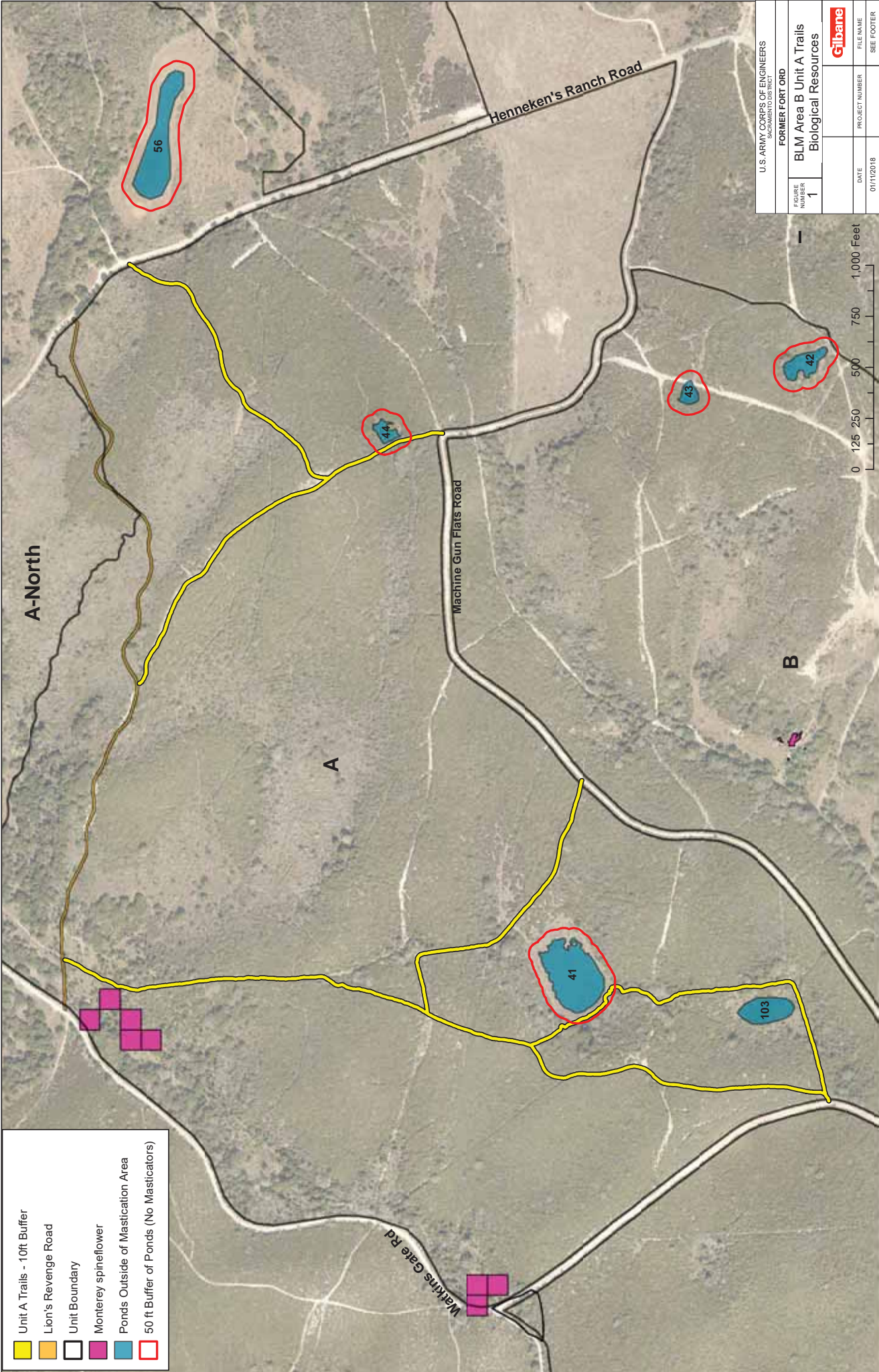
_____ *Jami Colley* _____ **Date:** 1-11-19
cclyde@gilbanec Digitally signed by
cclyde@gilbaneco.com

QC Manager:

o.com _____ **Date:** _____
DN: cn=cclyde@gilbaneco.com
Date: 2019.01.12 16:54:39 -08'00'

BRAC Biologist:

KOWALSKI.BARTHOLOMEW.L.1 Digitally signed by KOWALSKI.BARTHOLOMEW.L.1387978115
387978115 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=CONTRACTOR, cn=KOWALSKI.BARTHOLOMEW.L.1387978115
Date: 2019.01.11 16:53:00 -08'00' _____ **Date:** _____



- Unit A Trails - 10ft Buffer
- Lion's Revenge Road
- Unit Boundary
- Monterey spineflower
- Ponds Outside of Mastication Area
- 50 ft Buffer of Ponds (No Masticators)

U.S. ARMY CORPS OF ENGINEERS MAGNIFICENT RIVER MAGNIFICENT RIVER	
FORMER FORT ORD	
PROJECT NUMBER 1	FILE NAME BLM Area B Unit A Trails Biological Resources
DATE 01/11/2018	PROJECT NUMBER SEE FOOTER
Gilbane	

FORT ORD SITE HABITAT CHECKLIST

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

Please notify Jami Colley, 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:	BLM Area B Unit B Trails	DATE:	8-12-19
WORK TO BE CONDUCTED:	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 type="checkbox"/> Army	Location:	
	<input checked="" 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 Monterey spineflower		
Location:			
Grid Numbers:			

Restrictions:

- CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), 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 from approximately February 1 to June 1 (see attached map).
- For investigations within areas known to support Monterey spineflower (see attached map), 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 workday and rain is forecasted for the night, the pile shall be covered to prevent it from washing away.

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked		
Location:	Pond 43		
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 adjacent to trails (see attached figure). 		

5. VEGETATION REMOVAL	
<input 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:
<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:
<ul style="list-style-type: none"> 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.


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.

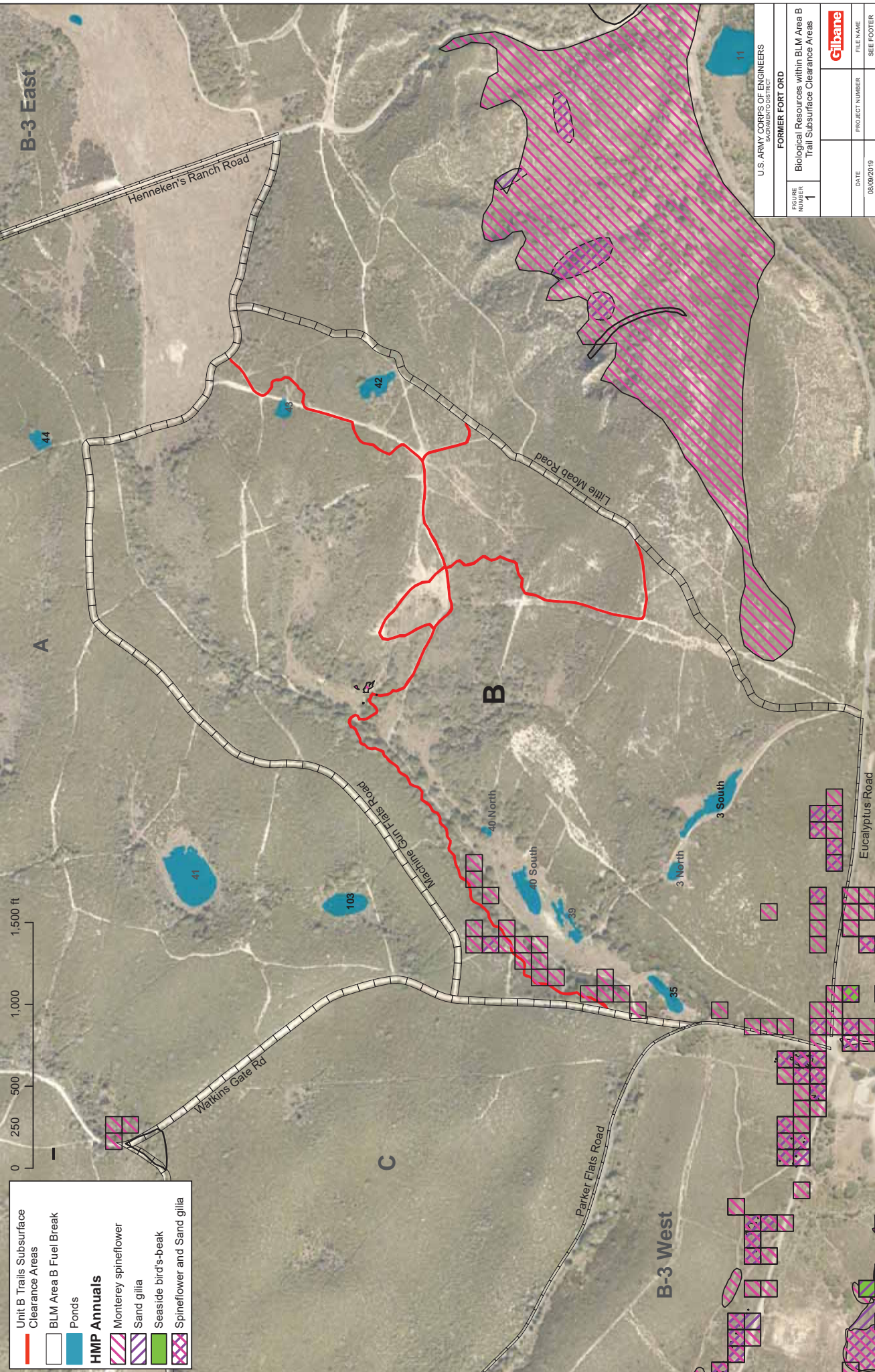
9. ADDITIONAL SITE CONCERNS:
<ul style="list-style-type: none"> Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews. No refueling shall occur within 400 feet of the vernal ponds.

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

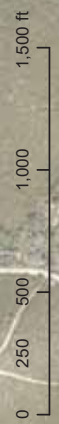
Project Biologist:  Patric Krabacher Date: 8/12/19

QC Manager: Charles Clyde  Date: _____

BRAC Biologist: KOWALSKI.BARTHOLOMEW.L.1387978115  Date: 2019.08.12 11:58:13 -07'00' Date: _____



Unit B Trails Subsurface Clearance Areas
 BLM Area B Fuel Break
 Ponds
HMP Annuals
 Monterey spinyflower
 Sand gilia
 Seaside bird's-beak
 Spineflower and Sand gilia



U.S. ARMY CORPS OF ENGINEERS WASH DC DISTRICT	
FORMER FORT ORD	
PROJECT NUMBER	FILE NAME
DATE	SEE FOOTER
08/09/2019	

Biological Resources within BLM Area B
 Trail Subsurface Clearance Areas
 1

FORT ORD SITE HABITAT CHECKLIST

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

Please notify Jami Colley (925-783-3112) or Patric Krabacher (970-216-3514) Project Biologists, *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:	BLM Area B Unit B-2A	DATE:	9-11-19
WORK TO BE CONDUCTED:	Subsurface Investigation in future BLM restoration areas		

1. LAND USE:	<input checked="" type="checkbox"/> Habitat Reserve <input type="checkbox"/> Development Area <input type="checkbox"/> Other (specify):		
2. LAND OWNER:	<input type="checkbox"/> Army	Location:	
	<input checked="" 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), HMP shrubs, Seaside bird's-beak (in vicinity)		
Location:	See attached map		
Grid Numbers:			
Restrictions:			
<ul style="list-style-type: none"> CTS encounters must be reported immediately to field supervisor and Project Biologist. Contact Jami Colley (925-783-3112), Patric Krabacher (970-216-3514), 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 Seaside bird's-beak (see attached map). Toro manzanitas that were left standing shall be avoided to the greatest extent feasible. 			

4. VERNAL POOLS/PONDS PRESENT	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Flagged/Marked		
Location:	Pond 74 (in vicinity)		
Grid Numbers:			
Work Can Proceed in Pools/Ponds:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Restrictions:			
<ul style="list-style-type: none"> No work shall occur within the adjacent vernal pond. 			

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:
<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. • BLM Restoration Areas outside of the work area, including the area between the work sites, shall not be used as regular tracking/access routes (see attached map).

7. SITE ACCESS:
<ul style="list-style-type: none"> • Vehicle access should be limited to existing roads only. • Access to the work areas shall be from East Machine Gun Flats and Trail 62. BLM Restoration Areas outside of the work area, including the area between the work sites, shall not be used as regular tracking/access routes (see attached map). • Heavy equipment transport from site to site must be along 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.

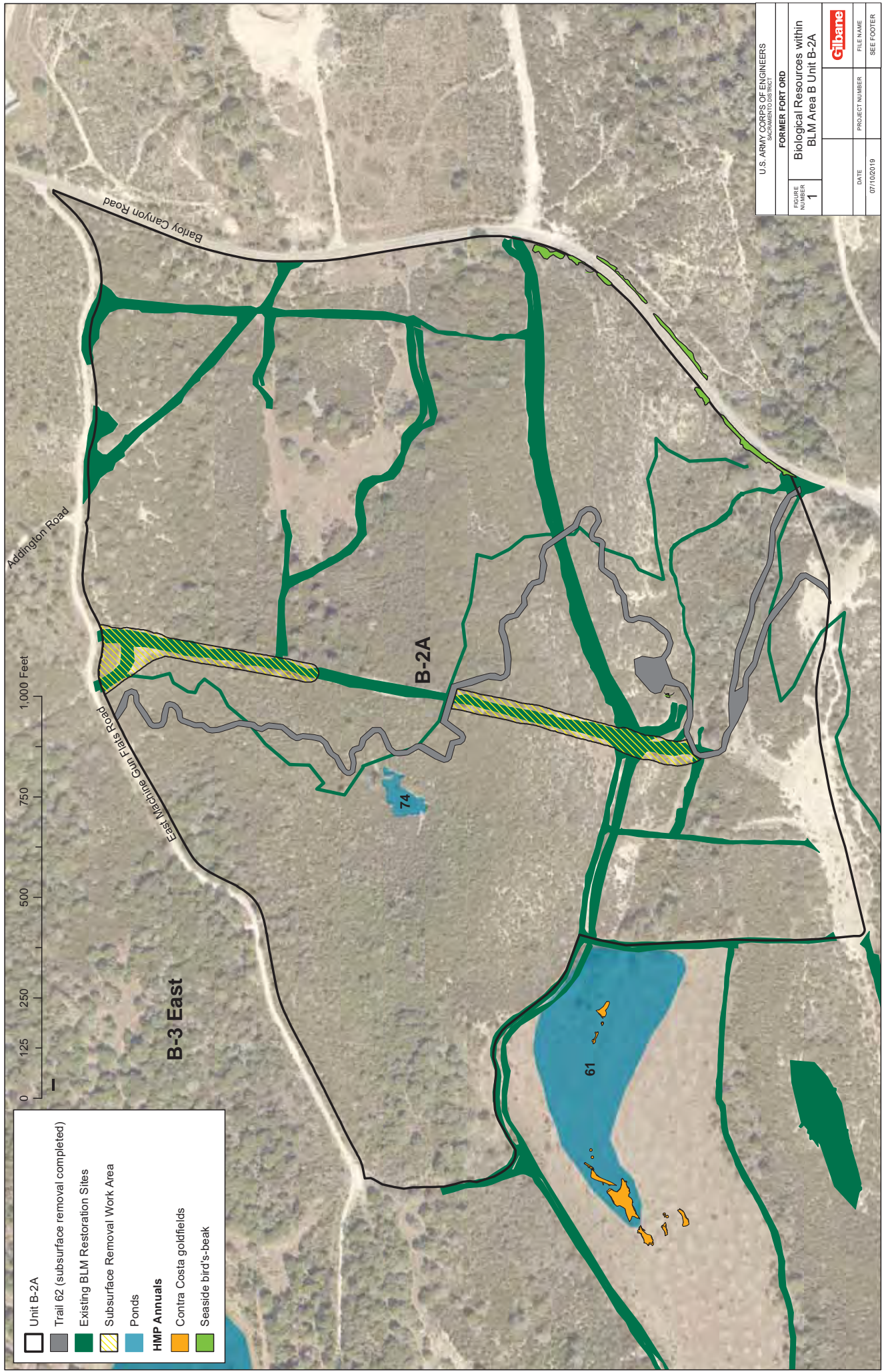
9. ADDITIONAL SITE CONCERNS:
<ul style="list-style-type: none"> • Only heavy equipment may be refueled in the field. All refueling of heavy equipment will be conducted on the approved roads. Spill control materials such as absorbent pads, noncombustible granular absorbent material, and polyethylene sheeting, will be immediately available to all refueling crews. No refueling shall occur within 400 feet of vernal ponds.

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

Project Biologist: _____ *Jami Colley* _____ **Date:** 7-11-19

QC Manager: _____ **Charles Clyde** _____ **Date:** _____
Digitally signed by Charles Clyde
 DN: C=US, E=ccllyde@gilbaneco.com,
 OU=Gilbane Federal, CN=Charles Clyde
 Date: 2019.12.31 14:12:53-08'00'

BRAC Biologist: _____ **KOWALSKI.BARTHOLOME** _____ **Date:** _____
Digitally signed by
 KOWALSKI.BARTHOLOMEW.L.1387978115
 Date: 2019.07.15 17:20:51 -07'00'
 W.L.1387978115



- Unit B-2A
- Trail 62 (subsurface removal completed)
- Existing BLM Restoration Sites
- Subsurface Removal Work Area
- Ponds
- HMP Annuals**
- Contra Costa goldfields
- Seaside bird's-beak

0 125 250 500 750 1,000 Feet

Barloy Canyon Road

Addington Road

East Machine Gun Taps Road

B-3 East

B-2A

74

61

U.S. ARMY CORPS OF ENGINEERS WATERWAYS DIVISION	
FORMER FORT ORD	
Biological Resources within BLM Area B Unit B-2A	
SCALE NUMBER 1	PROJECT NUMBER
DATE 07/10/2019	FILE NAME SEE FOOTER
Gilbane	