Appendix D-2

Segment 2 Habitat and Resource Assessment Report

Environmental Intelligence, LLC

HABITAT AND RESOURCE ASSESSMENT

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Southern California Edison
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TABLE OF CONTENTS

TABLES

APPENDICES

EXECUTIVE SUMMARY

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a habitat and resource assessment and focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. The results of the assessment and focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

The Project is located entirely within San Bernardino County, California, extending from Pisgah Substation (near Ludlow, CA) to the California-Nevada border (near Nipton Road). The Project alignment crosses lands owned by the BLM, private landowners, the State, and the National Park Service. The Project primarily traverses undisturbed natural habitat through the Mojave Desert, with elevations along the alignment ranging from 1,100 to 4,600 feet. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes. The named topographic features found along or adjacent to the ROW include (from southwest to northeast): the Cady Mountains, Kelso Wash, Devil's Playground, Old Dad Mountain, Jackass Canyon, Kelso Mountains, Marl Mountain, Cima Dome, Ivanpah Valley, and Willow Wash.

Twenty-one vegetation communities, including eight sensitive vegetation communities and thirteen non-sensitive vegetation communities, were identified and mapped during the habitat and resource assessment. Sensitive vegetation communities identified include *Chilopsis linearis* (Desert willow woodland) Alliance, *Ericameria paniculata* (Black-stem rabbitbrush scrub) Alliance, *Panicum urvilleanum* (Desert panic grass patches) Alliance, *Pleuraphis rigida* (Big galleta shrub-steppe) Alliance, *Prunus fasciculata* (Desert almond scrub) Alliance, *Psorothamnus spinosus* (Smoke tree woodland) Alliance, *Rhus trilobata* (Basket bush thickets) Provisional Alliance, and *Yucca brevifolia* (Joshua tree woodland) Alliance.

Two CNPS listed plant species, Emory's crucifixion thorn (*Castela emoryi*) and matted cholla (*Grusonia parishii*), were observed during surveys. Twenty-three (23) other CNPS listed species are likely to occur based on the presence of suitable soils, vegetation alliances, and/or documented collections. Three (3) special-status wildlife species, desert tortoise, Mohave fringe-toed lizard, and loggerhead shrike, were observed during Project-related surveys. An additional five (5) special-status wildlife species are likely to occur based on the presence of suitable habitat and/or documented observations.

1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a habitat and resource assessment and focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. A separate report was prepared for the desert tortoise focused survey (EI 2016); results are also included in this report. The results of the assessment and focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

2.0 PROJECT LOCATION AND DESCRIPTION

The Project is located entirely within San Bernardino County, California, extending from Pisgah Substation (near Ludlow, CA) to the California-Nevada border (near Nipton Road) (Exhibit 1). The Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Hector, Sleeping Beauty, Broadwell Lake, West of Broadwell Mesa, Broadwell Mesa, Soda Lake South, Cowhole Mountain, Old Dad Mountain, Indian Spring, Marl Mountains, Cima, Cima Dome, Joshua, Ivanpah, Nipton, and Crescent Peak; material/laydown yards are located in Dunn and Baker USGS quadrangles. Land use along the Project alignment is primarily undisturbed desert scrub habitat. The Project alignment crosses lands owned by the BLM, private landowners, the State, and the National Park Service.

SCE proposes to install a new 84-mile telecommunication path consisting of Optical Ground Wire (OPGW) fiber optic cable. The Project is required to reliably interconnect and integrate multiple renewable generation projects in the Southern Nevada / Eastern California area onto the electric grid. The primary function of this Project will be to prevent thermal overloading on the jointly owned Lugo-Victorville 500-kV Transmission Line, a major power transfer path between SCE and the Los Angeles Department of Water and Power (LADWP). All work will occur within the existing SCE ROW and will include bucket truck work on disturbed areas at approximately 408 transmission tower locations, installation of guard poles at 14 locations, establishment of helicopter landing zones at 72 locations, pulling/tensioning activities at 27 locations, and establishment of several laydown yards.

3.0 REGULATORY FRAMEWORK

The Project will comply with applicable federal, State, and local laws, ordinances, regulations, and standards (LORS) throughout Project construction. Potentially applicable LORS are discussed below.

3.1 Federal

3.1.1 FEDERAL ENDANGERED SPECIES ACT (FESA)

This 1973 law, administered by the United States Fish and Wildlife Service (USFWS), is designed to minimize impacts to imperiled plants and animals, as well as facilitate recovery of such species. Declining plant and animal species are listed as "endangered" or "threatened" based on a variety of factors. Applicants for projects requiring federal agency action that could adversely affect listed species are required to consult with and mitigate impacts in consultation with the USFWS. Adverse impacts are defined as "take" (defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct"), which is prohibited except as authorized through consultation under Section 7 or through issuance of an Incidental Take Permit under Section 10. The Palm Springs Fish and Wildlife Office oversees permitting actions relative to the FESA for this Project.

3.1.2 MIGRATORY BIRDS

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The Palm Springs Fish and Wildlife Office oversees actions relative to migratory birds and eagles for this Project.

The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13.

The BGEPA (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald and golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle...or any golden eagle, alive or dead, or any part, nest, or egg thereof." The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb is defined under the BGEPA as to agitate or bother an eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (Pagel et al. 2010).

3.2 State

3.2.1 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. This State law prohibits the “take” (defined as to hunt, pursue, catch, capture, or kill) of State-listed species except as otherwise provided in State law. CESA, administered by the California Department of Fish and Wildlife (CDFW), is similar to the federal ESA, although unlike the federal law, CESA applies incidental take prohibitions to species currently petitioned for state-listing status (*i.e.* candidate species). State lead agencies are required to consult with the CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any State-listed species or result in the degradation of occupied habitat. Under Section 2081, CDFW authorizes “take” of State-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. Should a species be both federally and State-listed, and if the federal ESA authorization fulfills CESA requirements, CDFW may streamline the CESA permitting process by adopting a Consistency Determination (Section 2081.1), that concurs with the federal authorization. The CDFW Inland Deserts Region oversees actions relative to CESA for this Project.

3.2.2 California Environmental Quality Act (CEQA)

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. “Projects” are activities that have the potential to have a physical impact on the environment. The purpose of CEQA is to: (1) disclose to the public the significant environmental effects of a proposed discretionary project, through the preparation of an Initial Study (IS), Negative Declaration (ND), or Environmental Impact Report (EIR); (2) prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; (3) disclose to the public the agency decision-making process utilized to approve discretionary projects through findings and statements of overriding consideration; (4) enhance public participation in the environmental review process through scoping meetings, public notice, public review, hearings, and the judicial process; and (5) improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review. The CDFW Inland Deserts Region oversees actions relative to CEQA for this Project.

3.2.3 Fish and Game Code and Title 14 Laws and Regulations

Fish and Game Code (FGC) Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code or any associated regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey. It also prohibits the take, possession, or destruction of nests or eggs of any bird of prey. Section 3511 describes bird species, primarily raptors that are "fully protected." Fully protected species may not be taken or possessed, except under specific permit requirements. No incidental take permit may be issued for a fully protected species.

Sections 4700, 5050, and 5515 list mammal, reptile and amphibian, and fish species, respectively, that are classified as fully protected in California.

Section 1900 *et seq.* describes the Native Plant Protection Act (NPPA). The NPPA was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW, for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Title 14, California Code of Regulations (CCR) lists plant and animal species designated as threatened and endangered in California. California Species of Special Concern (SSC) is a category applied by CDFW to those species that are indicators of regional habitat changes or are considered potential future protected species. SSCs do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.2.4 California Food And Agriculture Code

The California Desert Native Plants Act, California Food and Agriculture Code Sections 80001-80201, protects California desert native plants from unlawful harvesting on both public and privately owned lands. Section 80073 stipulates that specific native plants or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing. Section 80117 states, "This division does not apply to a public agency or to a publicly or privately owned public utility when acting in the performance of its obligation to provide service to the public. This section does not prevent the landowner or his or her agent from complying with any other federal, state, or local laws or regulations."

3.3 Local

3.3.1 Mojave National Park

The National Park Service (NPS), a federal agency in the Department of the Interior, promotes and regulates the use of national parks to conserve scenery and natural and historic objects for the use and enjoyment of future generations. The California Desert Protection Act created the 1.6 million acre Mojave National Preserve in San Bernardino County in 1994. Every action taken or plan proposed by the National Park Service that could affect natural and cultural resources or the quality of the human environment is subject to a host of laws and regulations designed to protect and enhance the environment. The primary goal of the Mojave National Preserve is to protect its resources while providing for visitor enjoyment.

3.3.2 Habitat Conservation Plans / Natural Community Conservation Plans

Habitat Conservation Plans (HCPs) under section 10(a)(1)(B) of the FESA provide for partnerships with non-Federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery. CDFW's Natural Community Conservation Planning Act (NCCPA) allows for the development of broad-based ecosystem-level plans for the protection and perpetuation of biological diversity. The primary objective of Natural Community Conservation Plans (NCCP) prepared under the NCCPA is to conserve natural communities at the ecosystem level while accommodating compatible land use. These Plans, including the California Desert Conservation Act (CDCA) and Desert Renewable Energy

Conservation Plan (DRECP), are described in more detail in Section 5.2 (Designated Critical Habitat and Conservation Lands).

3.3.3 COUNTY PLANS

The Project is subject to the requirements and authority of the San Bernardino County General Plan (URS 2007). The Project is located within the Plan's Desert Planning Region, which aims to preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water, and scenic vistas. Specific goals and policies include:

- Encourage the greater retention of existing native vegetation for new development projects to help conserve water, retain soil in place and reduce air pollutants.
- Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.
- Require retention of existing native vegetation for new development projects, particularly Joshua trees, Mojave yuccas, creosote rings, and other species protected by the Development Code and other regulations.
- Reduce disturbances to fragile desert soils as much as practicable to reduce fugitive dust.
- Mechanical removal of vegetation shall be minimized and limited to the areas prepared for permitted accessory uses.
- Encourage the retention of specimen sized Joshua trees.

4.0 METHODS

4.1 Database Search and Literature Review

Prior to the initiation of field work, a review of pertinent literature was performed to determine which species/habitats identified as special-status by State, federal, and local resources agencies have the potential to occur along the Project alignment or immediate vicinity (within 3 miles) (Exhibit 2). This included a review of the California Natural Diversity Database (CNDDB) RareFind application (CDFW 2016), the 1994 and 2011 Desert Tortoise Recovery Plans (USFWS 1994a & 2011), Biological Assessment for the 2004 Fire Management Plan for the Mojave National Preserve (Dingman 2004), and other pertinent documents. Sources reviewed included the following:

- Special-status species lists from CDFW, USFWS, and California Native Plant Society (CNPS);
- California Natural Diversity Database records since 1995 (CDFW 2016);
- USFWS Species Occurrence Data (USFWS 2016);
- Electronic Inventory of the CNPS (CNPS 2016) and Consortium of California Herbaria (CCH 2016);
- Federal Register listing package and critical habitat determination for each federally listed Endangered or Threatened species potentially occurring within the Project vicinity (USFWS);
- San Bernardino County General Plan (URS 2007)

Special-status species with the potential to occur within the Survey Area were evaluated based on the following criteria:

- **Occurs**: the species and/or conclusive sign was observed on-site during the survey.
- **Likely**: this species is expected to occur in the Survey Area based on presence of suitable habitat and/or based on professional expertise specific to the site or species, and nearby, recent (in the last decade) recorded occurrences for the species.

- **Unlikely**: this species may have been recorded in the Project vicinity, but the Project is on the periphery of the species range, or there are older records (greater than 10 years) on/near the Project, but there is currently marginal suitable habitat on-site (habitat is highly disturbed, degraded, or limited).
- **Does Not Occur**: this species is not expected to occur in the Survey Area. Suitable habitat was not observed in the Survey Area. The Survey Area is outside of the currently known range of the species.

4.2 Field Surveys

4.2.1 2016 Habitat and Resource Assessment

Qualified biologists Luis Aguilar, Jim Buffington, Ben DeLancey, Scott Duff, Paul Flores, Jeremiah George, Mitch Provance, and Susan Seville conducted a habitat and resource assessment on October 11-14, 17-19, 24-26 & 31 and November 1-2, 2016. The habitat and resource assessment Survey Area included a 250-foot buffer from the SCE ROW centerline as well as a 200-foot buffer around all proposed disturbance areas (Exhibit 3). The habitat and resource assessment included a general pedestrian survey to document existing site conditions, map vegetation/habitat communities, identify wildlife species and avian nests present, and identify areas that provide suitable habitat (e.g., vegetation communities, potential bat roosts, raptor nests, burrow complexes, etc.) for any regulated species. Regulated plant and wildlife species or sign were recorded when observed. A formal jurisdictional delineation was not conducted; however, the centerline of potential jurisdictional features was mapped and the vegetation communities associated with the potential feature were identified. All flora and fauna observed were recorded on the field forms or in personal field notes. Global Positioning System (GPS) handheld units (Trimble and Garmin recreational models), binoculars, digital cameras, and field forms/notes were used to aid in recording biological resources.

Vegetation/habitat communities were described to the alliance level in accordance with A Manual of California Vegetation (Sawyer *et al.* 2009). The minimum mapping unit for non-sensitive vegetation communities was 1 acre; sensitive vegetation communities and/or habitat features were individually mapped at a scale appropriate to determine avoidance/minimization and management of that resource.

4.2.2 2016 Focused Surveys for Desert Tortoise

Desert tortoise focused surveys were conducted on October 10-15, 17-22 & 24-26 by EI qualified biologists Jim Buffington, Ben DeLancey, Scott Duff, Paul Flores, Mikaila Negrete, and Susan Seville. The survey was conducted in accordance with the *2010 Field Season Survey Protocol* (USFWS 2010). Ten-meter belt transects were surveyed over 100 percent of the proposed disturbance areas as well as a 200-foot buffer (Exhibit 3). The Action Area, defined as the areas to be affected directly or indirectly and not merely the immediate area involved in the Project's disturbance area, included a 200-ft buffer around all disturbance areas. Access roads and other areas between the Survey Areas were not included in the focused surveys.

Global Positioning System (GPS) handheld units (Trimble and Garmin recreational models), binoculars, digital cameras, and field forms/notes were used to aid in recording tortoise sign and other biological resources. A handheld weather meter was used to record temperatures at the start and end of each transect. Daily focused surveys were ceased if temperatures in the shade at 5cm above the ground reached 40° Celsius (C) (104° Fahrenheit [F]). All desert tortoise sign, as well as required survey and weather data was recorded on USFWS 2010 Desert Tortoise Pre-Project Survey Datasheets. General health of live desert tortoises encountered was assessed when the head and carapace were visible to surveyors without stressing the animal. Binoculars were used to inspect the eyes, nares, and shell conditions of the tortoises for clinical signs of disease without handling or approaching the animals too closely. Desert tortoises encountered were not touched or handled at any time during the survey, and biological samples were not taken to assist in the assessments of health of the encountered tortoises. All flora and fauna observed were recorded on the field forms or in personal field notes.

5.0 RESULTS

5.1 Physical Environment

The Project primarily traverses undisturbed natural habitat through the Mojave Desert, with elevations along the alignment ranging from 1,100 to 4,600 feet. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes. The named topographic features found along or adjacent to the ROW include (from southwest to northeast): the Cady Mountains, Kelso Wash, Devil's Playground, Old Dad Mountain, Jackass Canyon, Kelso Mountains, Marl Mountain, Cima Dome, Ivanpah Valley, and Willow Wash.

5.2 Designated Critical Habitat and Conservation Lands

5.2.1 DESERT TORTOISE CONSERVATION AREAS

Desert tortoise conservation areas include desert tortoise habitat within critical habitat, Desert Wildlife Management Areas (DWMAs), Areas of Critical Environmental Concern (ACEC), Grand Canyon-Parashant National Monument, Desert National Wildlife Refuge, National Park Service lands (e.g. Mojave National Preserve), Red Cliffs Desert Reserve, and other conservation areas or easements managed for desert tortoises (USFWS 2011). The Project is located within the Western Mojave and Eastern Mojave Recovery Units as described in the Revised Desert Tortoise Recovery Plan (USFWS 2011), and it passes through the desert tortoise Ivanpah Valley Critical Habitat Unit (Exhibit 2).

5.2.2 CALIFORNIA DESERT CONSERVATION AREA

Section 601, the California Desert Conservation Area (CDCA), of the Federal Land Policy and Management Act (FLPMA) of 1976 provides for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality. The National Forest Service, National Park Service, and Bureau of Land Management are commissioned in FLPMA to allow a variety of uses on their land while simultaneously trying to preserve the natural resources in them. The CDCA includes the West Mojave and the Northern and Eastern Mojave planning areas, which cover the Project. The goal of these plans is to conserve and protect the desert tortoise and nearly 100 other sensitive plants and animals, as well as the ecosystems on which they depend. These plans provide developers of public and private projects with a streamlined program for compliance with the California and federal endangered species acts, reduce delays and expenses, eliminate uncertainty, and apply the costs of compensation and mitigation equitably to all agencies and parties.

5.2.3 DESERT RENEWABLE ENERGY CONSERVATION PLAN

The Desert Renewable Energy Conservation Plan (DRECP) (California Energy Commission et al. 2014) is intended to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of Southern California (Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties) consistent with federal and state renewable energy targets and policies while providing long-term conservation and management of special-status species and desert vegetation communities. The DRECP covers 22.5 million acres and is a collaborative effort between BLM, USFWS, CEC, and CDFW. The DRECP is currently in a draft status, with only BLM lands subject to its policies.

5.3 Vegetation Communities / Land Cover Types

Twenty-one vegetation communities, including eight sensitive vegetation communities and thirteen non-sensitive vegetation communities, were identified and mapped during the habitat and resource assessment (Exhibit 3). A list of the vegetation communities, their California Natural Community Codes, and their location(s) on Exhibit 3 are presented in Table 1. Descriptions of the communities are based on the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009) and described below (site photographs are presented in Appendix B). Two land cover types were identified and mapped; they are described below.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type	Rarity Ranking	Page(s) in Exhibit 3
Sensitive Vegetation Communities		
Chilopsis linearis (Desert willow woodland) Woodland Alliance 61.550.00	G4 / S3.2	66, 69, 70
Ericameria paniculata (Black-stem rabbitbrush scrub) Shrubland Alliance 35.340.00	G4 / S3	66, 69, 70, 110, 111
Panicum urvilleanum (Desert panic grass patches) Alliance 42.095.00	G3 / S1.2	58-60, 62-65
Pleuraphis rigida (Big galleta shrub-steppe) Alliance 41.0303.00	G3 / S2.2	44-47, 49-53, 60-65, 111
Prunus fasciculata (Desert almond scrub) Alliance 33.300.00	G4 / S3.3	86, 89, 92
Psorothamnus spinosus (Smoke tree woodland) Woodland Alliance 61.570.00	G4 / S3.3	17, 22, 23, 40-44, 46, 47, 49
Rhus trilobata (Basket bush thickets) Provisional Shrubland Alliance 37.802.00	G4 / S3?	89
Yucca brevifolia (Joshua tree woodland) Woodland Alliance 33.170.00	G4 / S3.2	74-86, 88-114
Non-sensitive Vegetation Communities		
Acacia greggii (Catclaw acacia thorn scrub) Shrubland Alliance 33.040.00	G5 / S4	16, 17, 86, 89, 111-114
Ambrosia dumosa (White bursage scrub) Shrubland Alliance 33.060.00	G5 / S4	24, 26, 27
Ambrosia salsola (Cheesebush scrub) Shrubland Alliance 33.200.00	G5 / S4	14, 17, 18, 25, 26, 28, 65-74, 109-112
Atriplex hymenelytra (Desert holly scrub) Shrubland Alliance 36.330.00	G5 / S4	26, 27
Atriplex polycarpa (Allscale scrub) Shrubland Alliance 36.340.00	G5 / S4	139
Bromus (*diandrus, hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands 42.026.00	NA (Non-Native Invasive Habitat)	61-63
Bromus rubens - *Schismus* (*arabicus*, *barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands 42.024.00	NA (Non-Native Invasive Habitat)	77, 139, 140
Encelia farinosa (Brittle bush scrub) Shrubland Alliance 33.030.00	G5 / S4	14, 15, 22-24, 27, 59
Ephedra nevadensis (Nevada joint fir scrub) Shrubland Alliance 33.280.00	G4 / S4.3	75
Larrea tridentata (Creosote bush scrub) Shrubland Alliance 33.010.00	G5 / S5	2-7, 14-18, 22, 23, 26, 27, 42, 43, 51, 52, 55-58, 60, 61, 71, 72, 81, 82, 112-131, 136-138
Larrea tridentata - *Ambrosia dumosa* (Creosote bush - white burr sage scrub) Shrubland Alliance 33.140.00	G5 / S5	1-60, 64-76, 79-84, 111, 112, 131-138, 140
Salazaria mexicana (Bladder sage scrub) Shrubland Alliance 33.310.00	G4 / S4	97
Yucca schidigera (Mojave yucca scrub) Alliance 33.070.00	G4 / S4	71, 72, 74, 75, 79, 81-84, 86-89, 131-134
Land Cover		
Barren-Not Developed	NA	73

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type	Rarity Ranking	Page(s) in Exhibit 3
Developed	NA	2, 3, 7-9, 54, 81, 103-105, 123, 125, 132, 133, 139, 140

5.3.1 SENSITIVE VEGETATION COMMUNITIES

Chilopsis linearis (Desert willow woodland) Alliance

Desert willow is dominant or co-dominant in the tree or tall shrub canopy, with smoke tree (*Psorothamnus spinosus*) and Joshua tree (*Yucca brevifolia*). Shrubs may include cheese bush (*Ambrosia salsola*), allscale (*Atriplex polycarpa*), sweetbush (*Bebbia juncea*), encelia (*Encelia virginensis*), California jointfir (*Ephedra californica*), and California buckwheat (*Eriogonum fasciculatum*). Habitats include washes, intermittent channels, canyon bottoms, arroyos, along floodplains, and wash terraces, where flooding is infrequent. Soils are typically well-drained sands and gravels that are moderately acidic to slightly alkaline. Elevation ranges from 100-1,200m.

Ericameria paniculata (Black-stem rabbitbrush scrub) Alliance

Black-stem rabbitbrush is dominant or co-dominant in the shrub canopy with woolly bursage (*Ambrosia eriocentra*), cheesebush, woolly brickellbush (*Brickellia incana*), coyote melon (*Cucurbita palmata*), brittlebush (*Encelia farinosa*), and California buckwheat. Emergent trees or tall shrubs may be present at low cover, including catclaw (*Acacia greggii*) or desert willow. Habitats include intermittently flooded arroyos, channels, and washes. Soils are typically coarse to fine sands, usually well drained and moderately acidic to slightly saline. Elevation ranges from 100-1,100m.

Panicum urvilleanum (Desert panic grass patches) Alliance

Desert panic grass is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass (*Stipa hymenoides*), desert dicoria (*Dicoria canescens*), sunflower (*Helianthus annuus*), dune primrose (*Oenothera deltoides*) and Thurber's sandpaper plant (*Petalonyx thurberi*). Habitats include active to partially stabilized dunes and sand fields. Elevations range from 10-1,200m.

Pleuraphis rigida (Big galleta shrub-steppe) Alliance

Big galleta is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass, black grama (*Bouteloua eriopoda*), foxtail brome (*Bromus madritensis* spp. *rubens*), and downy dalea (*Dalea mollissima*). Emergent trees and shrubs may be present at low cover, including catclaw, white bursage (*Ambrosia dumosa*), cheese bush, shadescale (*Atriplex canescens*), and creosote bush (*Larrea tridentata*). Habitats include flat ridges, lower bajadas, slopes, dune aprons, and stabilized dunes. Soils are typically clayey, sandy, or rocky. Elevation ranges from 500-1,400m.

Prunus fasciculata (Desert almond scrub) Alliance

Desert range almond (*Prunus fasciculata*) is dominant or co-dominant in the shrub canopy with catclaw, white bursage, cheesebush, Nevada jointfir (*Ephedra nevadensis*), and California buchwheat. Emergent trees may be present at low cover, including Joshua tree. Habitats include arroyos, canyons, washes, and disturbed upland sites on calcareous and granitic substrates. Soils are typically loams and gravels. Elevation ranges from 15-1,880m.

Psorothamnus spinosus (Smoke tree woodland) Alliance

Smoke tree is dominant or co-dominant in the tree or tall shrub canopy with desert willow. Shrubs may include catclaw, cheesebush, sweetbush, brittlebush, California jointfir, creosote bush, and Parish's wire lettuce (*Stephanomeria pauciflora*). Habitats include arroyos, intermittently flooded channels and washes. Soils are typically sandy and well drained, moderately acidic or slightly saline. Elevation ranges from sea level-1,000m.

Rhus trilobata (Basket bush thickets) Provisional Alliance

Basket bush is dominant in the shrub canopy with turpentine bush (*Ericameria laricifolia*), and Wright's buckwheat (*Eriogonum wrightii*). Emergent trees may be present at low cover. Habitats include stream terraces, swales, shallow valleys, and upland topography. Elevation ranges from 385-2,200m.

Yucca brevifolia (Joshua tree woodland) Alliance

Dominant plant species in this alluvial vegetation community include white bursage, cheese bush, big sagebush (*Artemisia tridentata*), green rabbitbush (*Ericameria teretifolia*), blackbrush (*Coleogyne ramosissima*), Nevada ephedra, and California Buckwheat. The canopy may be open to intermittent, and the herbaceous layer is open to intermittent with perennial grasses and seasonal annuals. Stands occur on alluvial fans and ridges with gentle to moderate slopes. Soils are often coarse sands, very fine silts, gravel, or sandy loams. Elevation ranges from 750-1,800m.

5.3.2 NON-SENSITIVE VEGETATION COMMUNITIES

Acacia greggii (Catclaw acacia thorn scrub) Alliance

Catclaw is dominant or co-dominant in the shrub canopy with woolly bursage, cheesebush, sweetbush, California jointfir, Nevada jointfir, green rabbitbrush, California buckwheat, desert almond, and desert sage (*Salvia dorrii*). Emergent trees may be present at low cover, including desert willow, California juniper, Utah juniper, desert ironwood and smoke tree. Habitats include arroyos, channels, washes, bajadas, canyon walls, rocky slopes, and valleys. Soils are often coarse, well-drained, and moderately acidic to slightly saline. Elevation ranges from 10-1,500 m.

Ambrosia dumosa (White bursage scrub) Alliance

White bursage is dominant or co-dominant in the shrub canopy with goldenhead (*Acamptopappus sphaerocephalus*), shadescale, desert holly (*Atriplex hymenelytra*), blackbrush, jumping cholla (*Cylindropuntia bigelovii*), cottontop cactus (*Echinocactus polycephalus*), brittlebush, creosote bush and beavertail pricklypear (*Opuntia basilaris*). Habitats include older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized and stabilized sand fields, and upland slopes. Soils are often sandy, clay-rich, or calcareous. Elevation ranges from sea level-1,700 m.

Ambrosia salsola (Cheesebush scrub) Alliance

Cheesebush is dominant or co-dominant in the shrub canopy with golden cholla, brittlebush, California jointfir, black-stem rabbitbrush, California buckwheat, sticky snakeweed, beavertail pricklypear, desert sage, and desert globemallow (*Sphaeralcea ambigua*). Emergent trees or tall shrubs may be present at low cover, including catclaw, desert willow, and smoke tree. Habitats include valleys, flats, rarely flooded low-gradient deposits, arroyos, intermittent channels and washes. Soils are typically alluvial, sandy and gravelly. Elevation ranges from sea level-1,600 m.

Atriplex hymenelytra (Desert holly scrub) Alliance

Desert holly is dominant in the shrub canopy with white bursage, shadescale, downy dalea, brittlebush, creosote bush, and honeysweet (*Tidestromia suffruticosa* var. *oblongifolia*). Habitats include alluvial fans, along washes, steep colluviums, recent lava flows, cinder cones, and heavy alkaline lake sediments. Soils develop from metamorphic, igneous, and sedimentary rocks that may be carbonate, alkaline, or salt rich with desert pavements. Elevation ranges from 75-1,400 m.

Atriplex polycarpa (Allscale scrub) Alliance

Allscale is dominant in the shrub canopy with white bursage, cheesebush, shadescale, foxtail brome, smallseed sandmat (*Euphorbia polycarpa*), and creosote bush. Emergent trees may be present at low cover, including honey mesquite. Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils are typically carbonate rich, alkaline, sandy, or sandy clay loams. Elevation ranges from 75-1,500 m.

Bromus (*diandrus, hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands

Bromegrass (*Bromus diandrus*) and/or soft brome (*Bromus hordeaceus*) is dominant or co-dominant with nonnatives in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Habitats include all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Elevation ranges from sea level-2,200 m.

Bromus rubens - *Schismus* (*arabicus*, *barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands

Red brome, Arabian schismus, and/or common Mediterranean grass is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent shrubs may be present at low cover. Habitats include all topography settings and soil textures. Elevation ranges from sea level-2,200 m.

Encelia farinosa (Brittle bush scrub) Alliance

Brittlebush is dominant or co-dominant in the shrub canopy with desert agave (*Agave deserti*), white bursage, jumping cholla, calico cactus (*Echinocereus engelmannii*), California buckwheat, California barrel cactus (*Ferocactus cylindraceus*), and desert wishbone-bush (*Mirabilis laevis*). Emergent trees or tall shrubs may be present at low cover. Habitats include alluvial fans, bajadas, colluvium, rocky hillsides, slopes of small washes and rills. Soils are typically well drained, rocky, and may be covered by desert pavement. Elevation ranges from 75-1,400 m.

Ephedra nevadensis (Nevada jointfir scrub) Alliance

Nevada jointfir is dominant or co-dominant in the shrub canopy with big sagebrush, shadescale, blackbrush, cooper's goldenbush (*Ericameria cooperi*), California buckwheat, spiny desert olive (*Menodora spinescens*), bladder sage (*Salazaria mexicana*) and Mojave yucca (*Yucca schidigera*). Emergent trees may be present at low cover, including Joshua tree. Habitats include dry open slopes, ridges, breaks with southern exposures, canyons, sides of arroyos, floodplains, and washes. Soils are typically well drained, gravelly, or rocky, and may be alkaline or saline. Elevation ranges from 1,000-1,800 m.

Larrea tridentata (Creosote bush scrub) Alliance

Creosote bush is dominant or co-dominant in the shrub canopy with goldenhead, white bursage, cheesebush, shadescale, desert holly, allscale, woolly brickellbush, brittlebush, California jointfir, and Nevada jointfir. Emergent trees may be present at low cover. Habitats include alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained, sometimes with desert pavement. Elevation ranges from 75-1,000 m.

Larrea tridentata - *Ambrosia dumosa* (Creosote bush - white bursage scrub) Alliance

White bursage and creosote bush are co-dominant in the shrub canopy with cheesebush, , shadescale, desert holly, allscale, sweetbush, California Croton (*Croton californicus*), pencil cholla (*Cylindropuntia ramosissima*), downy dalea, cottontop cactus, brittlebush, and Mojave yucca. Emergent trees or tall shrubs may be present at low cover, including ocotillo and Joshua tree. Habitats include minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well-drained, alluvial, colluvial, sandy, sometimes underlain by a calcareous hardpan and/or covered with desert pavement. Elevation ranges from 75-1,200 m.

Salazaria mexicana (Bladder sage scrub) Alliance

Bladder sage is dominant or co-dominant in the shrub canopy with cheesebush, shadescale, Nevada jointfir, California buckwheat, spiny hopsage, winterfat, creosote bush, desert sage, and turpentinebroom (*Thamnosma montana*). Emergent trees or tall shrubs may be present at low cover, including catclaw and Joshua tree. Habitats include washes and arroyos on alluvial fans and bajadas. Soils are typically sands, gravels, or clays of alluvial or colluvial origin. Elevation ranges from 875-1,680 m.

Yucca schidigera (Mojave yucca scrub) Alliance

Mojave yucca is dominant or characteristically present in the shrub or small tree canopy with white bursage, blackbrush, brittlebush, Nevada jointfir, California buckwheat, creosote bush, big galleta, and bladder sage. Habitats include alluvial fans, rocky slopes, and upper bajadas. Soils are well-drained, sandy loams. Elevation ranges from 700-1,800 m.

5.3.3 LAND COVER

Barren-Not Developed

Barren-not developed lands include cleared areas devoid of vegetation (e.g., ROW/easement, private property, roadside margin).

Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal, and ornamental plant species.

5.4 General Plants and Wildlife

Plant and wildlife species identified during surveys are included in Appendix C. One hundred thirty-nine (139) plant species were identified during surveys. Thirty-three (33) vertebrates were either directly observed or detected through presence of sign during surveys. These included four (4) reptiles, twenty-one (21) birds, and eight (8) mammals. Some of these are resident, common species in the Mojave Desert, while others (i.e., birds) are seasonal migrants passing through the area. Representative common wildlife species detected included, but were not limited to, southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), greater roadrunner (*Geococcyx californianus*), common raven (*Corvus corax*), rock wren (*Salpinctes obsoletus*), Bell's sparrow (*Artemisiospiza belli*), desert woodrat (*Neotoma lepida*), and coyote (*Canis latrans*). The full list of vertebrate species observed during surveys is included in Appendix D.

It should be noted that short-term inventories of this nature are limited in their scope by the seasonality, timing and duration of surveys, plant blooming periods, and the nocturnal and fossorial habits of many animals. Therefore, the lists of species in Appendix C do not necessarily reflect the total number of plants and animals that potentially occupy the Survey Areas.

5.5 Special-Status Biological Resources

Plant or animal taxa may be considered "sensitive" or "special-status" due to declining populations, vulnerability to habitat change or loss, or because of restricted distributions. Some of these species have been listed as threatened or endangered by the USFWS and/or CDFW, and are thus protected by the federal and State ESAs, respectively. Other species have been identified as sensitive or special-status by the USFWS and CDFW. Still others have been designated as special-status species by private conservation organizations, including the NCCP/HCP and CNPS. The regulatory protection provided by these various agencies is discussed in Section 3.0 of this document.

The database search and literature review described in Section 4.1 identified special-status biological resources occurring or having the potential to occur in the vicinity (within 3 miles) of the Project. Appendix D provides a complete list of these special-status biological resources, their respective conservation status, and occurrence potential along the alignment. Exhibit 2 provides critical habitat areas and CNDDB special-status species records (post-1995). Exhibit 3 provides the locations of special-status biological resources, including special-status species, sign, and bird nests, recorded within the Survey Area.

The following sections describe the special-status vegetation communities and special-status plant and wildlife species occurring or potentially occurring on or in the immediate vicinity of the Project.

5.5.1 SENSITIVE VEGETATION COMMUNITIES

Sensitive vegetation communities are plant associations sometimes afforded special legislative protection. Such vegetation communities are normally considered a management priority because of their rarity or

imperilment, the sensitivity of the species that they support, or because these areas serve multiple functions, as is often the case with wetlands. Eight (8) sensitive vegetation alliances were identified as occurring in the Survey Area (see Appendix D for description):

- *Chilopsis linearis* (Desert willow woodland) Alliance
- *Ericameria paniculata* (Black-stem rabbitbrush scrub) Alliance
- *Panicum urvilleanum* (Desert panic grass patches) Alliance
- *Pleuraphis rigida* (Big galleta shrub-steppe) Alliance
- *Prunus fasciculata* (Desert almond scrub) Alliance
- *Psorothamnus spinosus* (Smoke tree woodland) Alliance
- *Rhus trilobata* (Basket bush thickets) Provisional Alliance
- *Yucca brevifolia* (Joshua tree woodland) Alliance

The locations of these habitats within the Survey Area are presented in Table 1 and on Exhibit 3.

5.5.2 SPECIAL-STATUS PLANT SPECIES

Based upon the literature search and habitat assessment, thirty-three (33) special-status plant species occur or have the potential to occur in the vicinity of the Project (Appendix D). Of these, eight (8) do not occur or are unlikely to occur based on the absence of suitable habitat and/or the Project being outside the species' geographic or elevation range. Two special-status plant species, Emory's crucifixion thorn (*Castela emoryi*) and matted cholla (*Grusonia parishii*), were observed during surveys. Twenty-three (23) special-status plant species are likely to occur based on the presence of suitable soils, vegetation alliances, and/or documented collections. See Appendix D for distribution, habitat preference, and habitat suitability for these species.

5.5.2.1 Federal/State Listed Plant Species Observed

No federal or state listed plant species were observed during surveys.

5.5.2.2 Federal/State Listed Plant Species Likely to Occur

No federal or state listed plant species are likely to occur in the Project vicinity.

5.5.2.3 CNPS Listed Plant Species Observed

Emory's Crucifixion Thorn (*Castela emoryi*)

Emory's crucifixion thorn is a CNPS 2B.2 species. Twelve (12) plants were identified within the survey area, including two within 80 feet of the transmission lines, on low-grade alluvial slopes in the valley just northeast of the Cady Mountains (Exhibit 3).

Matted Cholla (*Grusonia parishii*)

Matted cholla is a CNPS 2B.2 species. Ten (10) scattered clumps were observed along the alignment during surveys, approximately 3.6 miles southwest of Cima Road (Exhibit 3).

5.5.2.4 CNPS-Listed Plant Species Likely to Occur

- Wright's beebrush (*Aloysia wrightii*) – CNPS 4.3
- Small-Flowered Androstephium (*Androstephium breviflorum*) – CNPS 2B.2
- San Bernardino Milk-Vetch (*Astragalus bernardinus*) – CNPS 1B.2
- Borrego milk-vetch (*Astagalus lentiginosus* var. *borreganus*) – CNPS 4.3
- Parry's Spurge (*Chamaesyce parryi*) – CNPS 2B.3

- Viviparous Foxtail Cactus (*Coryphantha vivipara* var. *rosea*) – CNPS 2B.2
- Ribbed Cryptantha (*Cryptantha costata*) – CNPS 4.3
- Winged Cryptantha (*Cryptantha holoptera*) – CNPS 4.3
- Purple-Nerve Cymopterus (*Cymopterus multinervatus*) – CNPS 2B.2
- Utah Vine Milkweed (*Cynanchum utahense*) – CNPS 4.2
- Booth's Evening-Primrose (*Eremothera boothii* var. *boothii*) – CNPS 2B.3
- Harwood's Eriastrum (*Eriastrum harwoodii*) – CNPS 1B.2
- Darlington's Blazing Star (*Mentzelia puberula*) – CNPS 2B.2
- Red Four O'clock (*Mirabilis coccinea*) – CNPS 2B.3
- Crowned Muilla (*Muilla coronata*) – CNPS 4.2
- Curved-Spine Beavertail (*Opuntia curvispina*) – CNPS 2B.2
- White-Margined Beardtongue (*Penstemon albomarginatus*) – CNPS 1B.1
- Desert Beardtongue (*Penstemon pseudospectabilis var. pseudospectabilis*) – CNPS 2B.2
- Sky-Blue Phacelia (*Phacelia coerulea*) – CNPS 2B.3
- Desert portulaca (*Portulaca halimoides*) – CNPS 4.2
- Desert Winged-Rockcress (*Sibara deserti*) – CNPS 4.3
- Rusby's Desert-Mallow (*Sphaeralcea rusbyi var. eremicola*) – CNPS 1B.2
- Jackass-Clover (*Wislizenia refracta* var. *refracta*) – CNPS 2B.2

5.5.3 SPECIAL-STATUS WILDLIFE SPECIES

Based upon the literature search and habitat assessment, ten (10) special-status wildlife species occur or have the potential to occur in the vicinity of the Project (Appendix D). Of these, two (2) do not occur or are unlikely to occur based on the absence of suitable habitat and/or the alignment being outside the species' geographic or elevation range. Three (3) special-status wildlife species were observed during Project-related surveys. An additional five (5) special-status wildlife species are likely to occur based on the presence of suitable habitat and/or documented observations. See Appendix D for distribution and habitat preference for these species.

5.5.3.1 Federal/State Listed or Fully Protected Wildlife Species Observed

Desert Tortoise (*Gopherus agassizii*)

The Mojave population of the desert tortoise was listed as threatened by the California Department of Fish and Wildlife (CDFW) on August 3, 1989 and USFWS on April 2, 1990 (USFWS 1990). A desert tortoise recovery plan was prepared in 1994 (USFWS 1994a), which proposed the establishment of recovery units and Desert Wildlife Management Areas (DWMAs) to provide recovery strategies and actions for the long-term persistence of viable desert tortoise populations and the ecosystems upon which they depend. Critical habitat was also designated in 1994 (USFWS 1994b). The recovery plan was revised in 2011 (USFWS 2011), which updated the recovery unit boundaries. Reasons for its protection include loss and degradation of habitat by development, off-road vehicles, military training maneuvers, mining, illegal dumping, livestock grazing and invasion of exotic grasses and forbs, predation by an increasing common raven population, illegal collecting (poaching) and intentional killing and harassment by an increasing human population, and a serious and fatal upper respiratory disease. These factors, coupled with delayed sexual maturity (13 to 20 years of age), low reproductive rates, and high mortality early in life, make recovery of the species difficult.

In the Western Mojave Recovery Unit, most rainfall occurs in fall and winter and produces winter annuals, which are the primary food source of tortoises. Above-ground activity occurs primarily (but not exclusively) in spring, associated with winter annual production. Thus, tortoises are adapted to a regime of winter rains and rare summer storms. Here, desert tortoises occur primarily in valleys, on alluvial fans, bajadas, and rolling hills. Desert tortoises in the Eastern Mojave Recovery Unit are generally found in creosote bush scrub communities of flats, valley bottoms, alluvial fans, and bajadas, but they occasionally use other habitats such as rocky slopes and blackbrush scrub. Desert tortoises are often active in this recovery unit in late summer and early fall, in addition to spring, reflecting the fact that this region receives up to about 40 percent of its annual rainfall in summer and supports two distinct annual floras on which tortoises can feed. They typically eat summer and winter annuals, cacti, perennial grasses, and herbaceous perennials. In the Colorado Desert Recovery Unit, desert tortoises are found in the valleys, on bajadas, desert pavements, rocky slopes, and in the broad, well-developed washes (especially to the south). Vegetation is characterized by relatively species-rich succulent scrub, creosote bush scrub, and blue paloverde-ironwood-smoke tree communities. Tortoises feed on both summer and winter annuals, because this region receives about one-third of its annual rainfall in summer and supports two distinct annual floras on which they can feed. The climate is somewhat warmer than in other recovery units, with very few freezing days per year.

Desert tortoise population densities in the region have been declining since at least 1980. The Mojave National Preserve (MNP) includes the Goffs Permanent Study Plot (a square mile plot in southeastern MNP), established in 1977 and sampled for tortoises in 1977, 1980, 1983-86, 1990, 1994, and 2000 (Berry 2000). Population density estimates across all size classes (tortoises per square mile, with 95 percent confidence intervals) declined from 440 (370-522) in 1980 to 88 (34-230) in 2000; sub-adult and adult size class declined from 195 (162-234) in 1980 to 18 (6-54) in 2000. The 2011 Recovery Plan estimated 2007 adult/sub-adult densities (per square mile) at 12.2 in the Western Mojave Recovery Unit, 12.9 in the Eastern Mojave Recovery Unit, and 11.9 in the Northern Colorado Recovery Unit. Surveys in 2011 for the Ivanpah Solar Electric Generating System Project, approximately 13 miles northwest of the Project, estimated densities at 18.0 adult/sub-adult tortoises per square mile (Sundance Biology 2011). The USFWS range-wide monitoring efforts determined 2014 densities (per square mile) of adult/sub-adult tortoises were 6.2 and 9.3 within the Superior-Cronese Critical Habitat Unit and Ord-Rodman Critical Habitat Unit, respectively, of the Western Mojave Recovery Unit, 6.0 within the Ivanpah Critical Habitat Unit of the Eastern Mojave Recovery Unit, and 12.4 and 7.3 within the Fenner Critical Habitat Unit and Chemehuevi Critical Habitat Unit, respectively, of the Colorado Desert Recovery Unit (USFWS 2015).

A total of thirteen (13) live desert tortoises were observed within Survey Areas (Table 2; Exhibit 3); an additional two (2) sub-adults were incidentally observed on an access road outside of the Survey Area and are not included in population calculations. The thirteen (13) live tortoises observed within Survey Areas included ten (10) adult/sub-adult tortoises with a maximum carapace length (MCL) greater than 160mm and one (1) juvenile tortoise with a MCL less than or equal to 160mm; two (2) tortoises were deep in burrows and unable to be measured (assumed to be adult/sub-adult for population calculations). Eleven (11) of the thirteen (13) live tortoises observed were associated with a burrow (in burrow or at entrance); two (2) tortoises were observed in the open, one of which was an adult with an identification tag (#N92043). Of the tortoises encountered where surveyors could clearly see the animal's eyes, nares, and carapace, one (1) tortoise exhibited indications of possible respiratory infection (i.e., wet nares and swollen/inflamed eyes). Other desert tortoise sign observed included two hundred fifteen (215) tortoise burrows and an additional twenty-eight (28) burrows with tortoise tracks, one hundred eighty-five (185) pallets and an additional seven (7) pallets with tortoise tracks, one hundred forty (140) tortoise scat, thirty-five (35) tortoise carcasses, and five (5) locations with tortoise eggshell fragments (Table 2; Exhibit 3). The high numbers of sign are a strong indication that this area provides high quality desert tortoise habitat. Photographs are presented in the Focused Survey for Desert Tortoise Report (EI 2016).

TABLE 2. DESERT TORTOISE SIGN OBSERVED

Sign Type	Class[1]						
	1	2	3	4	5	Unclassified	Totals
Live Desert Tortoises	8	2	1	0	0	2	13
Burrows	11	53	97	53	1	0	215
Burrows with Tracks	5	21	2	0	0	0	28
Pallets	185						185
Pallets with Tracks	7						7
Scat	140						140
Tracks not associated with burrow	0						0
Carcasses/Shell Remains	0	1	3	1	30	0	35
Drinking Depressions with Tracks	0						0
Locations with Eggshell Fragments	5						5

[1]Desert Tortoise Sign Classification (*sensu* USFWS 2010):

Live Desert Tortoises (Maximum Carapace Length)
Class 1 – Adult (≥215mm)
Class 2 – Sub-Adult (161-214mm)
Class 3 – Juvenile (101-160mm)
Class 4 – Very Young (61-100mm)
Class 5 – Hatchling (≤60mm)
Unclassified – Completely in burrow, unable to measure

Burrows
Class 1 – Currently active with tortoise or recent sign
Class 2 – Good condition (definitely tortoise), but no evidence of recent use
Class 3 – Deteriorated condition (definitely tortoise)
Class 4 – Deteriorated condition (possibly tortoise)
Class 5 – Good condition (possibly tortoise)

Carcasses/Shell Remains
Class 1 – Fresh or putrid
Class 2 – Not fresh or putrid, is of normal color, and scutes adhere to bone
Class 3 – Scutes peeling from the bone
Class 4 – Shell bone is falling apart and growth rings on scutes are peeling
Class 5 – Disarticulated and scattered

Using the calculations provided in the 2010 Field Season Protocol (USFWS 2010), desert tortoise abundance and confidence interval as well as densities were estimated. Due to the difference in annual rainfall across the Project, the density estimates were split into two sections based on the Recovery Unit boundaries. Precipitation preceding the surveys was less than 40 mm in the Western Mojave Recovery Unit and above 40mm in the Eastern Recovery Unit.

In the Western Mojave Recovery Unit, four (4) adult/sub-adult desert tortoises were observed during transects within the Survey Area (Exhibit 3). Precipitation for the previous winter months (and summer months) in the Western Mojave Recovery Unit was less than 40mm (~1.57 inches), so the Pa was assigned a value of 0.64 with a variance of 0.08. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Western Mojave Recovery Unit is 8.9 (2.7 – 28.8) tortoises. The population density is approximately 20.6 adult/sub-adult tortoises per square mile, which is higher than the 2014 USFWS estimates of 6.2-9.3 tortoises per square mile for the Superior-Cronese and Ord-Rodman Critical Habitat Units.

In the Eastern Mojave Recovery Unit, eight (8) adult/sub-adult desert tortoises were observed during transects within the Survey Area, all within the Ivanpah Critical Habitat Unit (Exhibit 3). Precipitation for the previous winter months (and summer months) in the Eastern Mojave Recovery Unit was greater than 40mm (~1.57 inches), so the Pa was assigned a value of 0.80 with a variance of 0.05. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Eastern Mojave Recovery Unit is 14.5 (6.1 – 34.6) tortoises. The population density is approximately

17.5 adult/sub-adult tortoises per square mile, which is higher than the 2014 USFWS estimates of 6.0-12.4 tortoises per square mile for the Ivanpah, Fenner, and Chemehuevi Critical Habitat Units, but similar to Ivanpah Solar's estimate of 18.0 tortoises per square mile.

Discrepancies in densities from various studies could be a result of habitat quality, variation between regional populations, survey time of year, and/or yearly weather fluctuations.

5.5.3.2 Federal/State Listed or Fully Protected Wildlife Species Likely to Occur

Gilded Flicker (*Colaptes chrysoides*)

The gilded flicker is a State Endangered species. It is a year-round resident in southeastern California, known to occur in the Mojave National Preserve. Its range largely coincides with the regional distribution of giant cacti throughout the U.S., but in California, they have been primarily found in the lower Colorado River valley in desert riparian, desert wash, and Joshua tree habitats. They nest in cavities in giant cacti, trees, or posts.

Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

The desert bighorn sheep is a Fully Protected species in California. Desert bighorn live throughout the inter-mountain west in a large number of desert mountain ranges in eastern California, much of Nevada, northwestern Arizona, New Mexico, southern Utah, southern Colorado, and Mexico. In California, the desert bighorn sheep is found in the dry, desert mountains of southeastern California. It is a year-round resident throughout the Project area, inhabiting the North Bristol Mountains and Kelso Peaks/Marl/Old Dad Mountains, which the Project passes through, as well as other adjacent mountain ranges.

5.5.3.3 Special-Status (Non-Listed) Wildlife Species Observed

Mohave Fringe-toed Lizard (*Uma scoparia*)

The Mohave fringe-toed lizard is a California Species of Special Concern (SSC). This species was observed during surveys (Exhibit 3). Suitable habitat occurs along the alignment in areas of fine windblown sand (e.g. near I-40 and Devil's Playground).

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a California SSC for nesting. This species was observed during surveys (Exhibit 3). Suitable nesting and foraging habitat occur in the vicinity of the alignment.

5.5.3.4 Special-Status (Non-Listed) Wildlife Species Likely to Occur

- Burrowing owl (*Athene cunicularia*) – California SSC – year-round. Suitable habitat and burrows are present throughout entire alignment.
- Pallid bat (*Antrozous pallidus*) – California SSC – year-round. Suitable rock outcrops for roosting are present along the alignment.
- American badger (*Taxidea taxus*) – California SSC – year-round. Suitable habitat is present along the alignment.

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Appendix A:

EXHIBITS

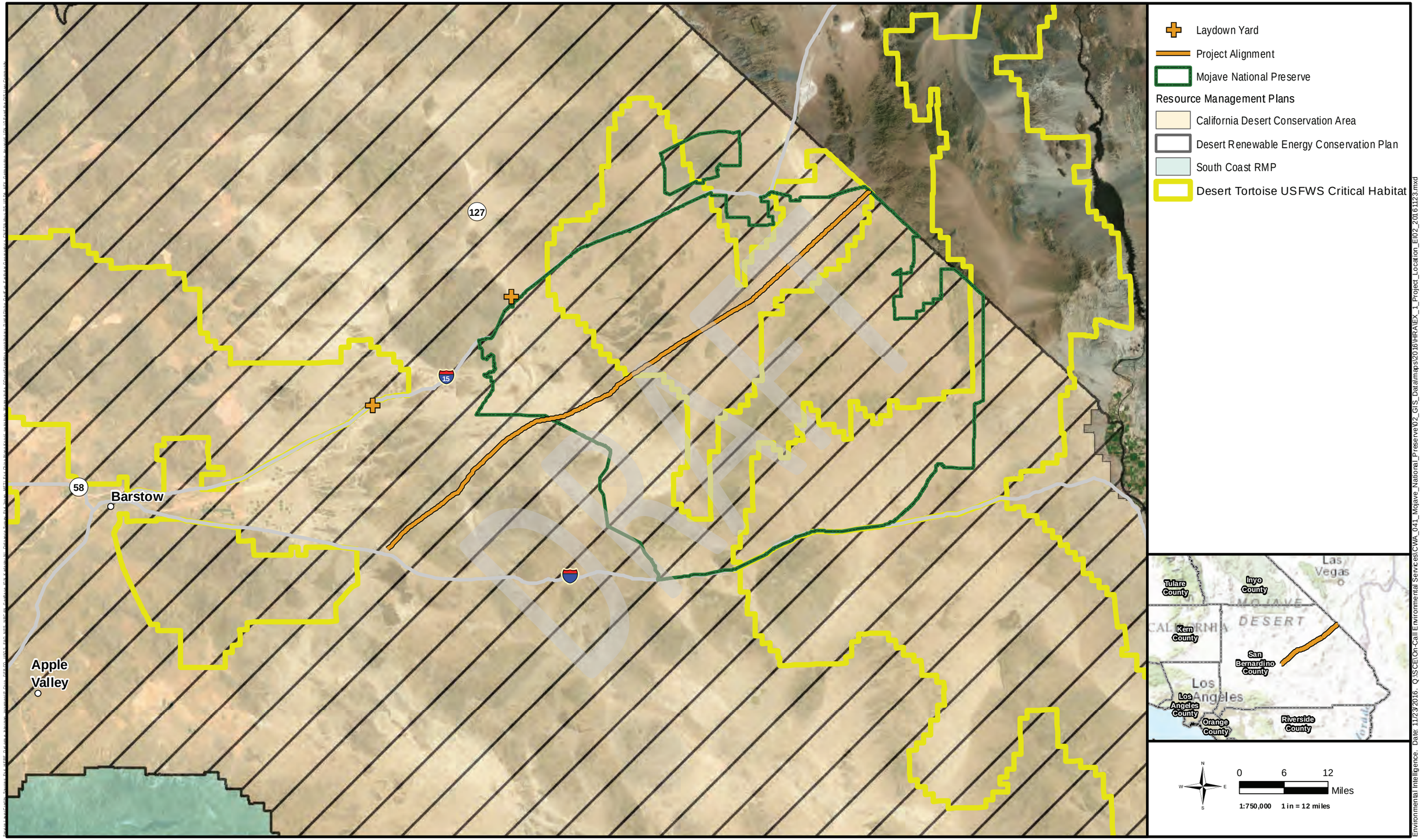

Exhibit 1. Project Location
LVRAS Project | San Bernardino County, CA

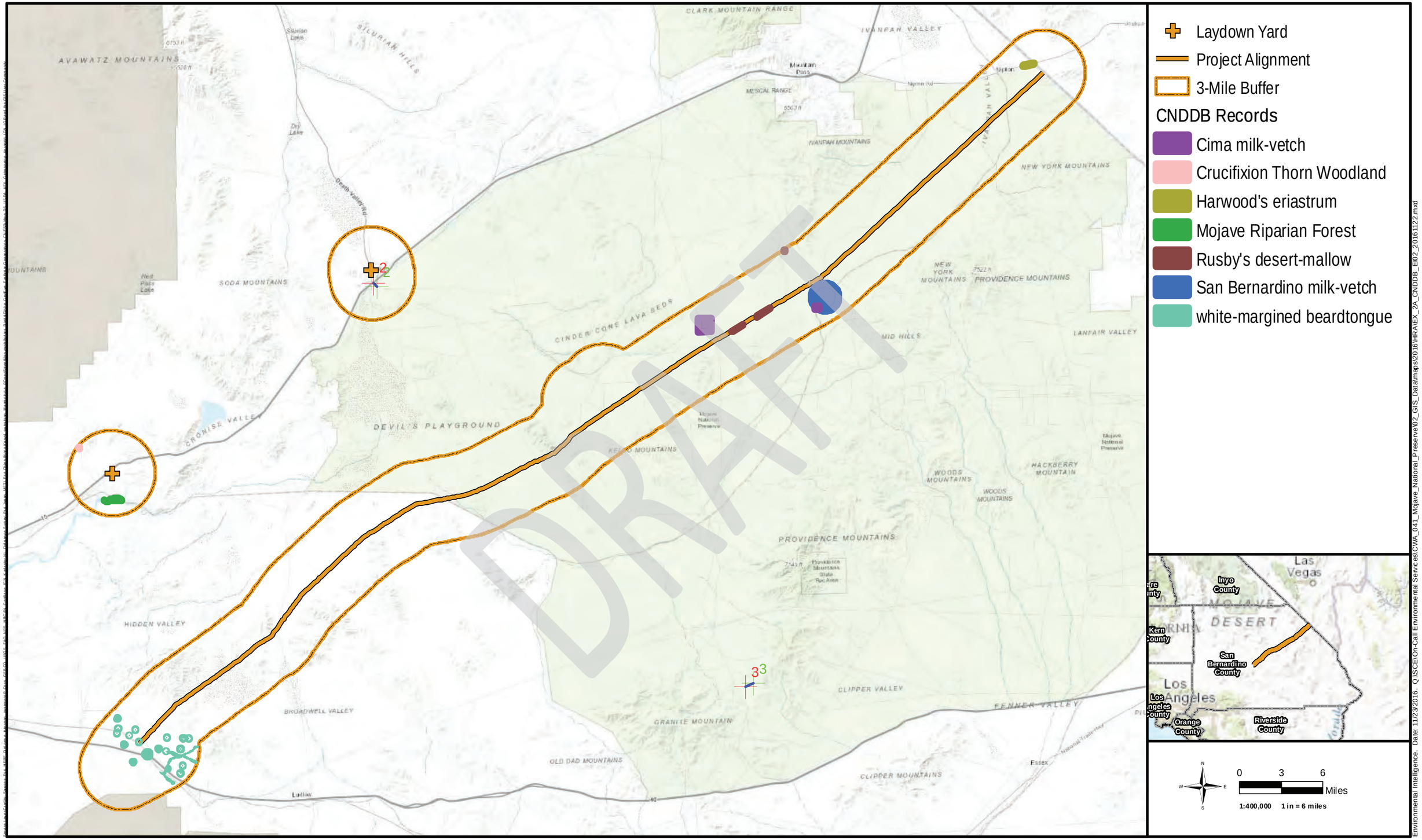

Exhibit 2A. CNDDB Records (Plants and Habitats)

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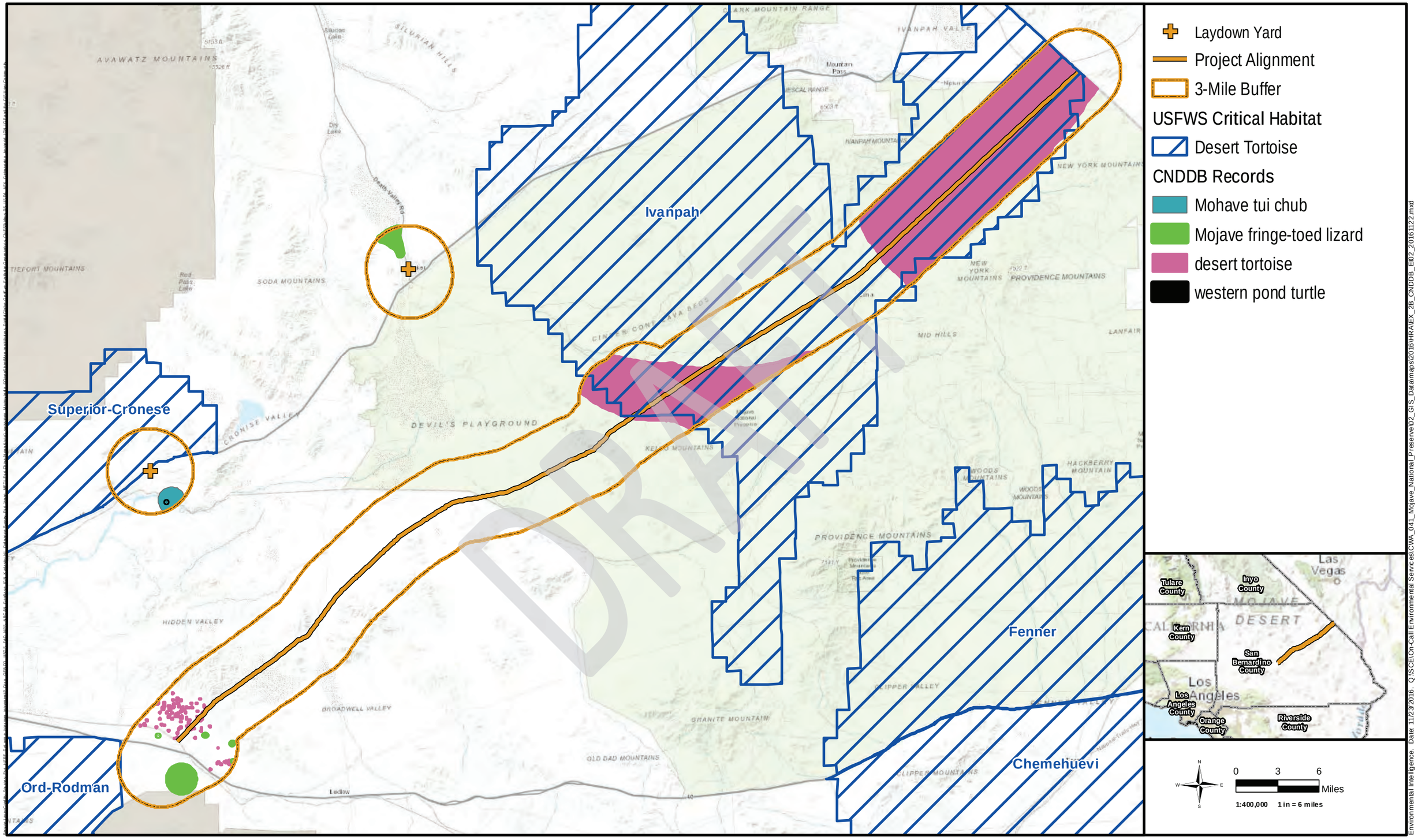

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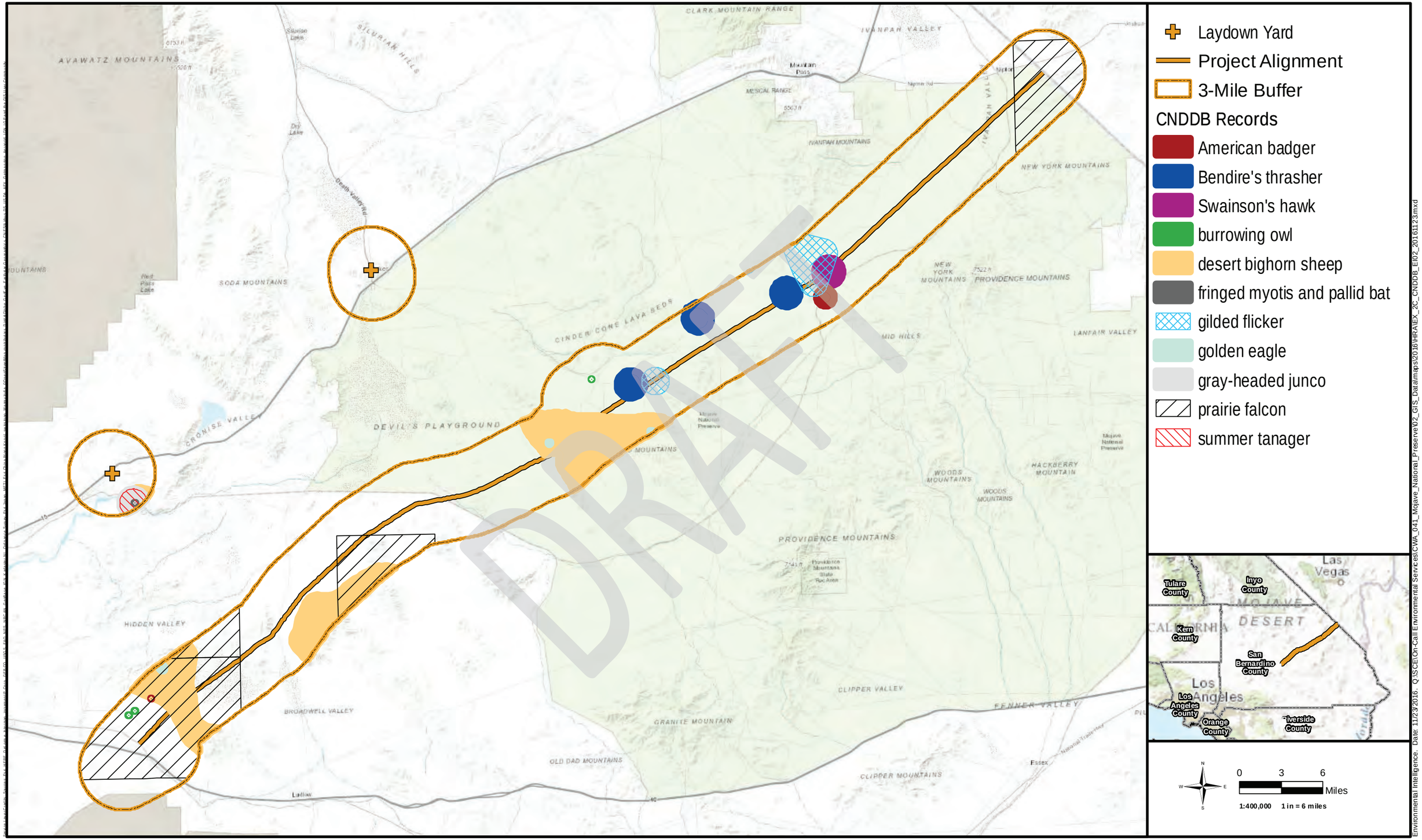

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Exhibit 2C. CNDDB Records (Mammals and Birds)

LVRAS Project | San Bernardino County, CA

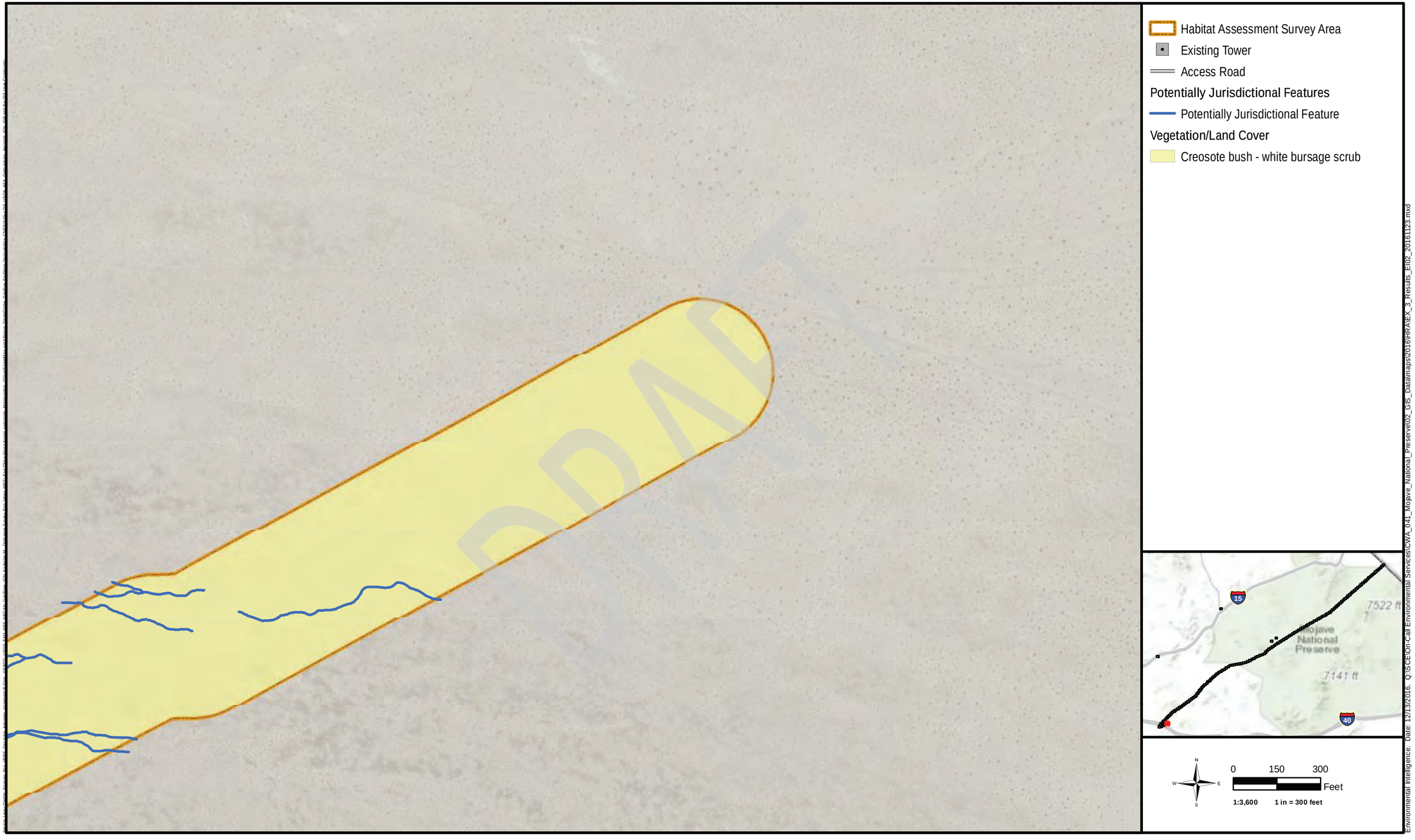

Exhibit 3. Survey Areas and Results (Page 1 of 140)

LVRAS Project | San Bernardino County, CA

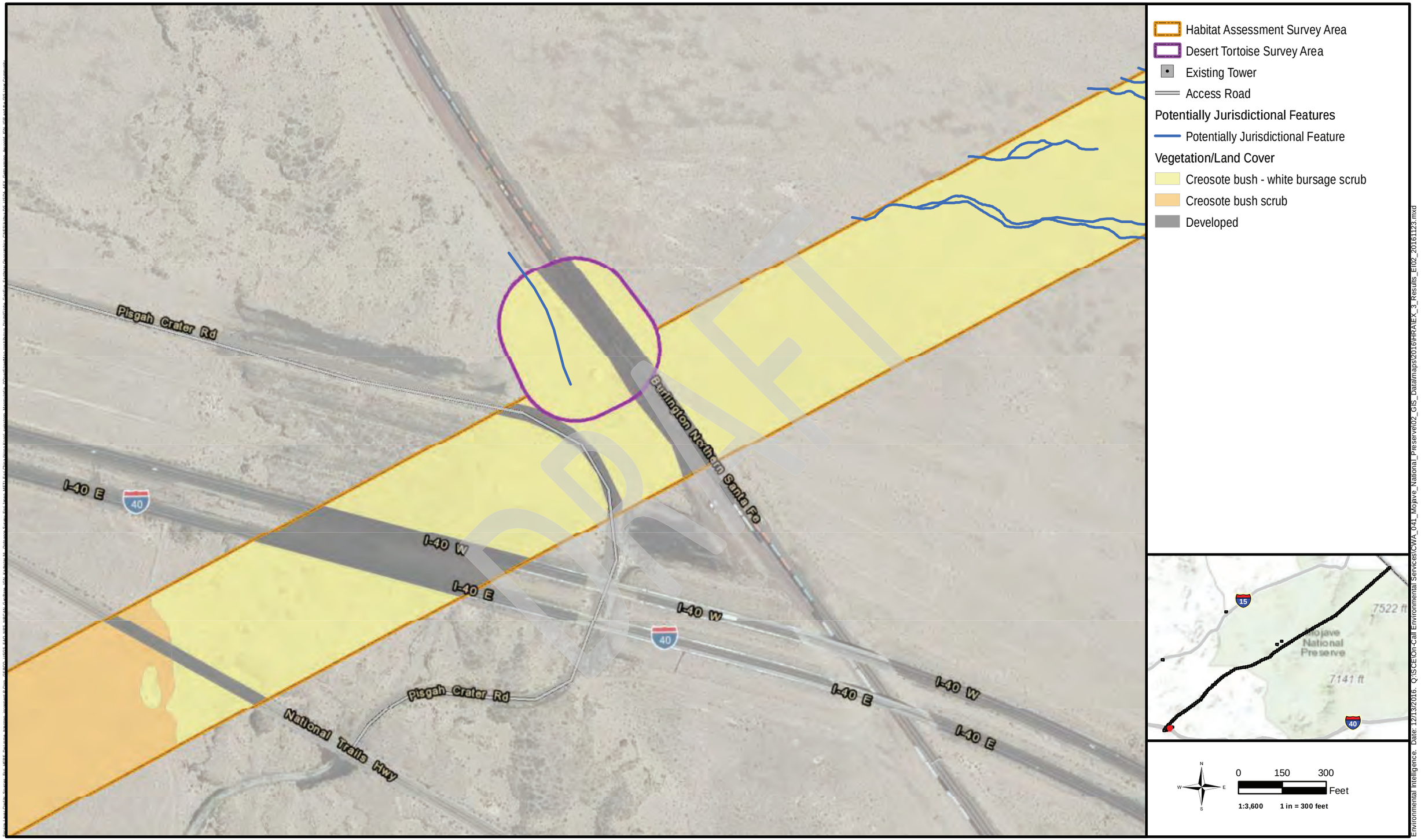

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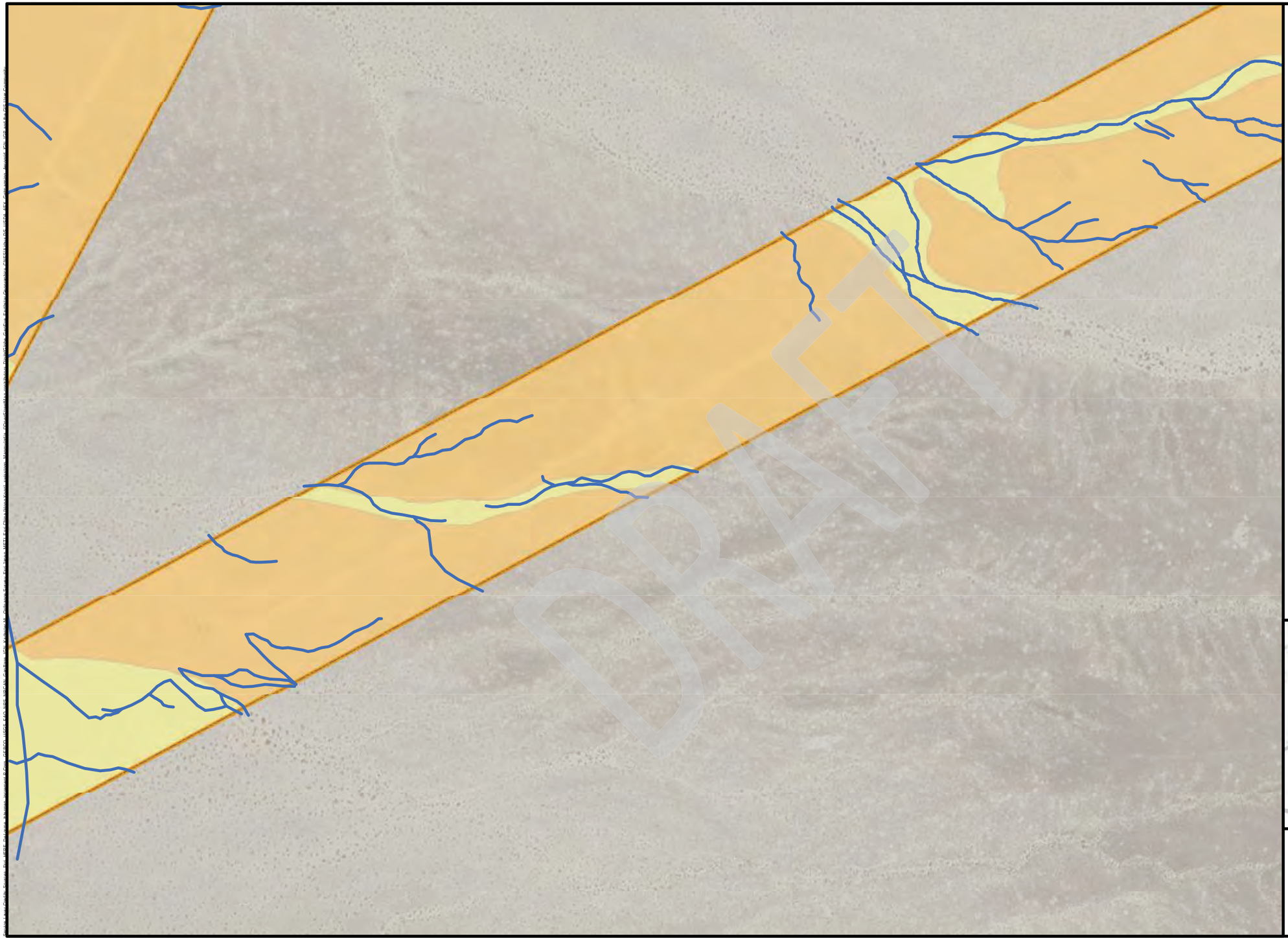
Exhibit 3. Survey Areas and Results (Page 2 of 140)
LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 3 of 140)

LVRAS Project | San Bernardino County, CA


Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd


Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
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0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_Ei02_20161123.mxd

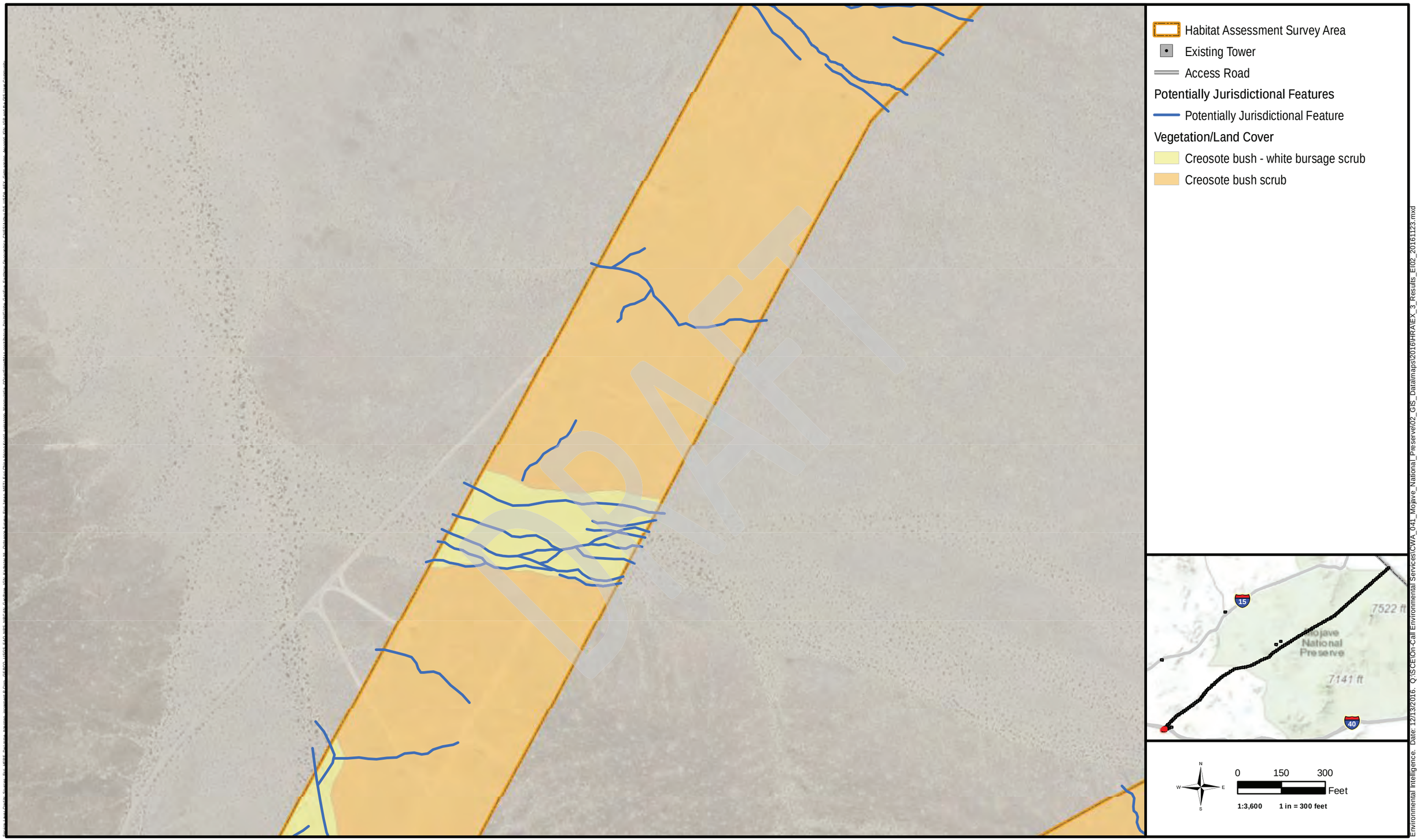
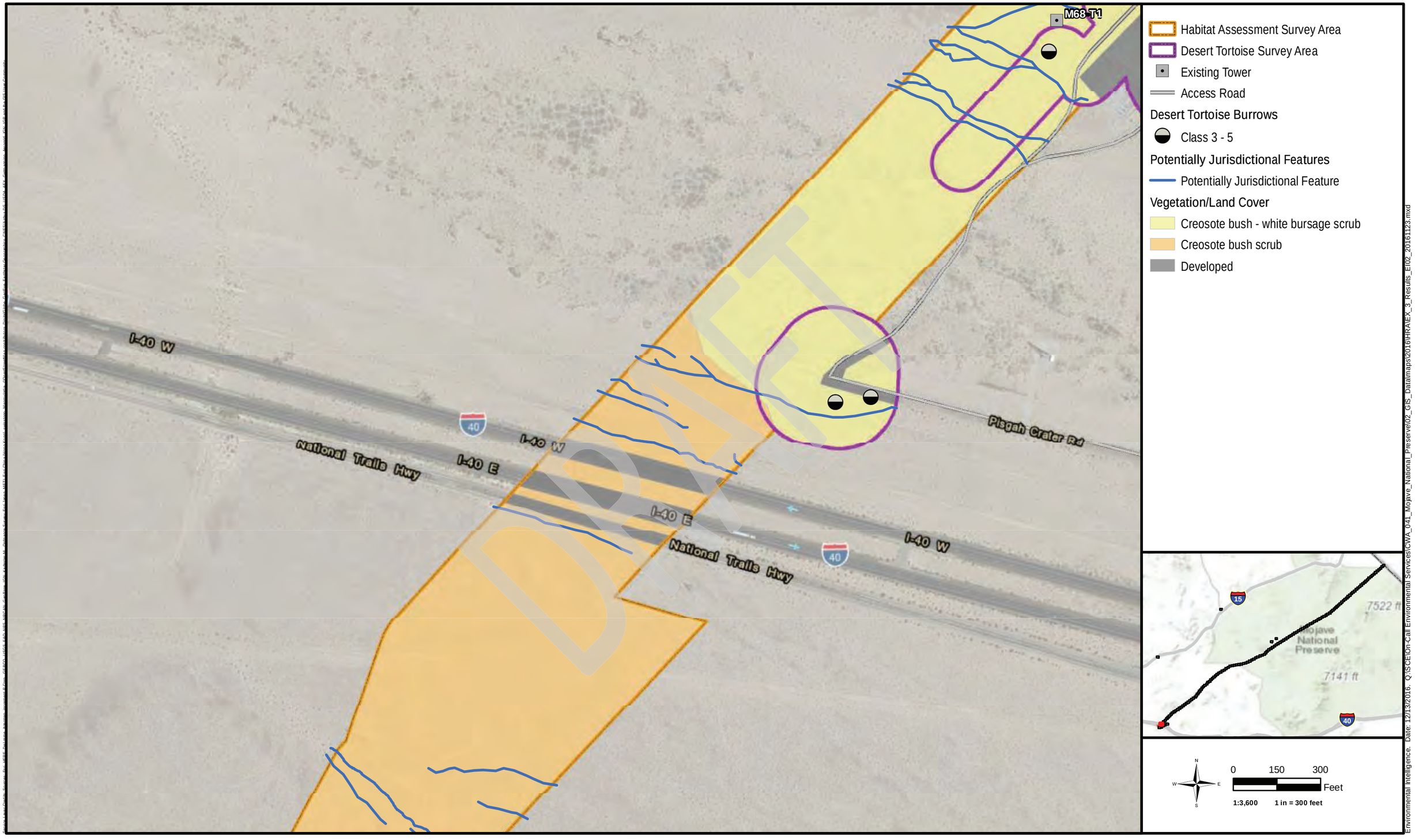


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 6 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M68-T1
I-40 W
National Trails Hwy
I-40 E
I-40 W
I-40 E
National Trails Hwy
I-40 W
Pisgah Crater Rd
40
40
40
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Developed
15
7522 ft
Mojave National Preserve
7141 ft
40
N
W
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S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsd\2016\HRA\EX_3_Results_EI02_20161123.mxd

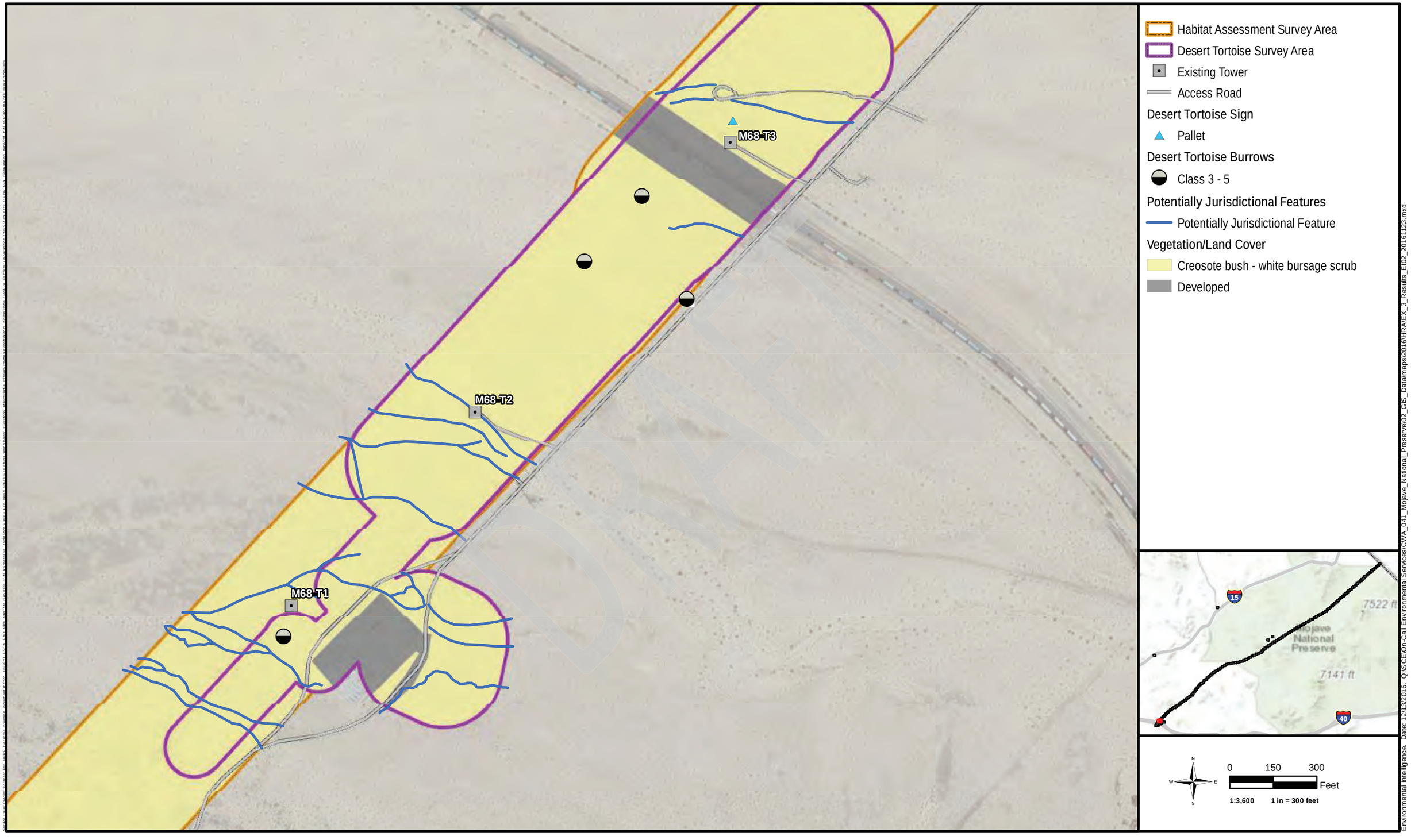

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Exhibit 3. Survey Areas and Results (Page 8 of 140)

LVRAS Project | San Bernardino County, CA

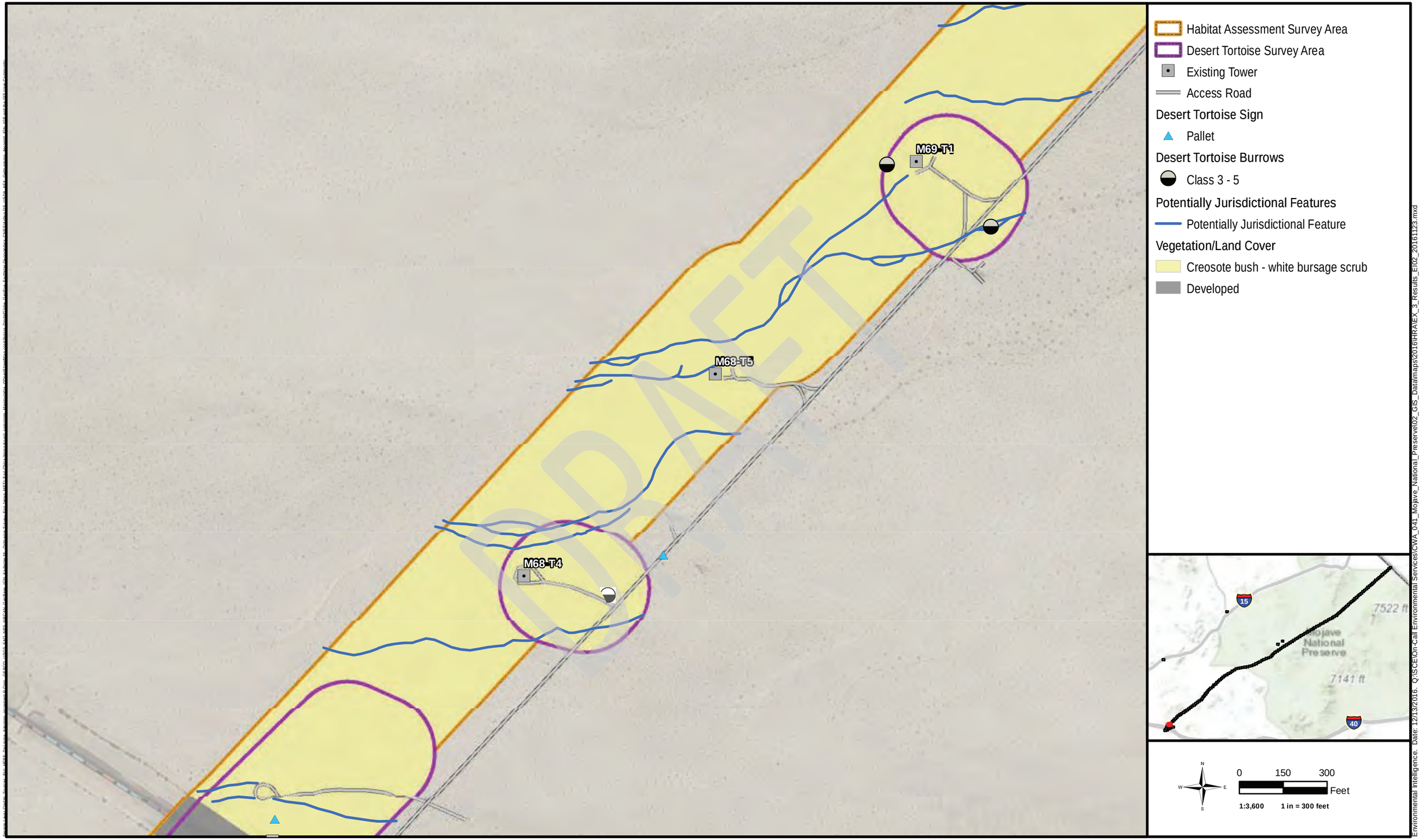
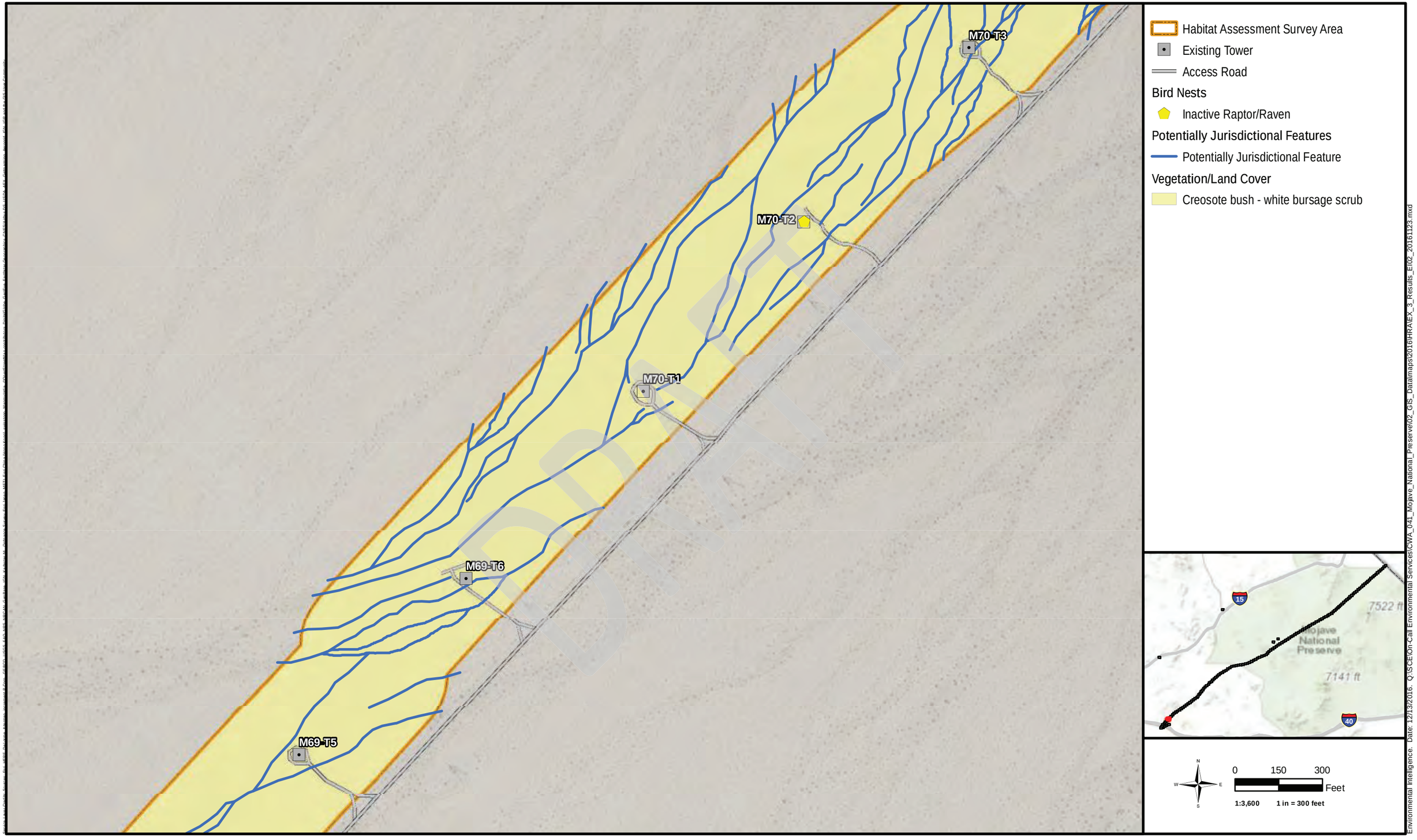


Exhibit 3. Survey Areas and Results (Page 9 of 140)

LVRAS Project | San Bernardino County, CA

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 10 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M70-T3
M70-T2
M70-T1
M69-T6
M69-T5
Habitat Assessment Survey Area
Existing Tower
Access Road
Bird Nests
Inactive Raptor/Raven
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M70-T6
M70-T5
M70-T4
M70-T3
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
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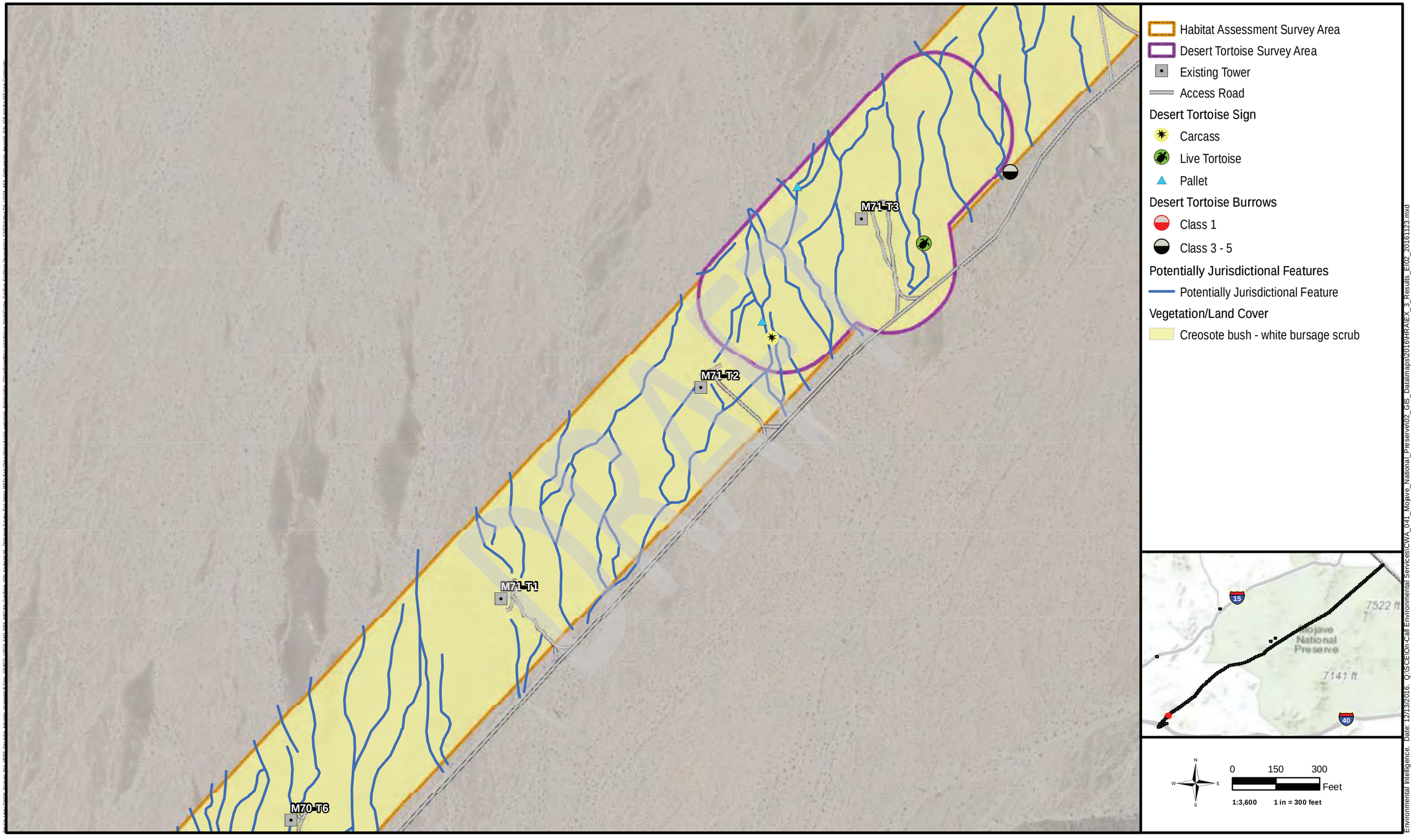
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd


M71-T3
M71-T2
M71-T1
M70-T6
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Desert Tortoise Burrows
Class 1
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
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7522 ft
7141 ft
Mojave National Preserve
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Exhibit 3. Survey Areas and Results (Page 14 of 140)

LVRAS Project | San Bernardino County, CA

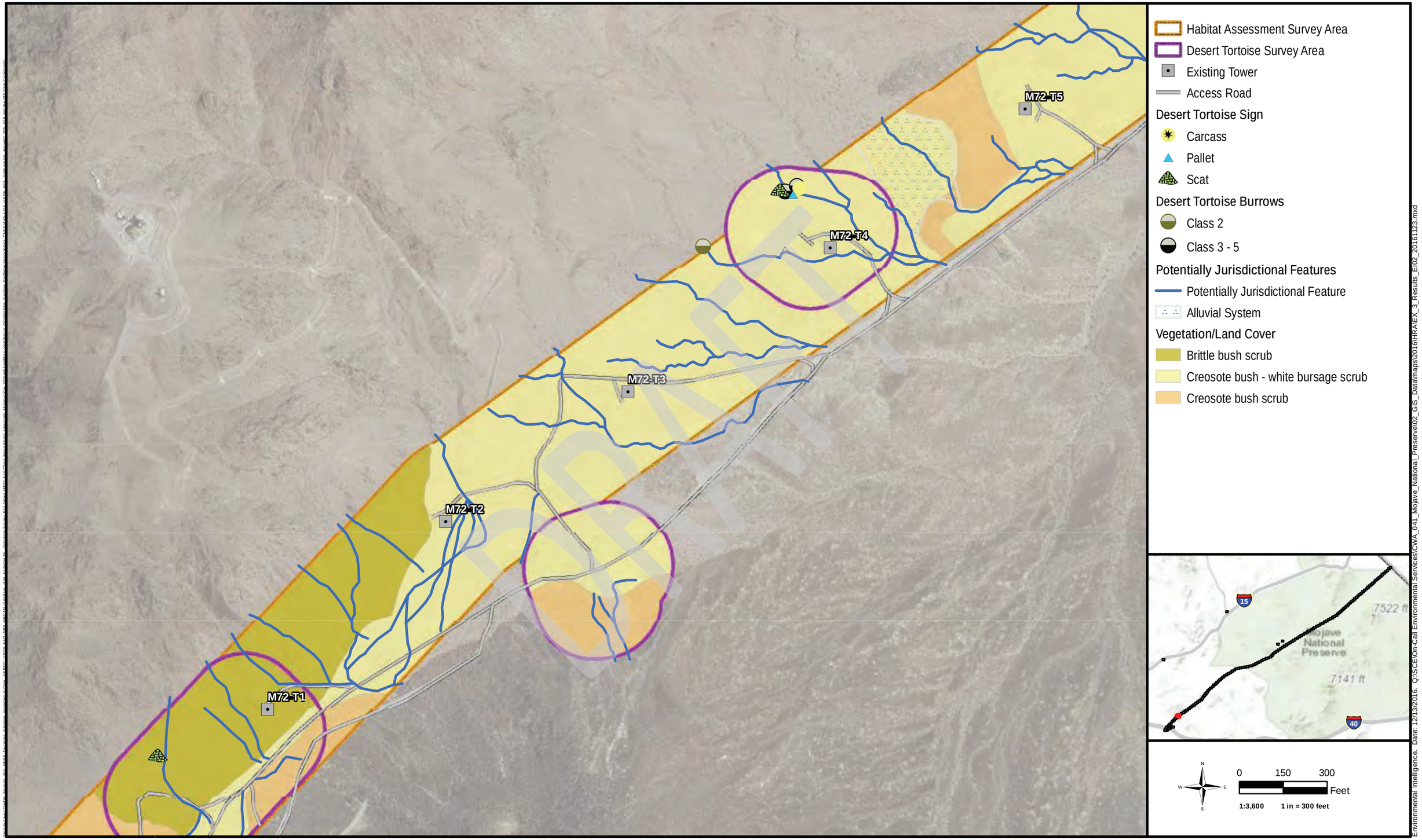


Exhibit 3. Survey Areas and Results (Page 15 of 140)

LVRAS Project | San Bernardino County, CA

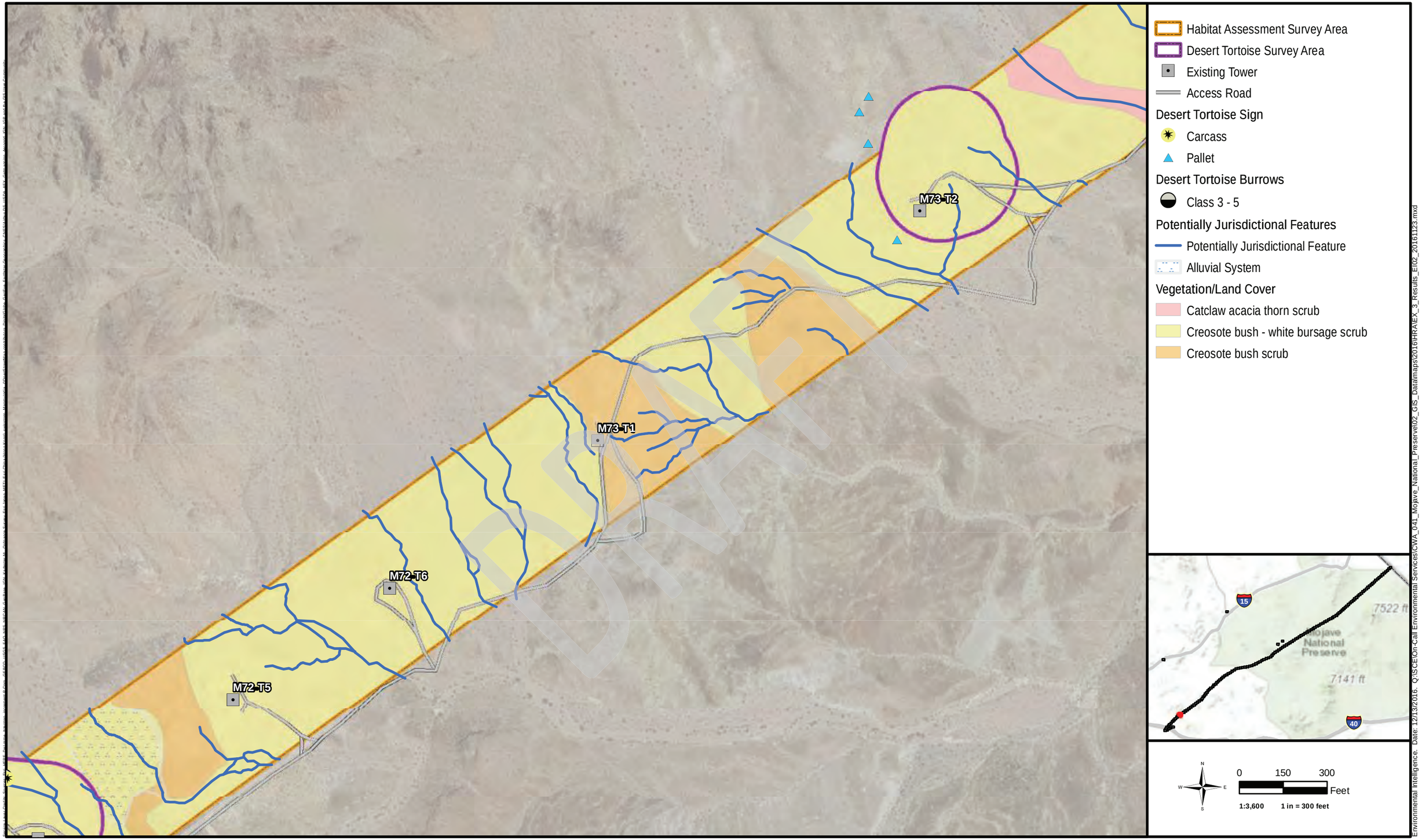


Exhibit 3. Survey Areas and Results (Page 16 of 140)
LVRAS Project | San Bernardino County, CA

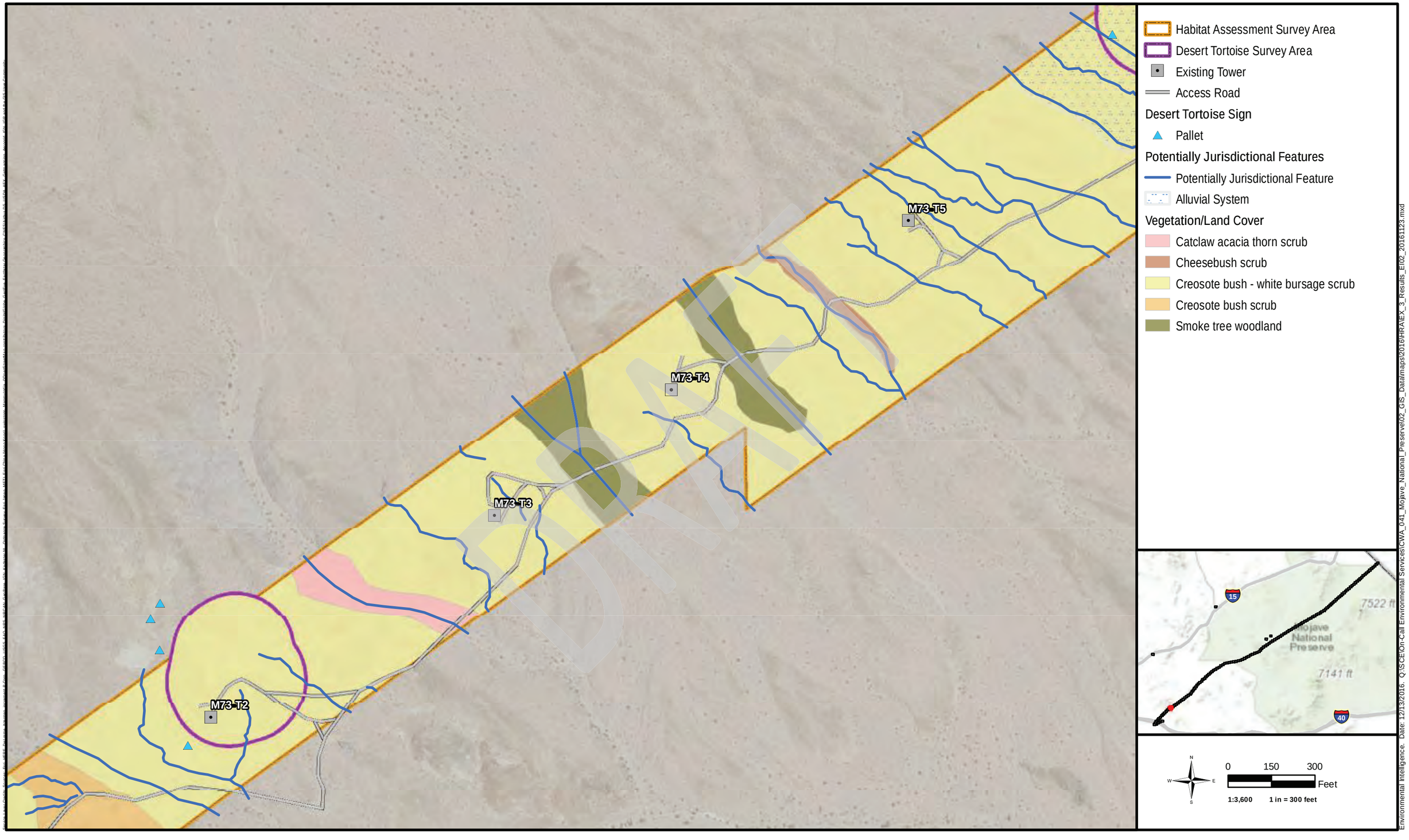


Exhibit 3. Survey Areas and Results (Page 17 of 140)
LVRAS Project | San Bernardino County, CA

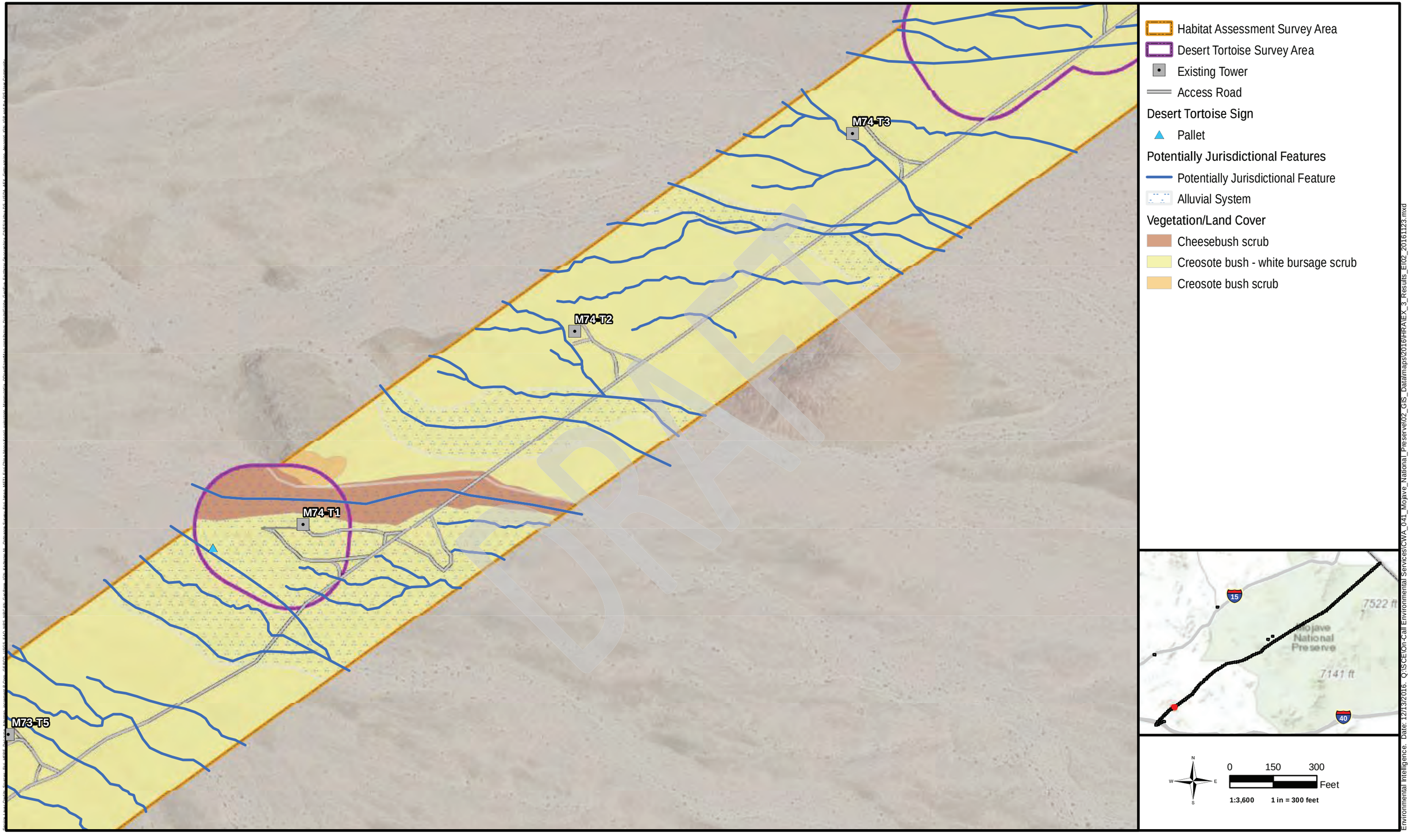
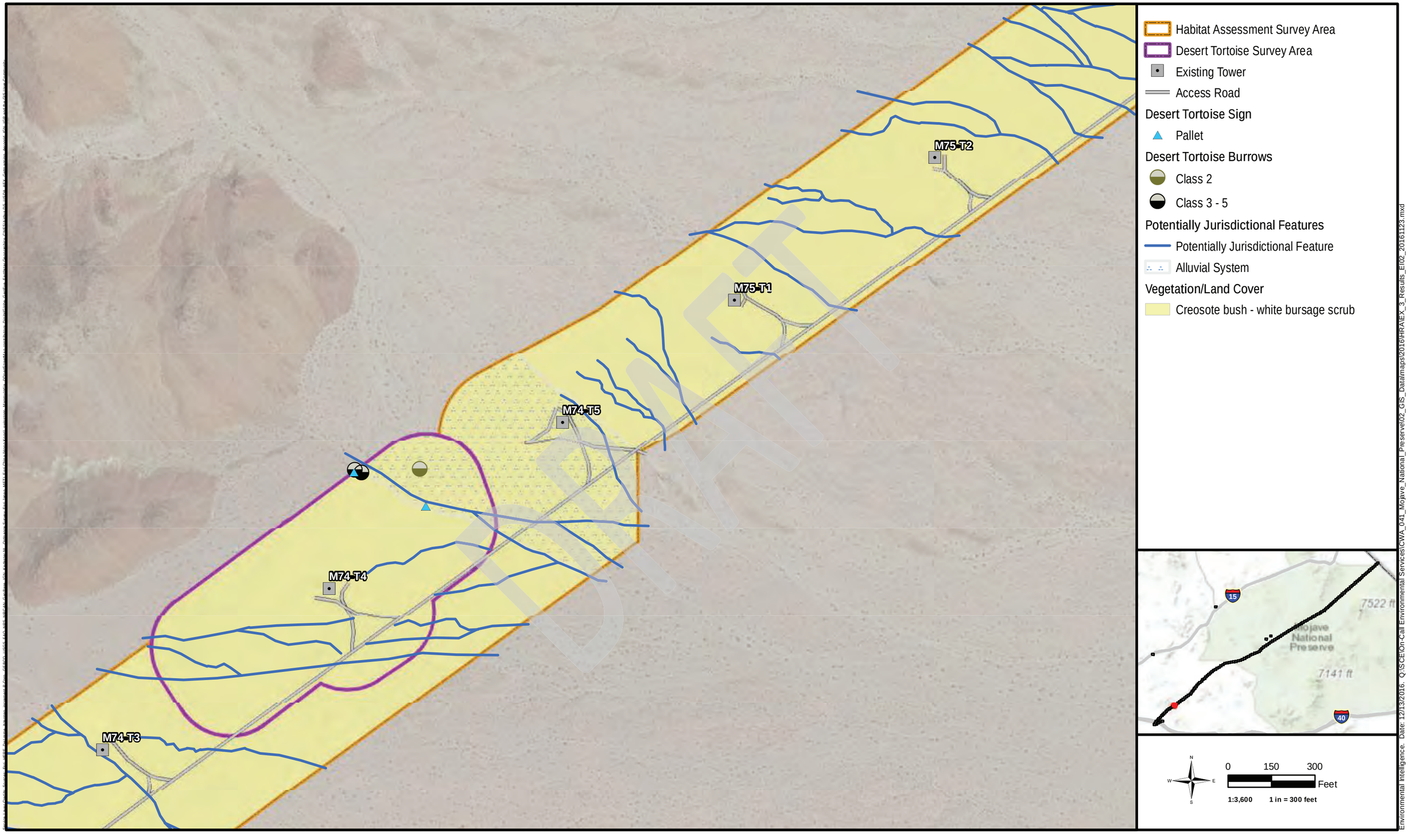


Exhibit 3. Survey Areas and Results (Page 18 of 140)

LVRAS Project | San Bernardino County, CA


M75-T2
M75-T1
M74-T5
M74-T4
M74-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
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1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

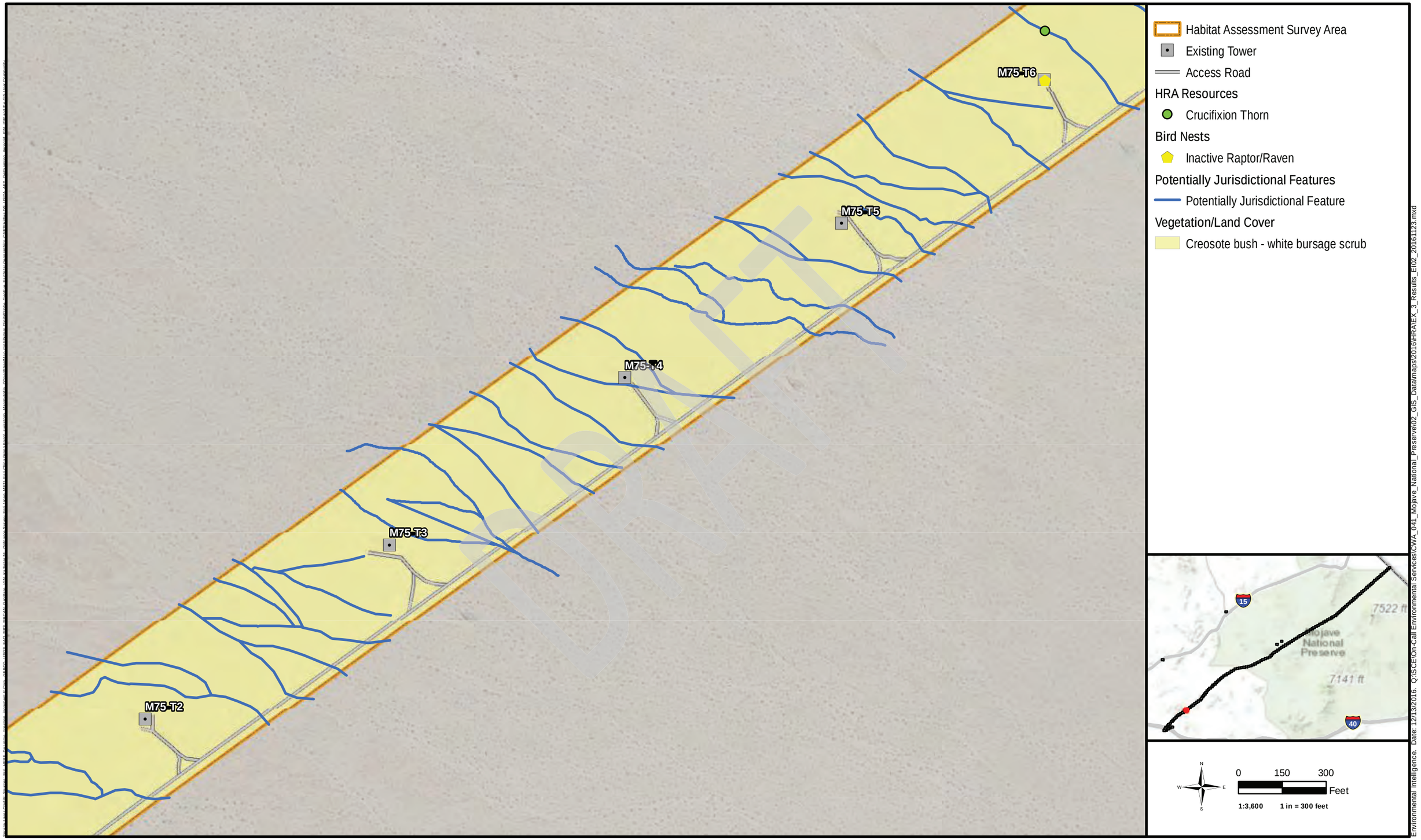
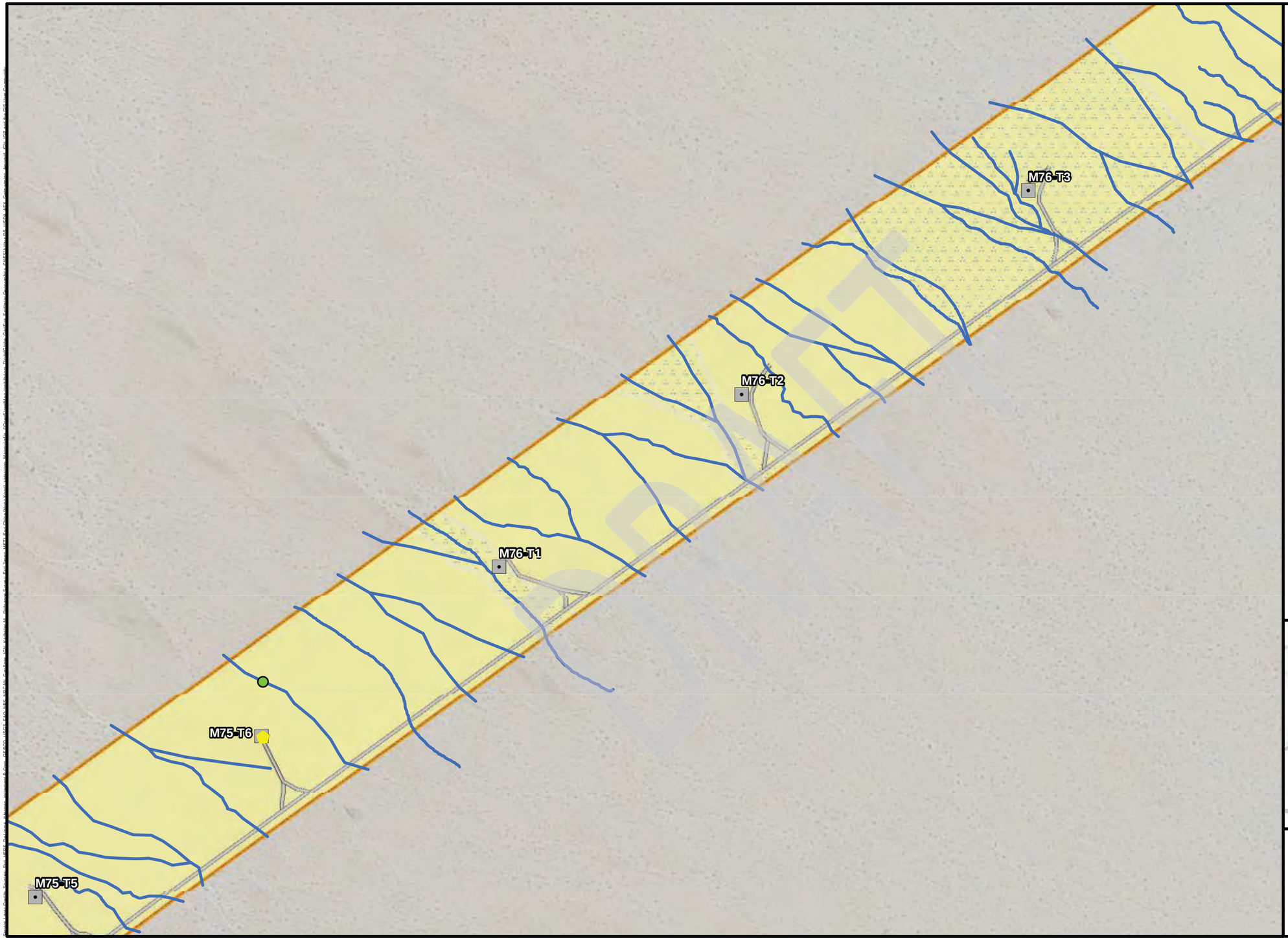


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 20 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA



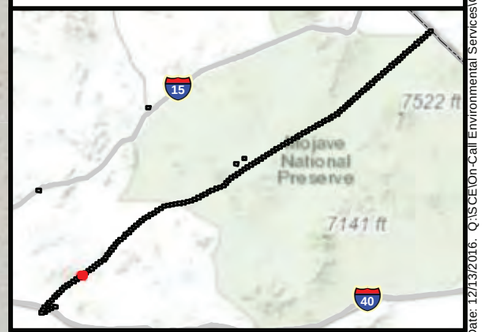
Habitat Assessment Survey Area
Existing Tower
Access Road

HRA Resources
Crucifixion Thorn

Bird Nests
Inactive Raptor/Raven

Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System

Vegetation/Land Cover
Creosote bush - white bursage scrub



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Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 21 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

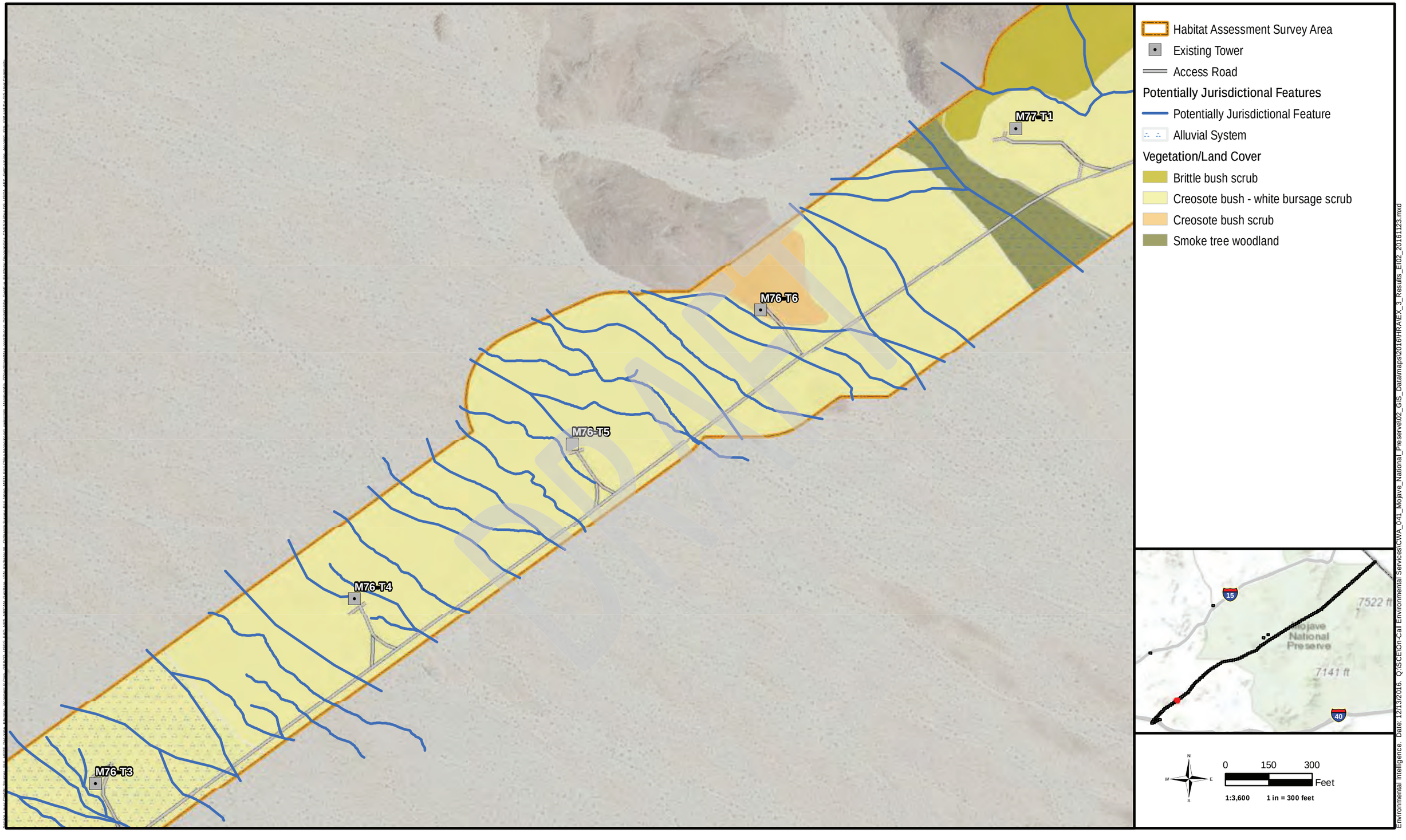


Exhibit 3. Survey Areas and Results (Page 22 of 140)

LVRAS Project | San Bernardino County, CA

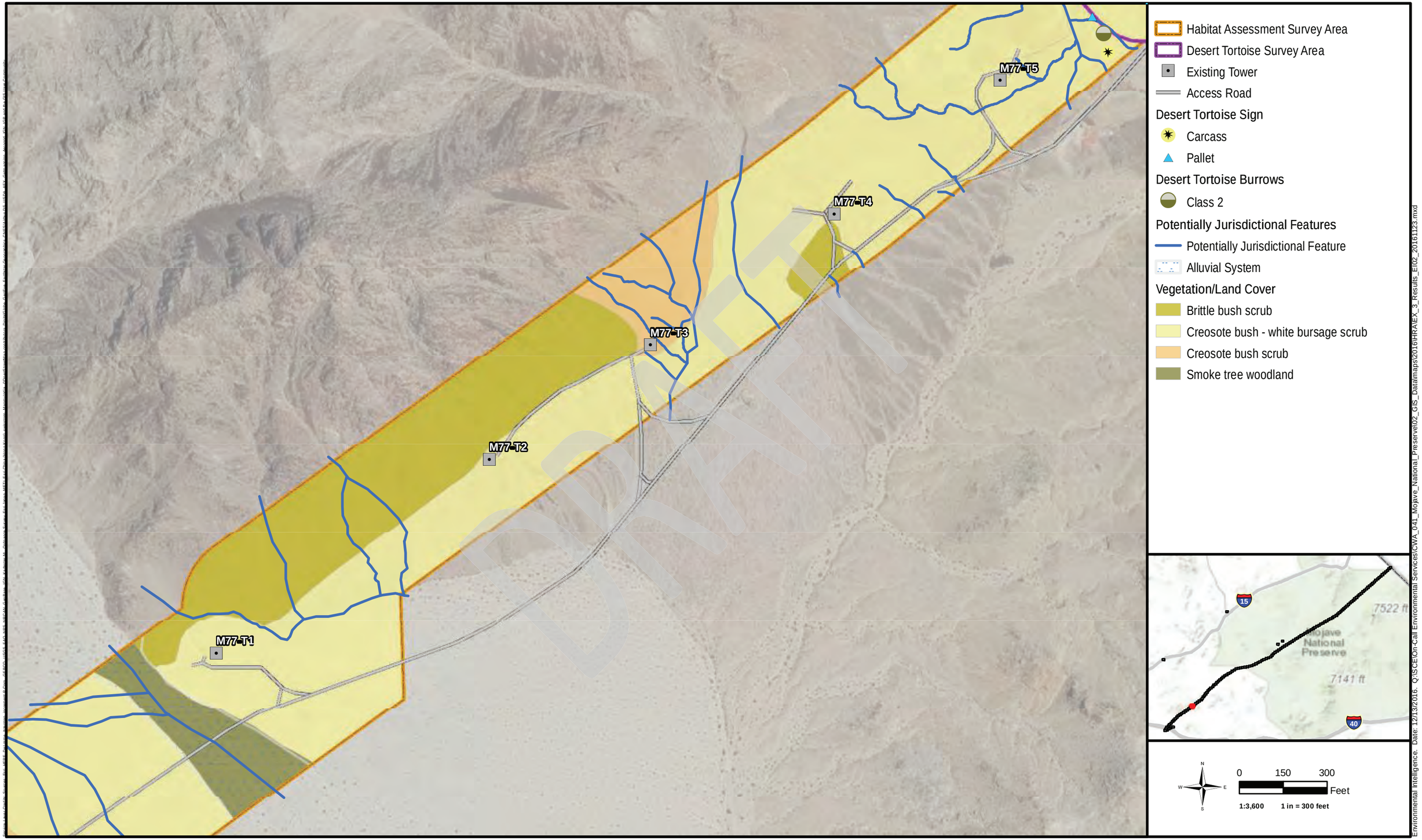


Exhibit 3. Survey Areas and Results (Page 23 of 140)

LVRAS Project | San Bernardino County, CA

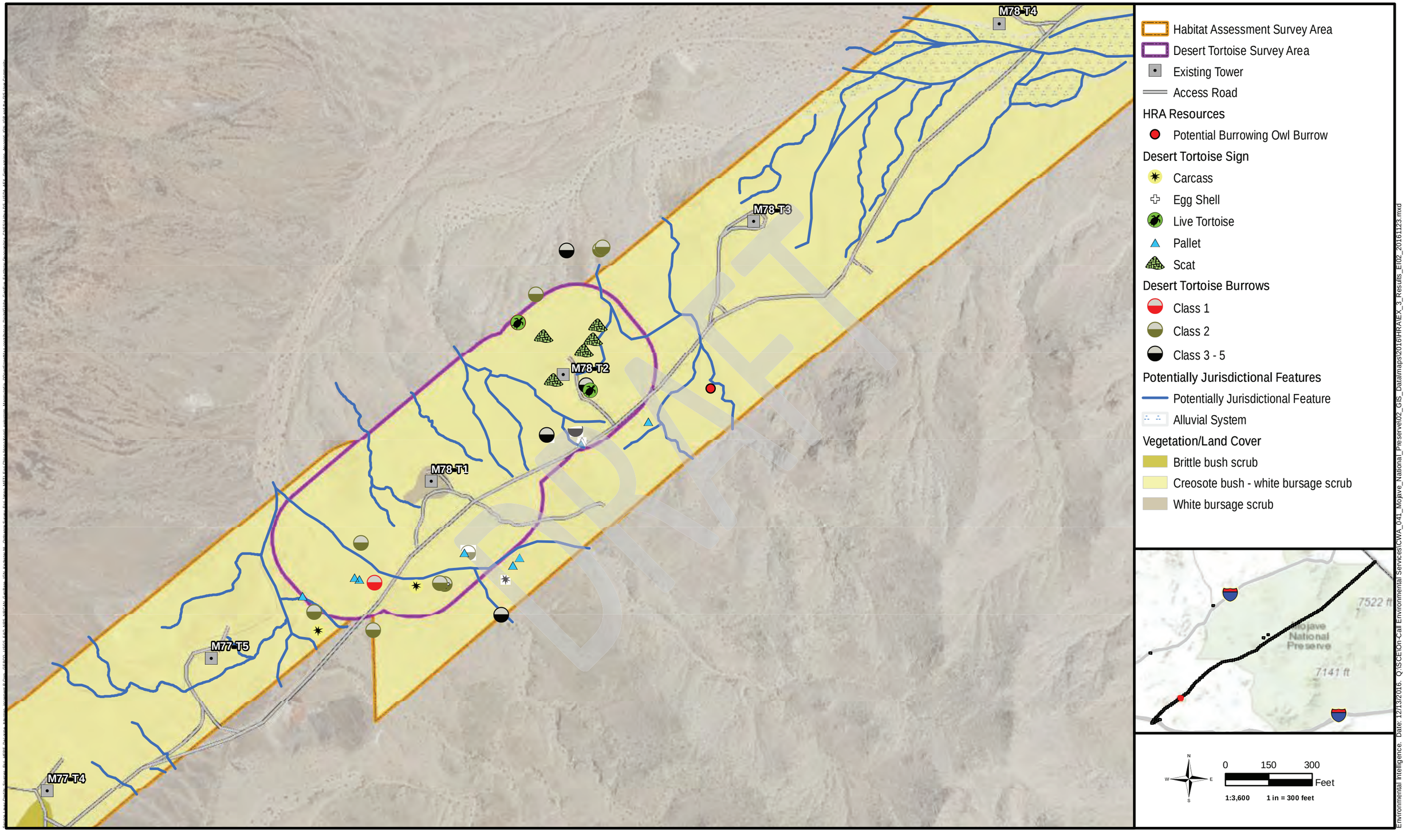
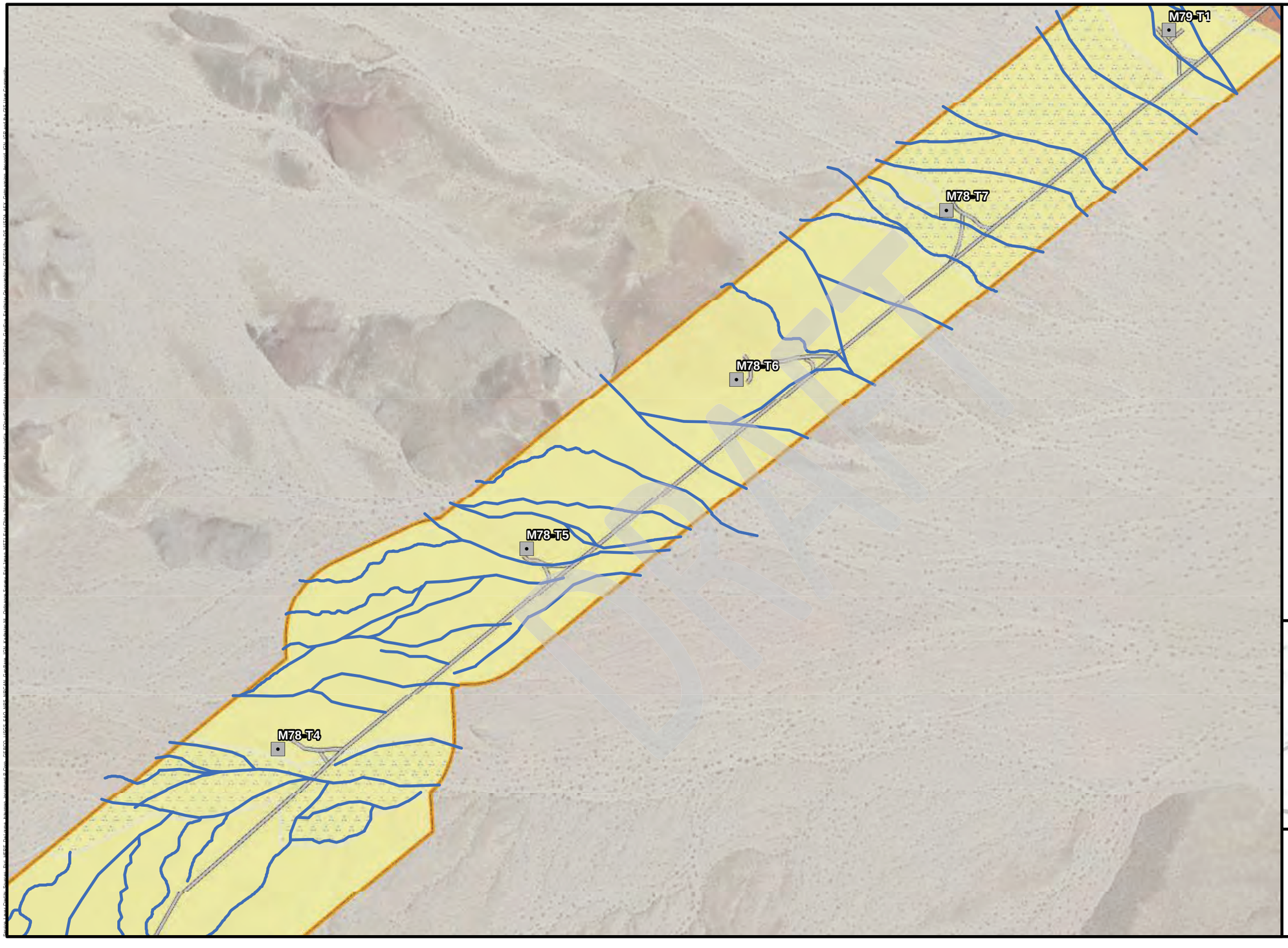


Exhibit 3. Survey Areas and Results (Page 24 of 140)
LVRAS Project | San Bernardino County, CA



Habitat Assessment Survey Area
Existing Tower
Access Road

Potentially Jurisdictional Features

Potentially Jurisdictional Feature
Alluvial System

Vegetation/Land Cover

Cheesebush scrub
Creosote bush - white bursage scrub

N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 25 of 140)

LVRAS Project | San Bernardino County, CA

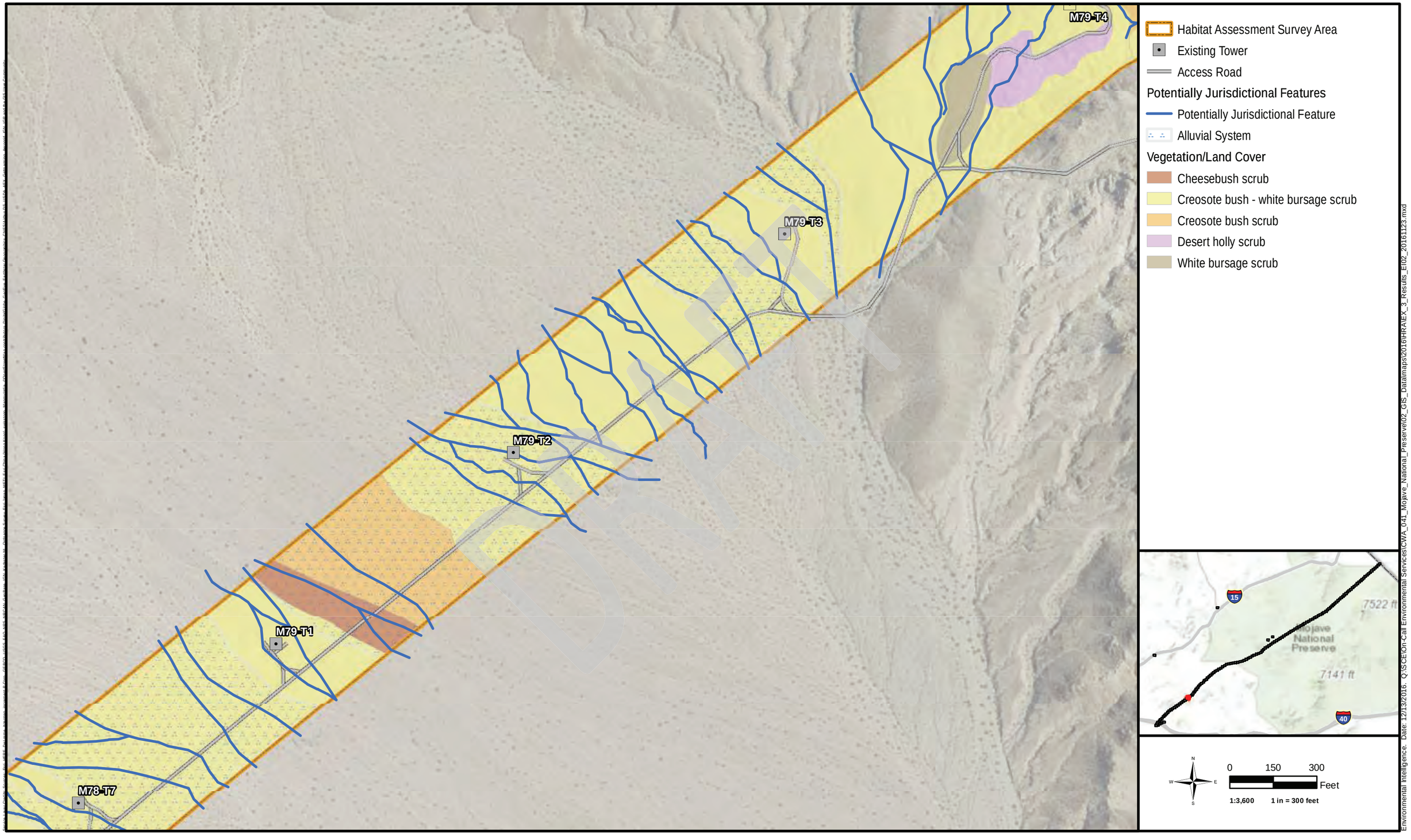


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Exhibit 3. Survey Areas and Results (Page 26 of 140)

LVRAS Project | San Bernardino County, CA

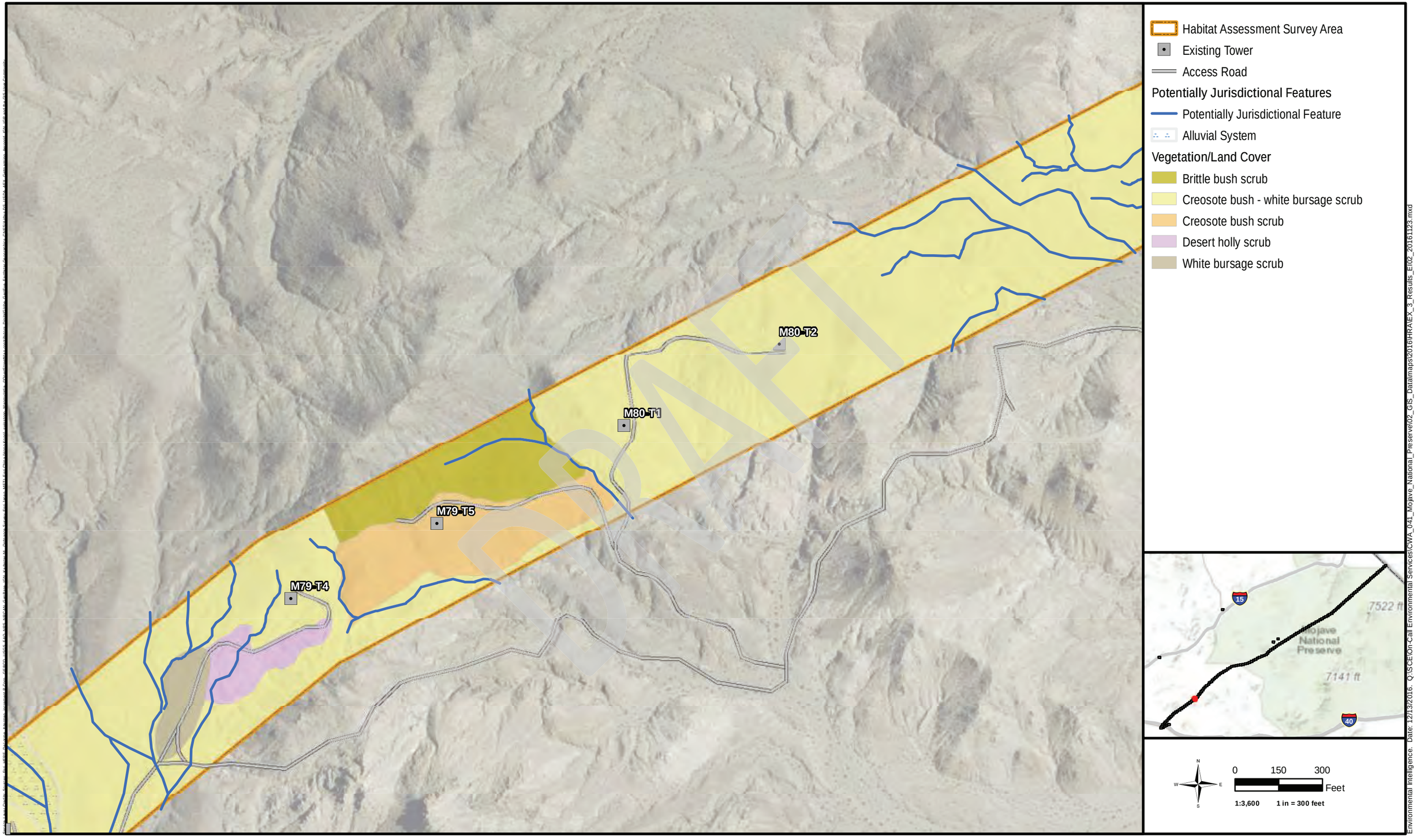
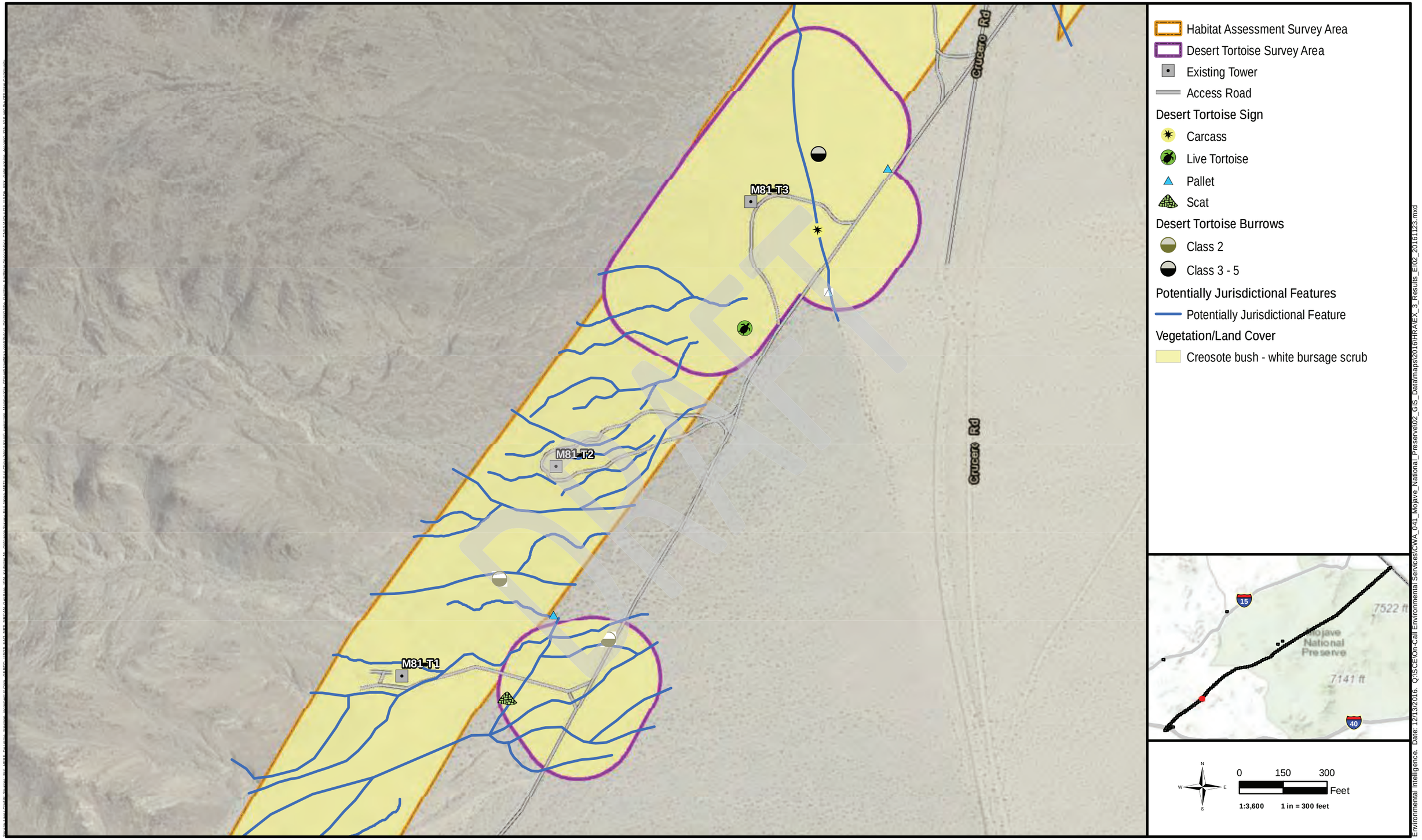


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 27 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

Exhibit 3. Survey Areas and Results (Page 28 of 140)

LVRAS Project | San Bernardino County, CA


M81_T3
M81_T2
M81_T1
Crucero Rd
Crucero Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Scat
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd


M82_T1
M81_T6
M81_T5
M81_T4
Crucero Rd
Crucero Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
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150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 31 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

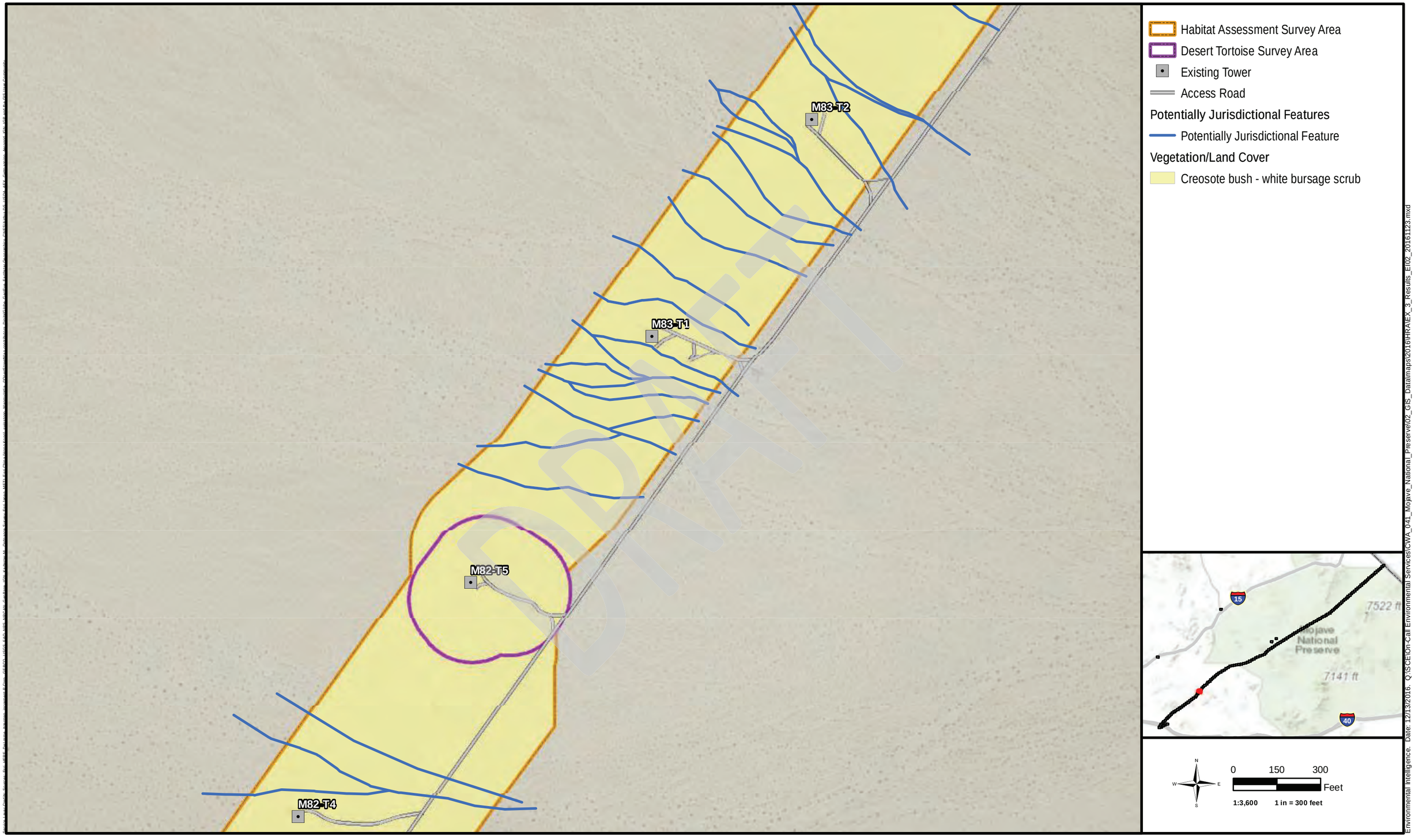
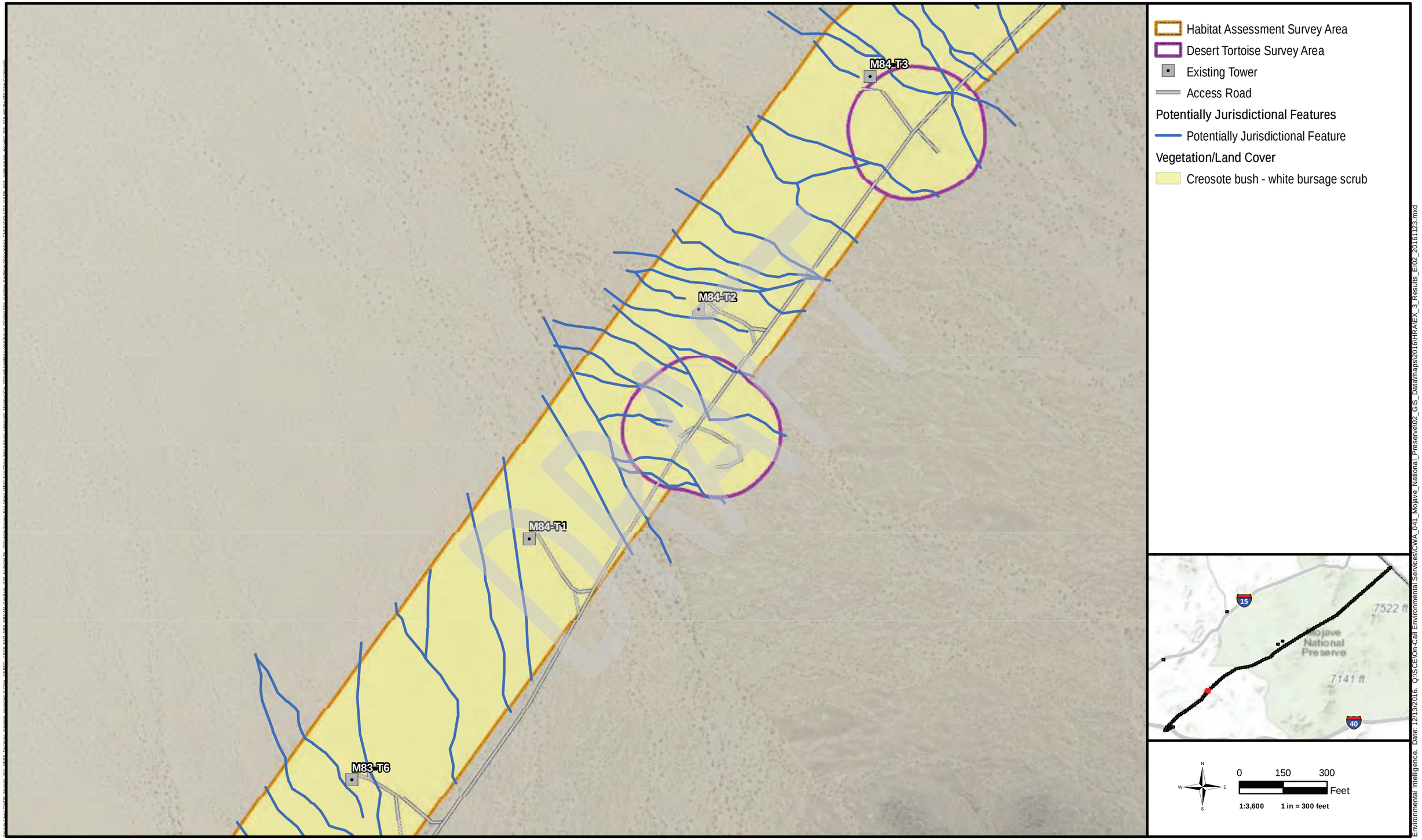


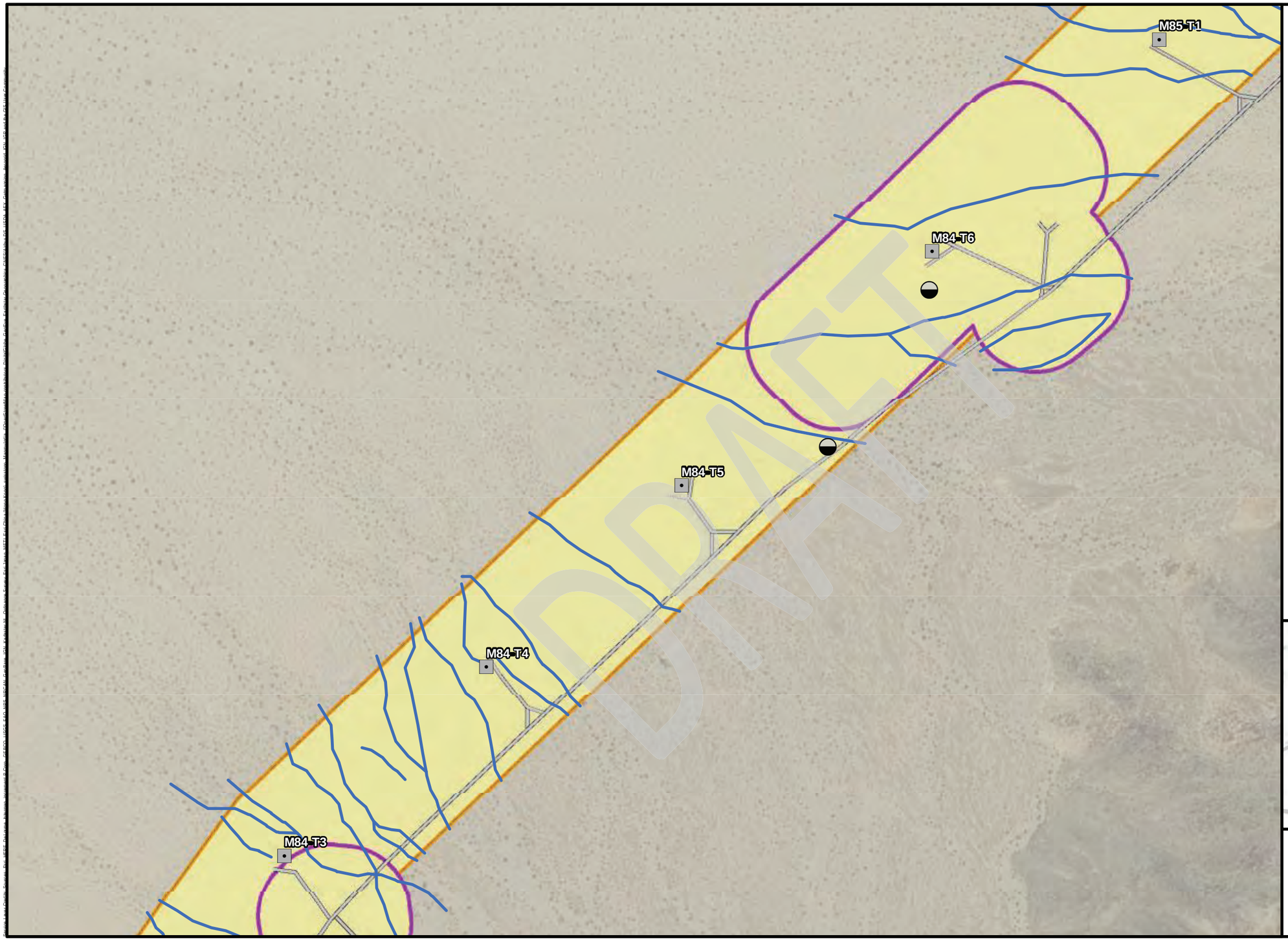
Exhibit 3. Survey Areas and Results (Page 32 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 33 of 140)

LVRAS Project | San Bernardino County, CA


M84-T3
M84-T2
M84-T1
M83-T6
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd



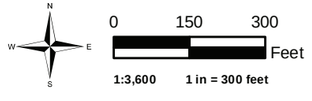


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Exhibit 3. Survey Areas and Results (Page 35 of 140)

LVRAS Project | San Bernardino County, CA

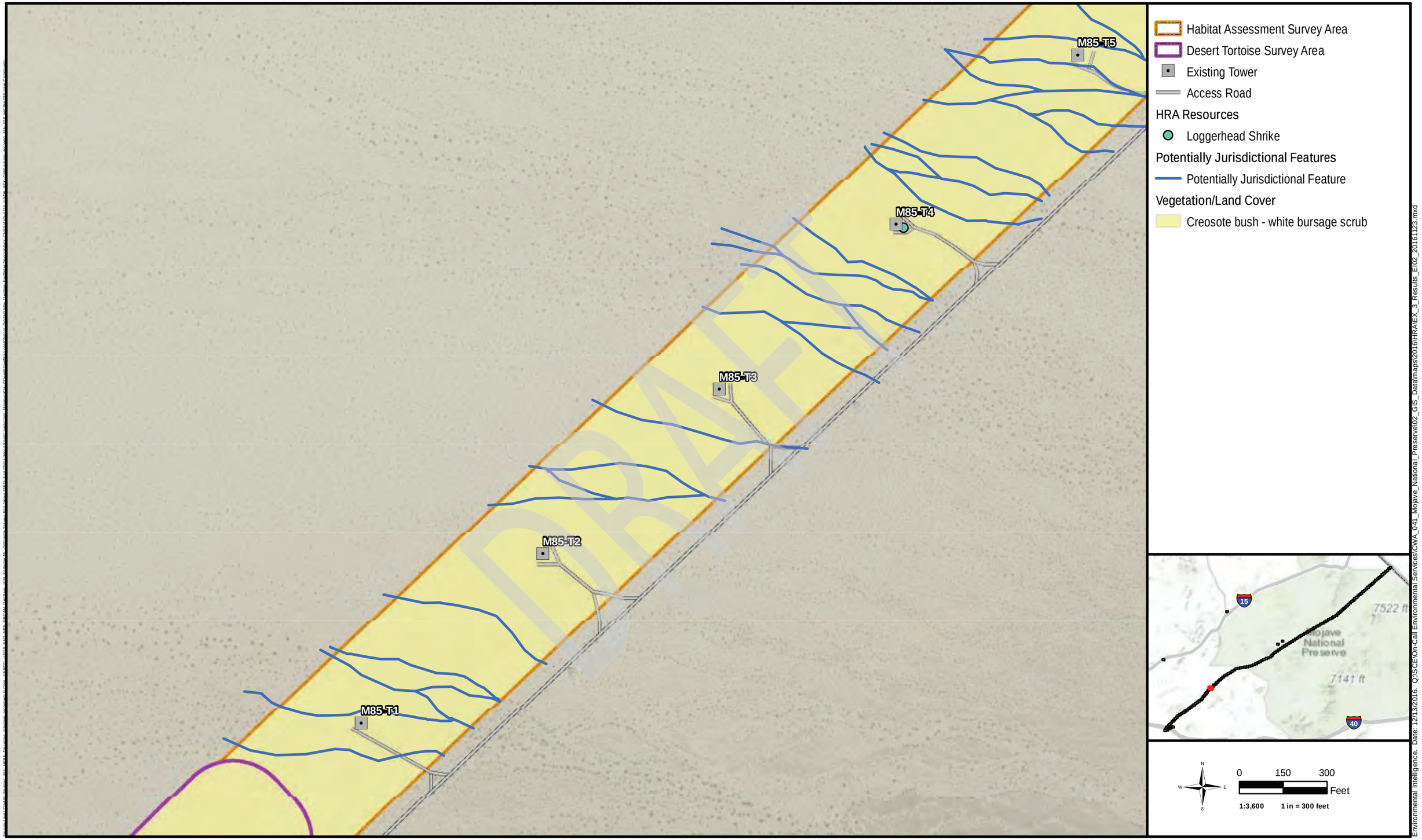


Exhibit 3. Survey Areas and Results (Page 36 of 140)

LVRAS Project | San Bernardino County, CA

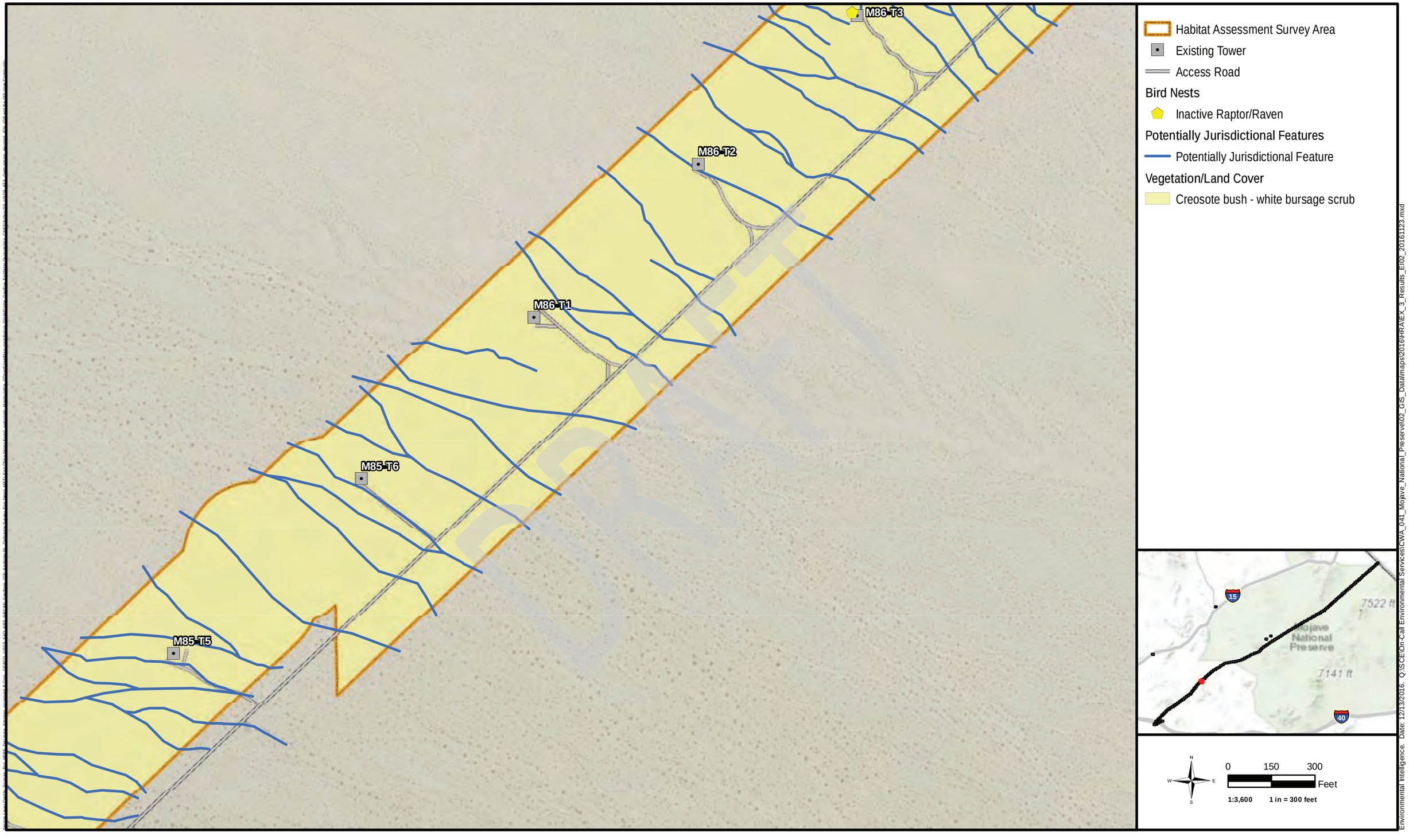


Exhibit 3. Survey Areas and Results (Page 37 of 140)

LVRAS Project | San Bernardino County, CA

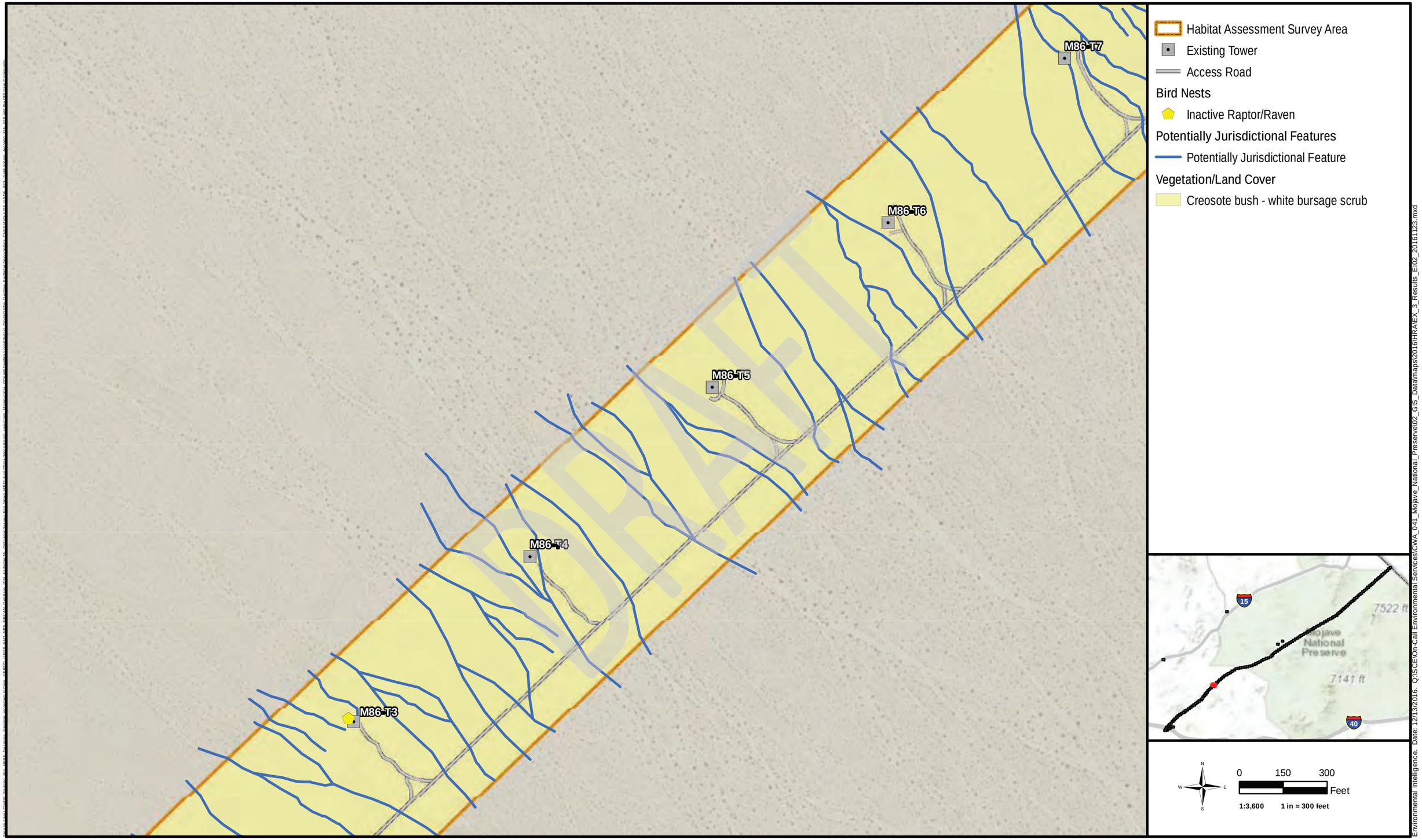


Exhibit 3. Survey Areas and Results (Page 38 of 140)

LVRAS Project | San Bernardino County, CA

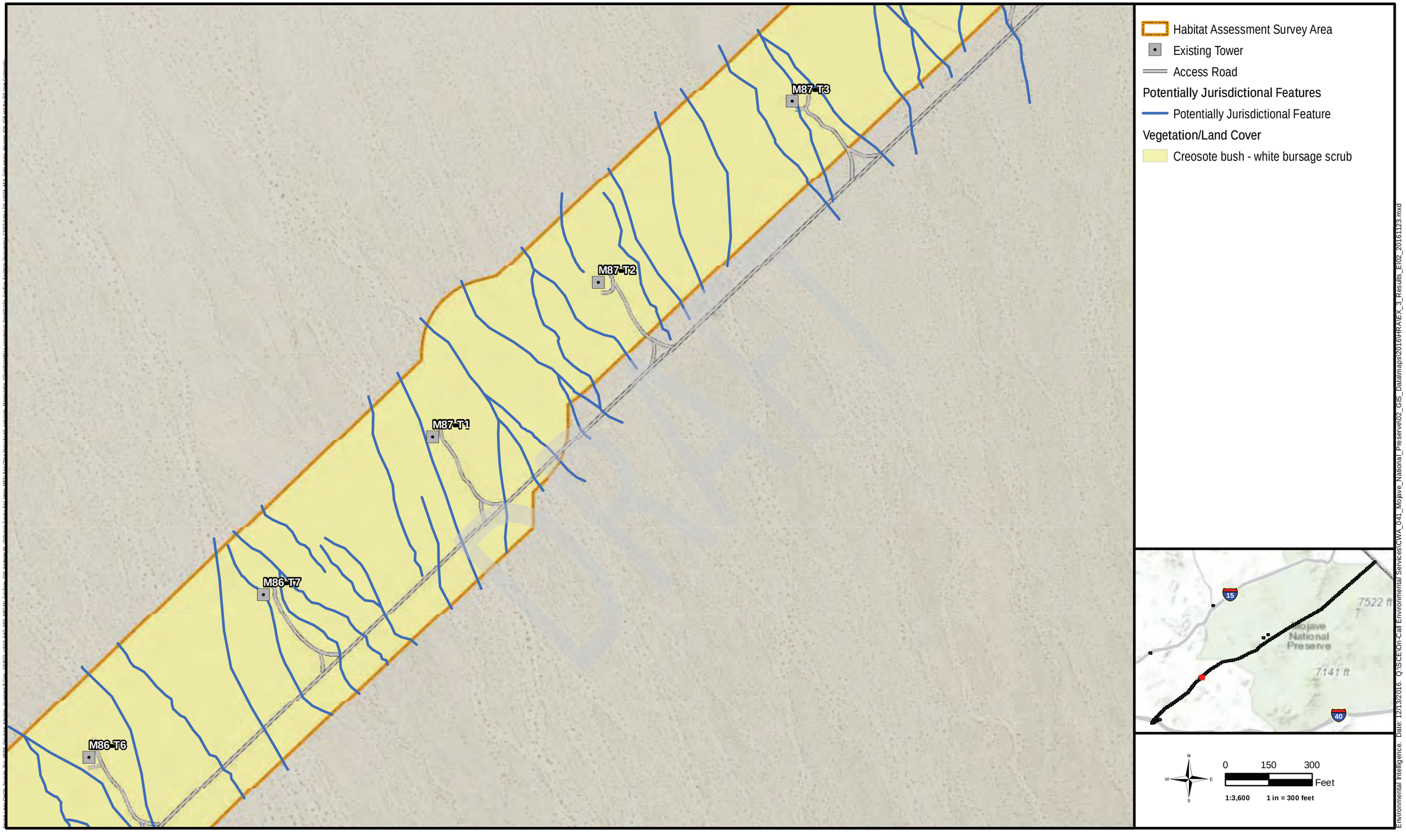


Exhibit 3. Survey Areas and Results (Page 39 of 140)

LVRAS Project | San Bernardino County, CA


M88-T1
M87-T6
M87-T5
M87-T4
M87-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

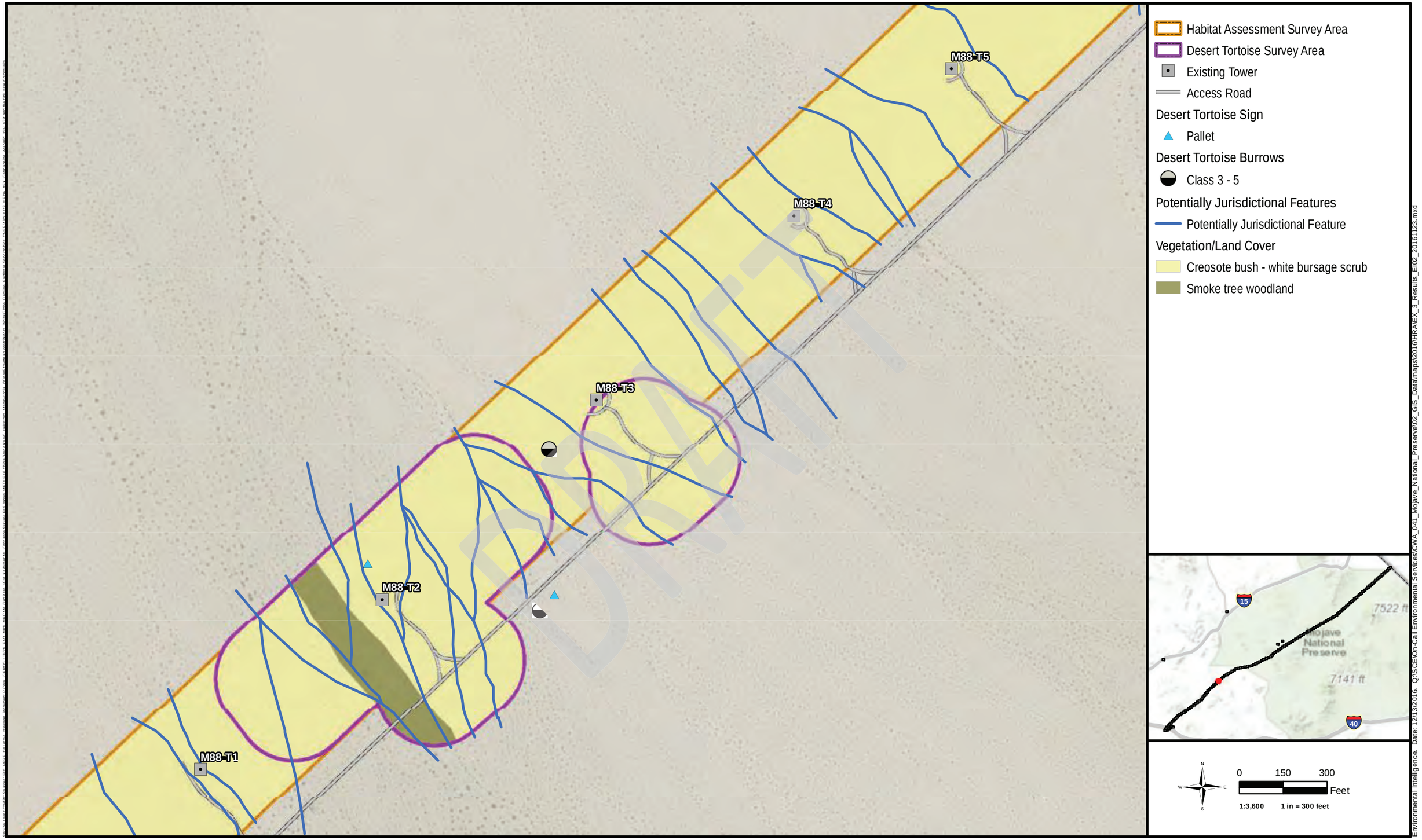


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 41 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

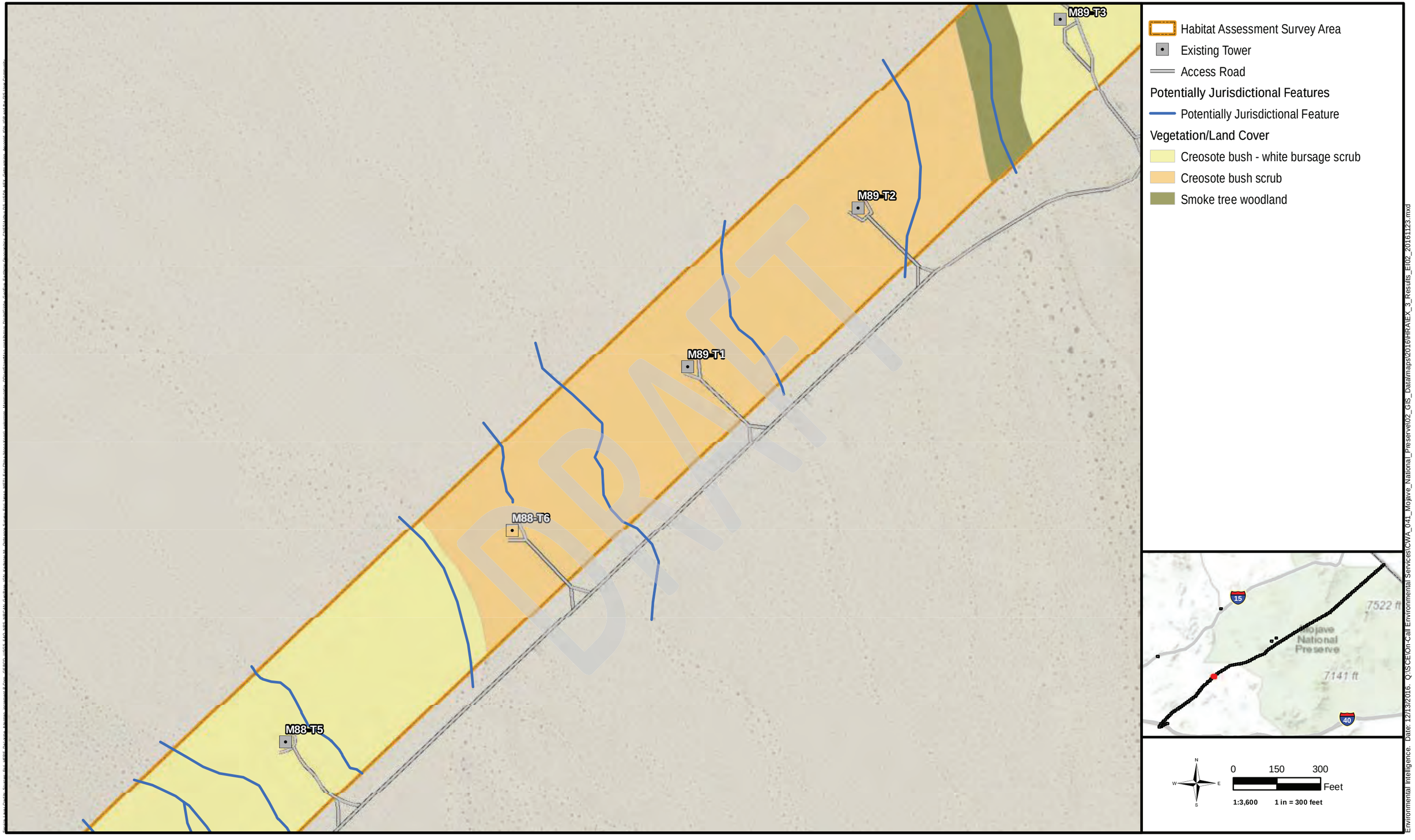
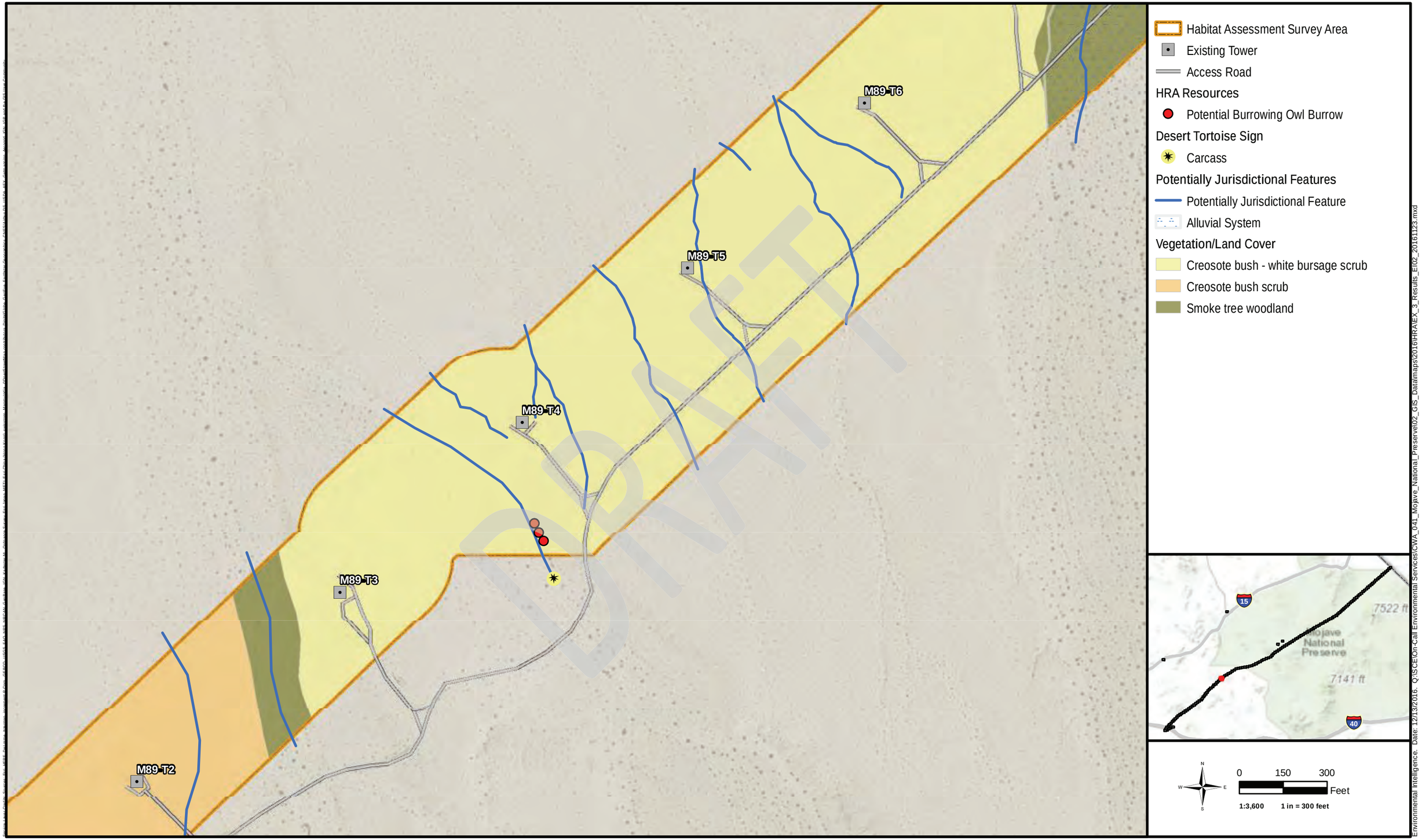


Exhibit 3. Survey Areas and Results (Page 42 of 140)

LVRAS Project | San Bernardino County, CA


M89-T6
M89-T5
M89-T4
M89-T3
M89-T2
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

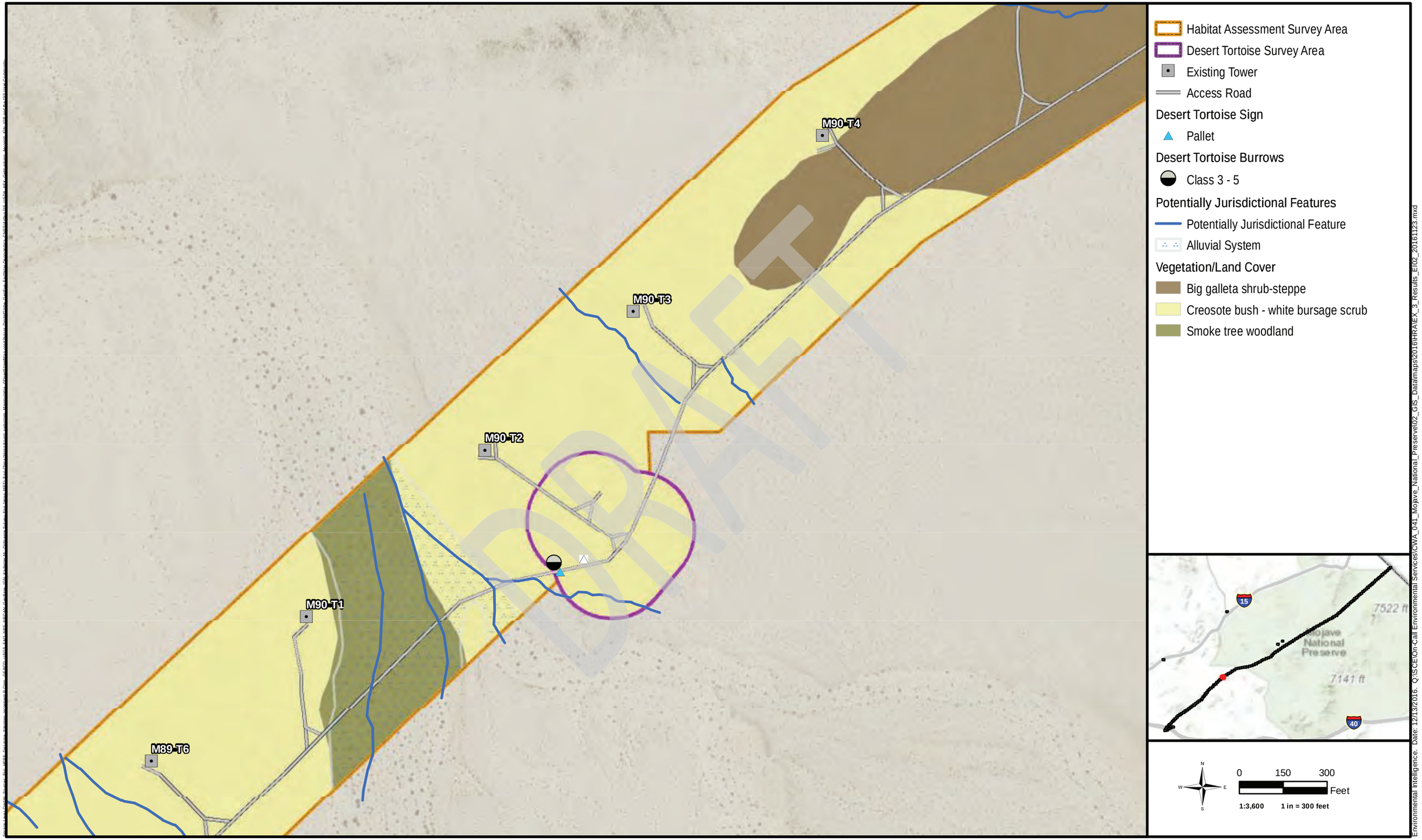


Exhibit 3. Survey Areas and Results (Page 44 of 140)

LVRAS Project | San Bernardino County, CA

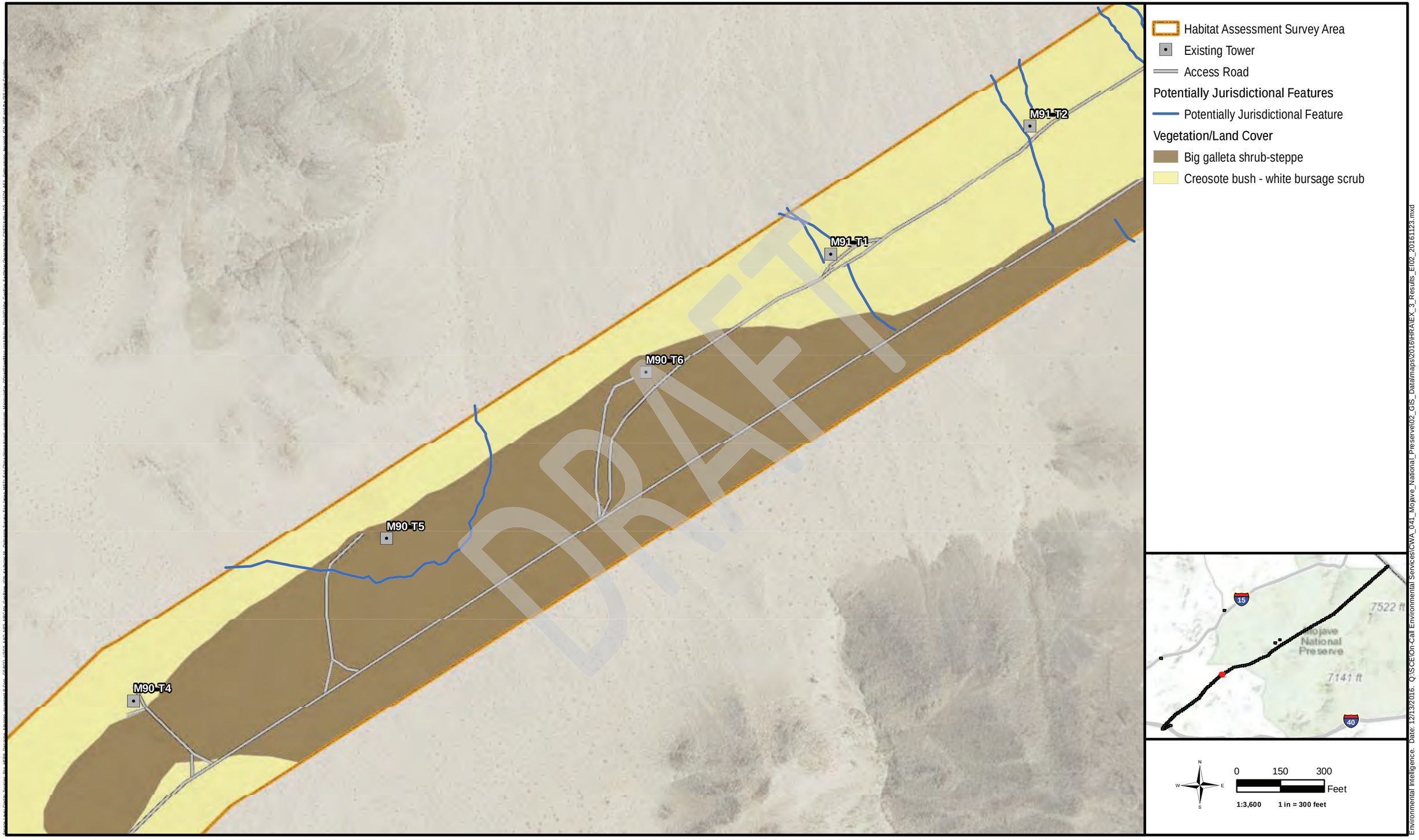
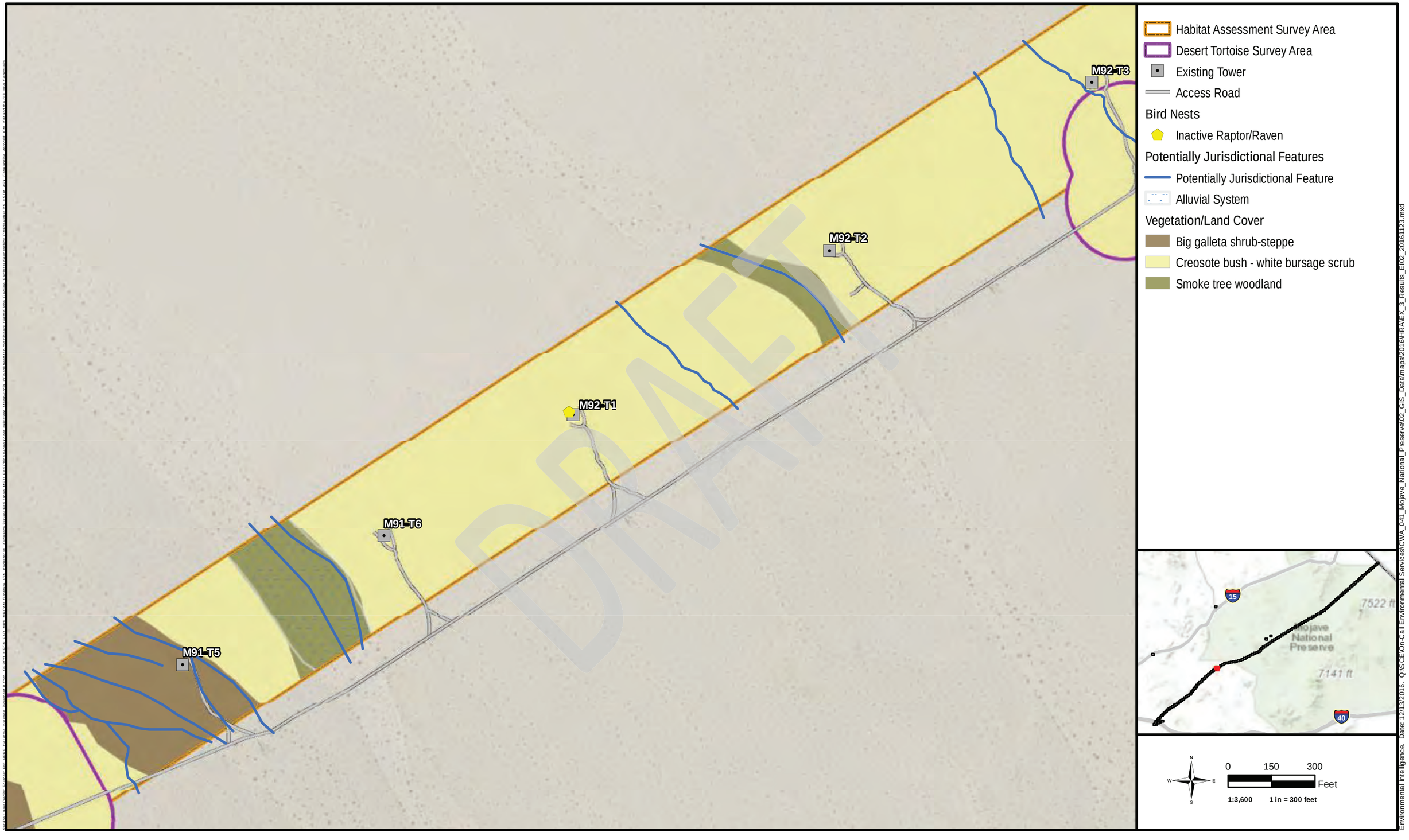

M91_T2
M91_T1
M90_T6
M90_T5
M90_T4
DRAFT
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 46 of 140)

LVRAS Project | San Bernardino County, CA


M92-T3
M92-T2
M92-T1
M91-T6
M91-T5
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Bird Nests
Inactive Raptor/Raven
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
Smoke tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

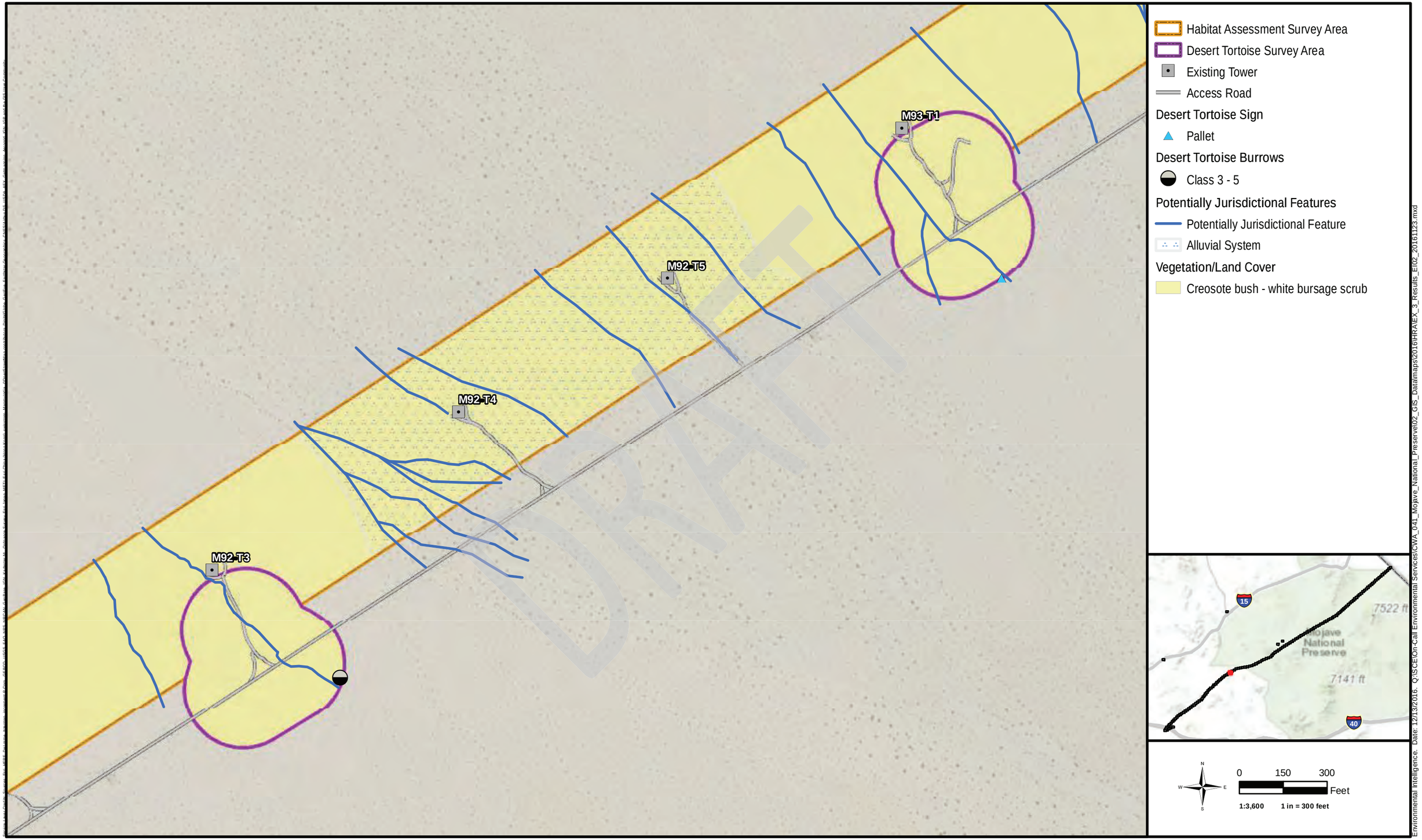


Exhibit 3. Survey Areas and Results (Page 48 of 140)

LVRAS Project | San Bernardino County, CA

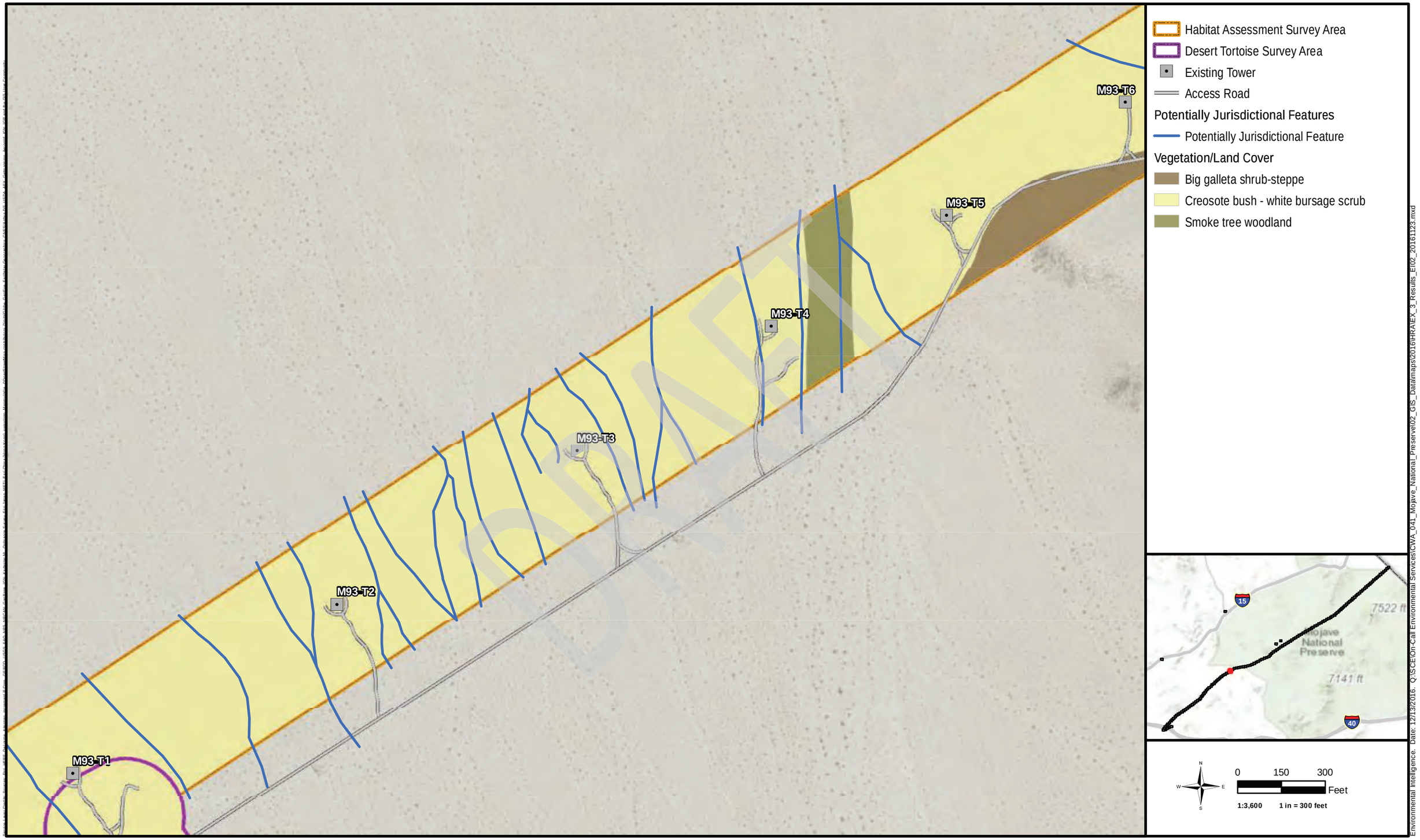


Exhibit 3. Survey Areas and Results (Page 49 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 50 of 140)

LVRAS Project | San Bernardino County, CA

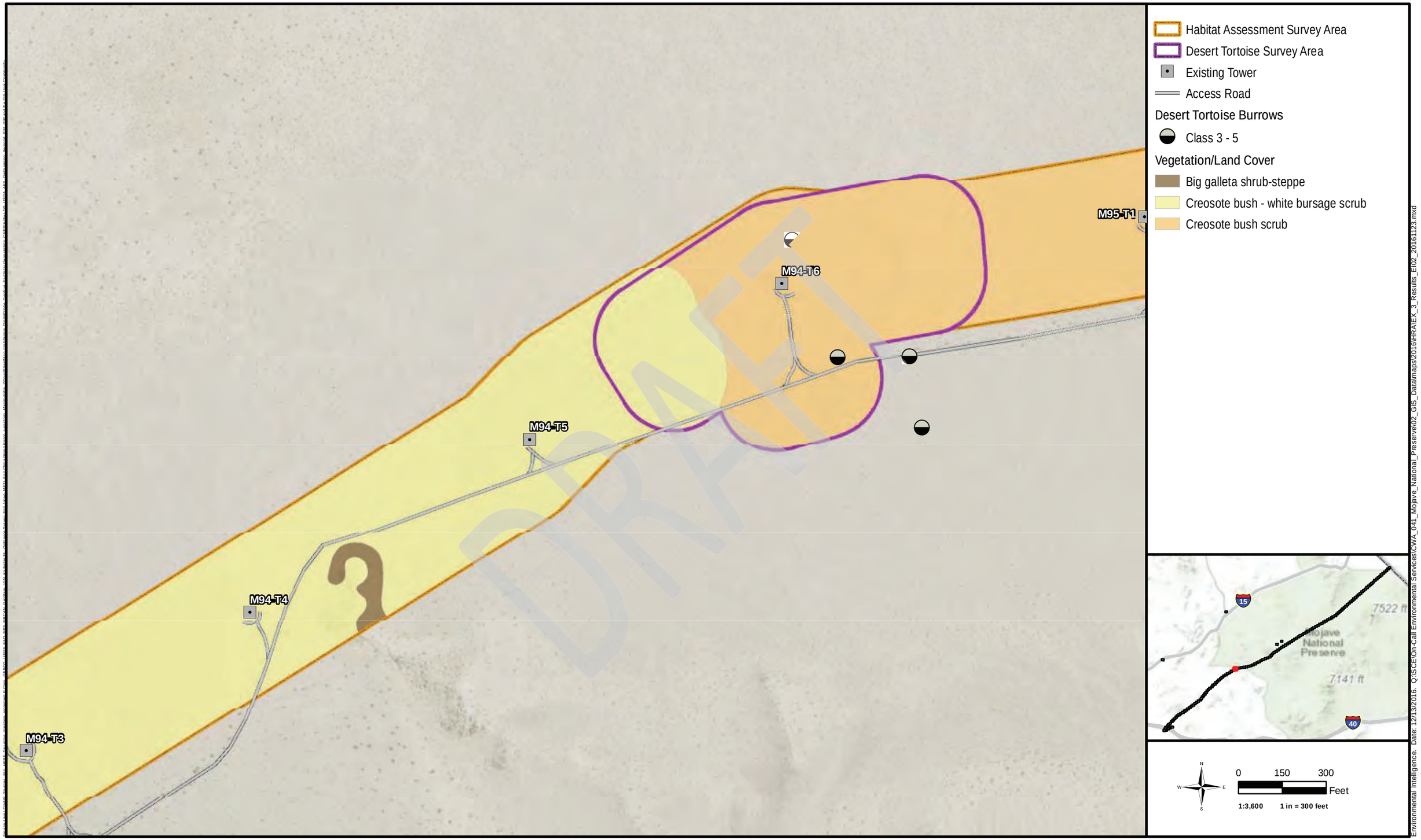
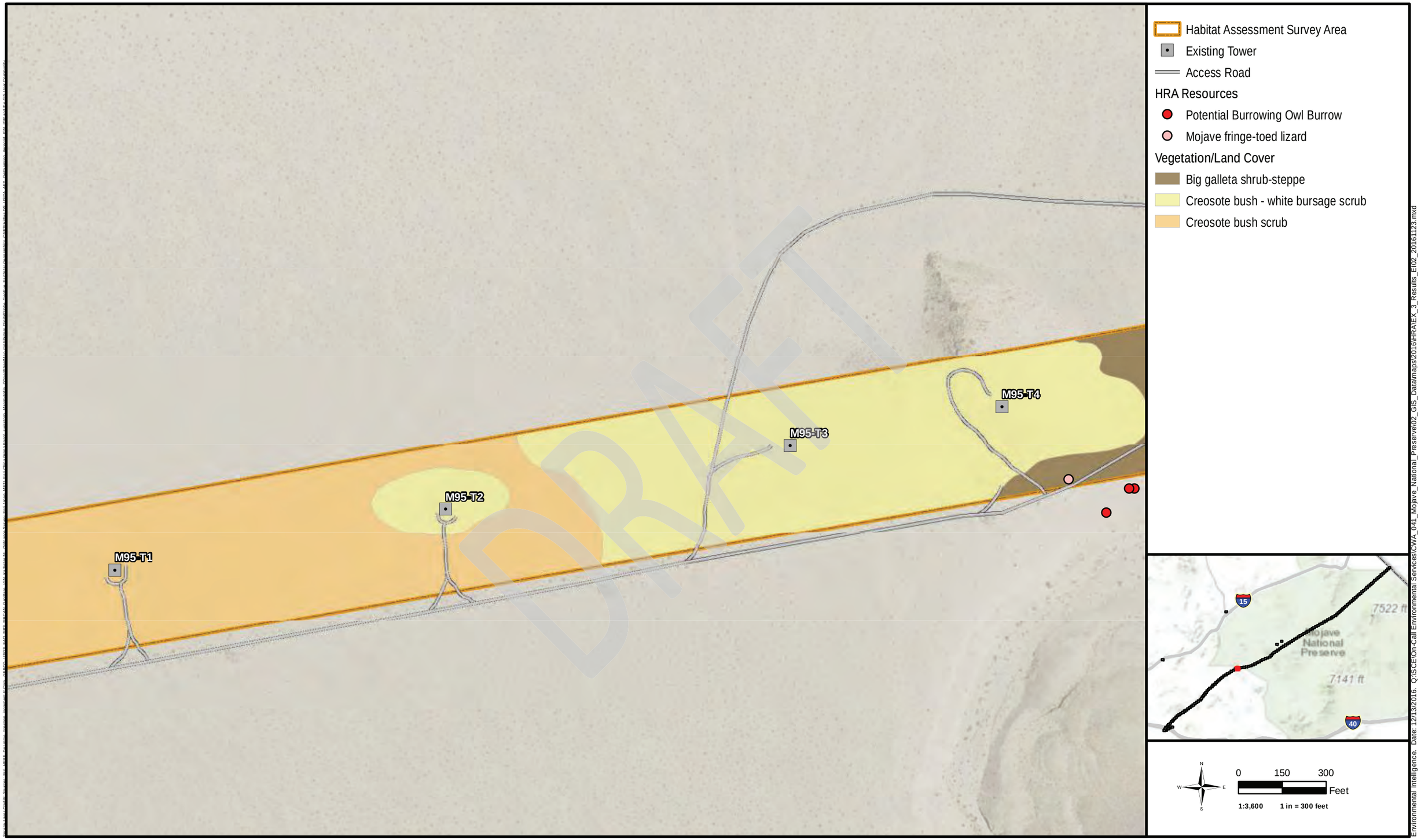


Exhibit 3. Survey Areas and Results (Page 51 of 140)

LVRAS Project | San Bernardino County, CA


Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Mojave fringe-toed lizard
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
Creosote bush scrub
M95-T1
M95-T2
M95-T3
M95-T4
DRAFT
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

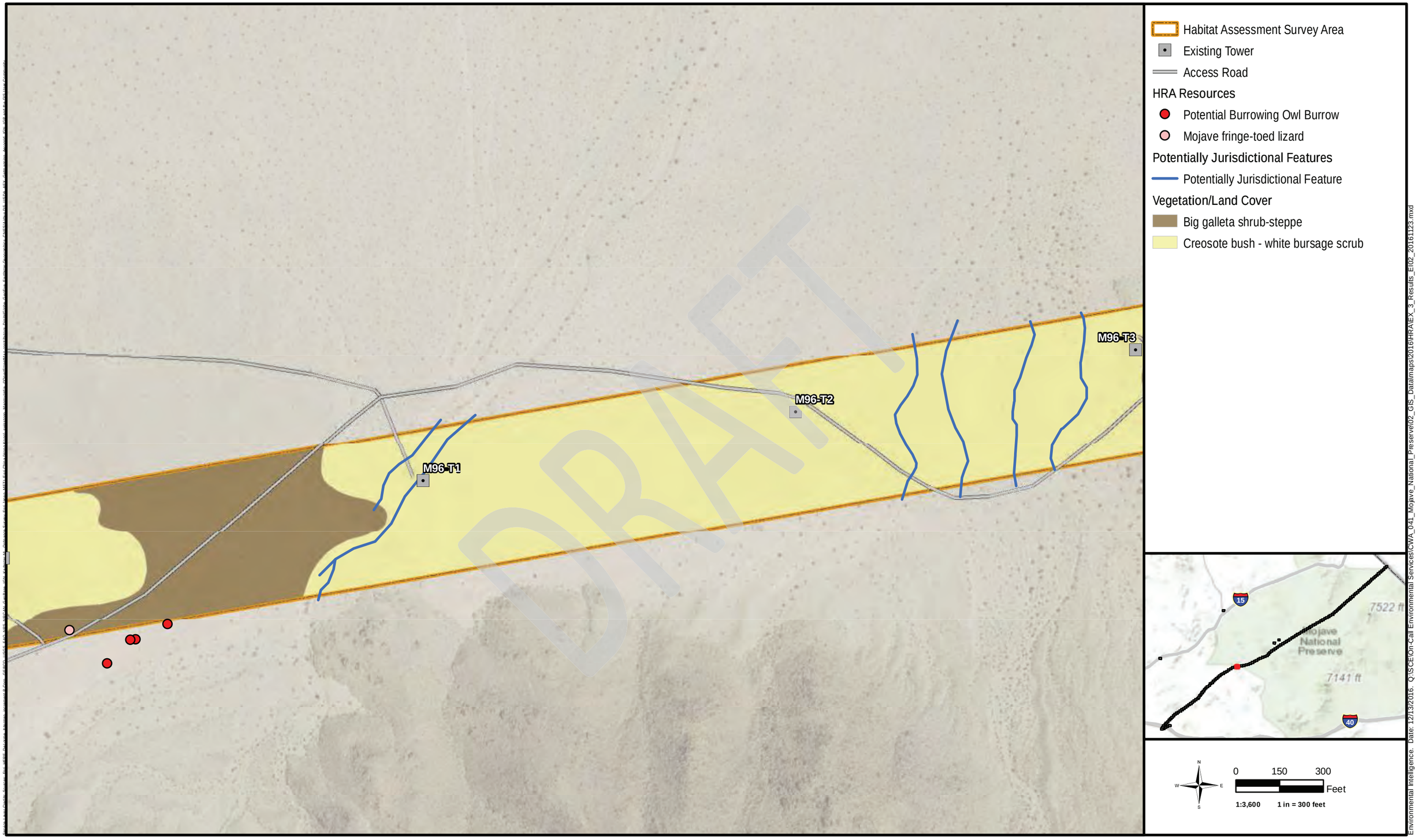

M96-T3
M96-T2
M96-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Mojave fringe-toed lizard
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white bursage scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 54 of 140)
LVRAS Project | San Bernardino County, CA

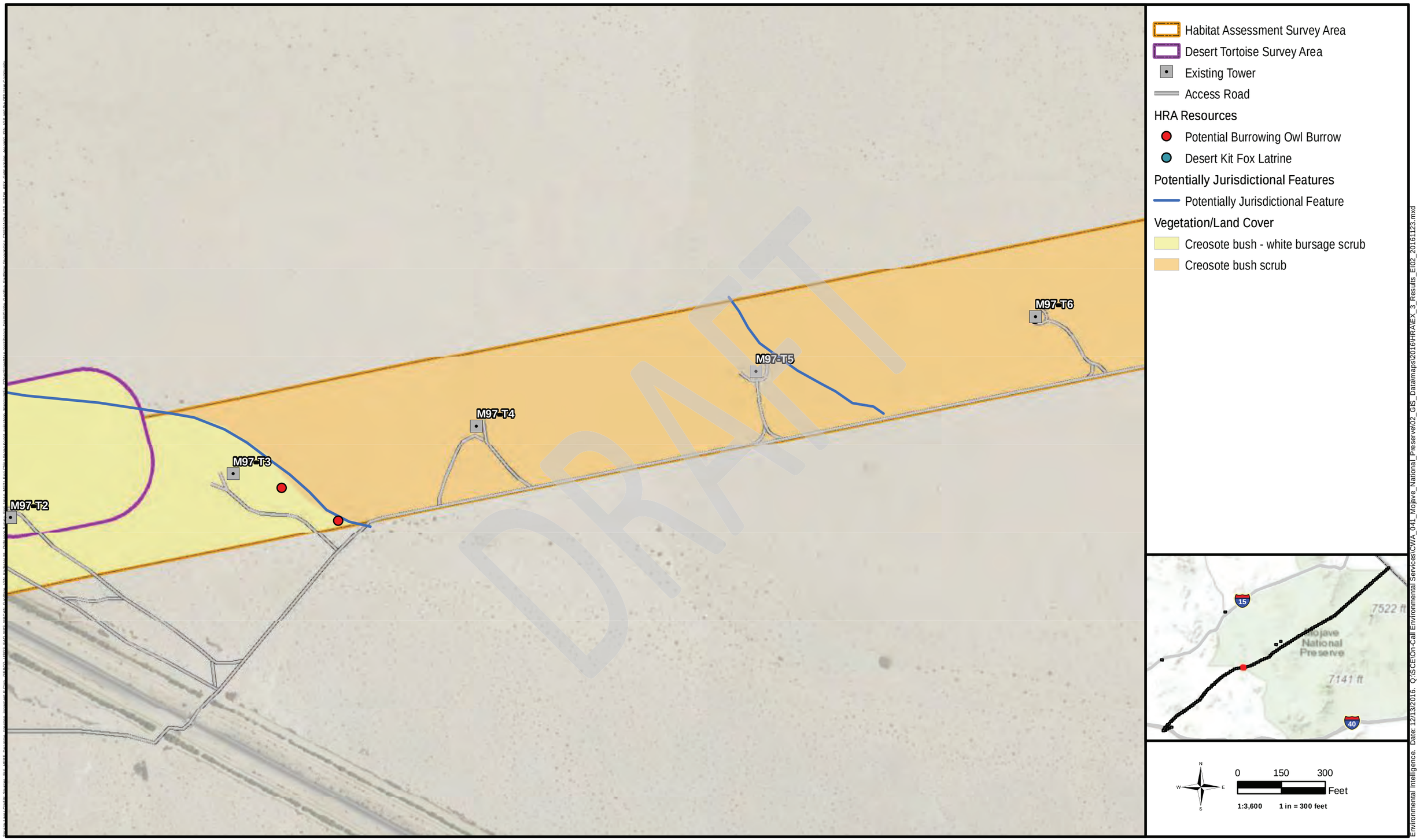


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 55 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

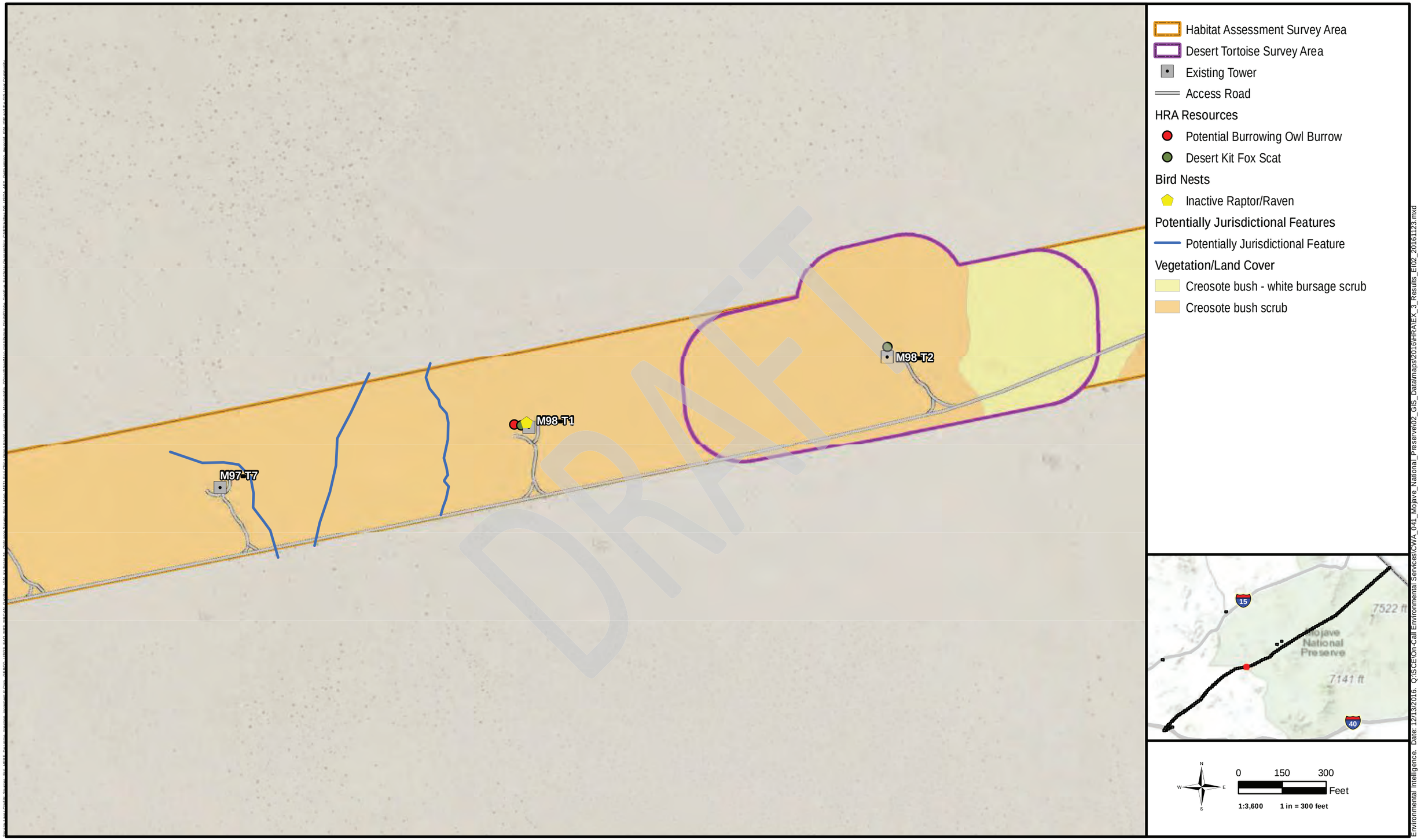
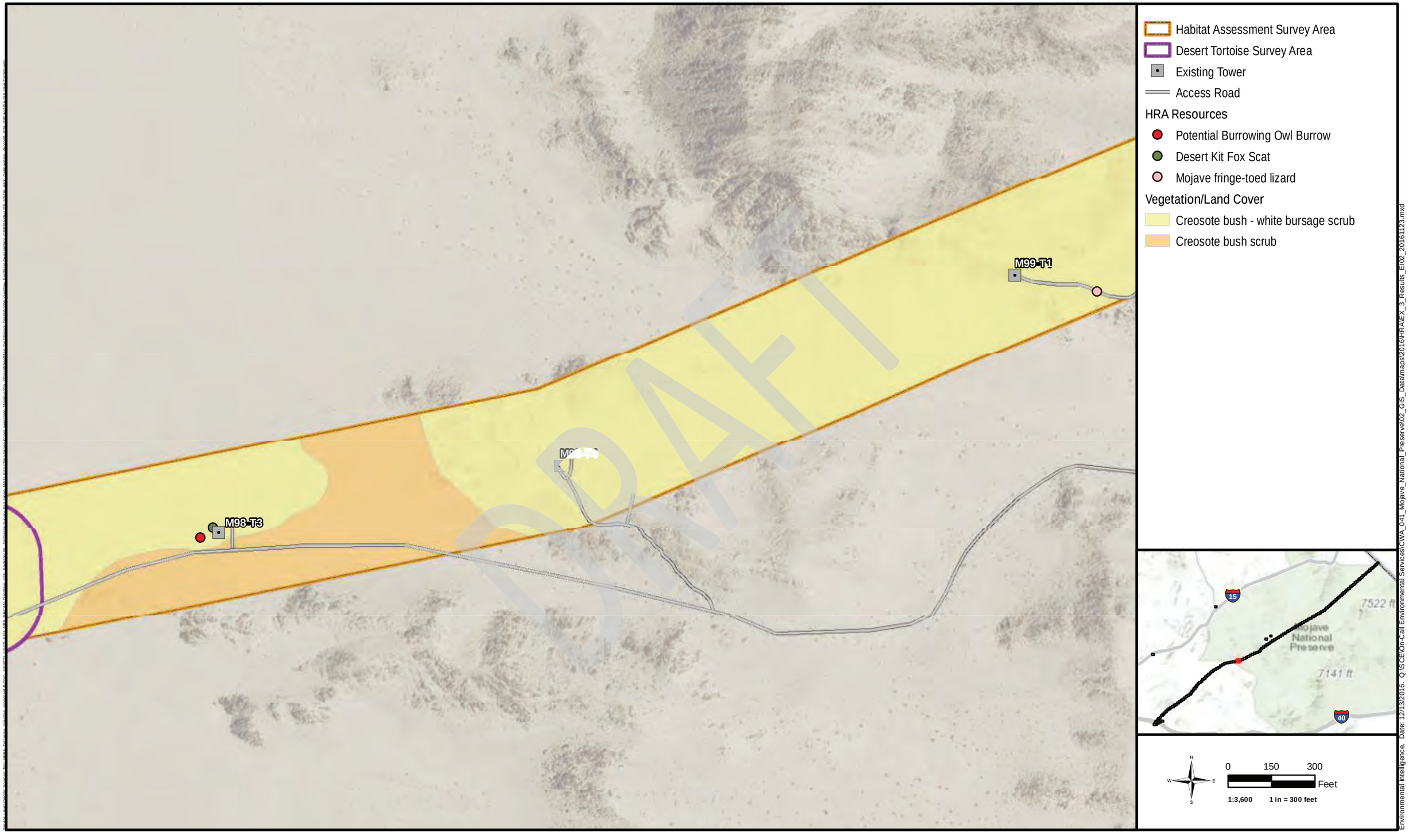
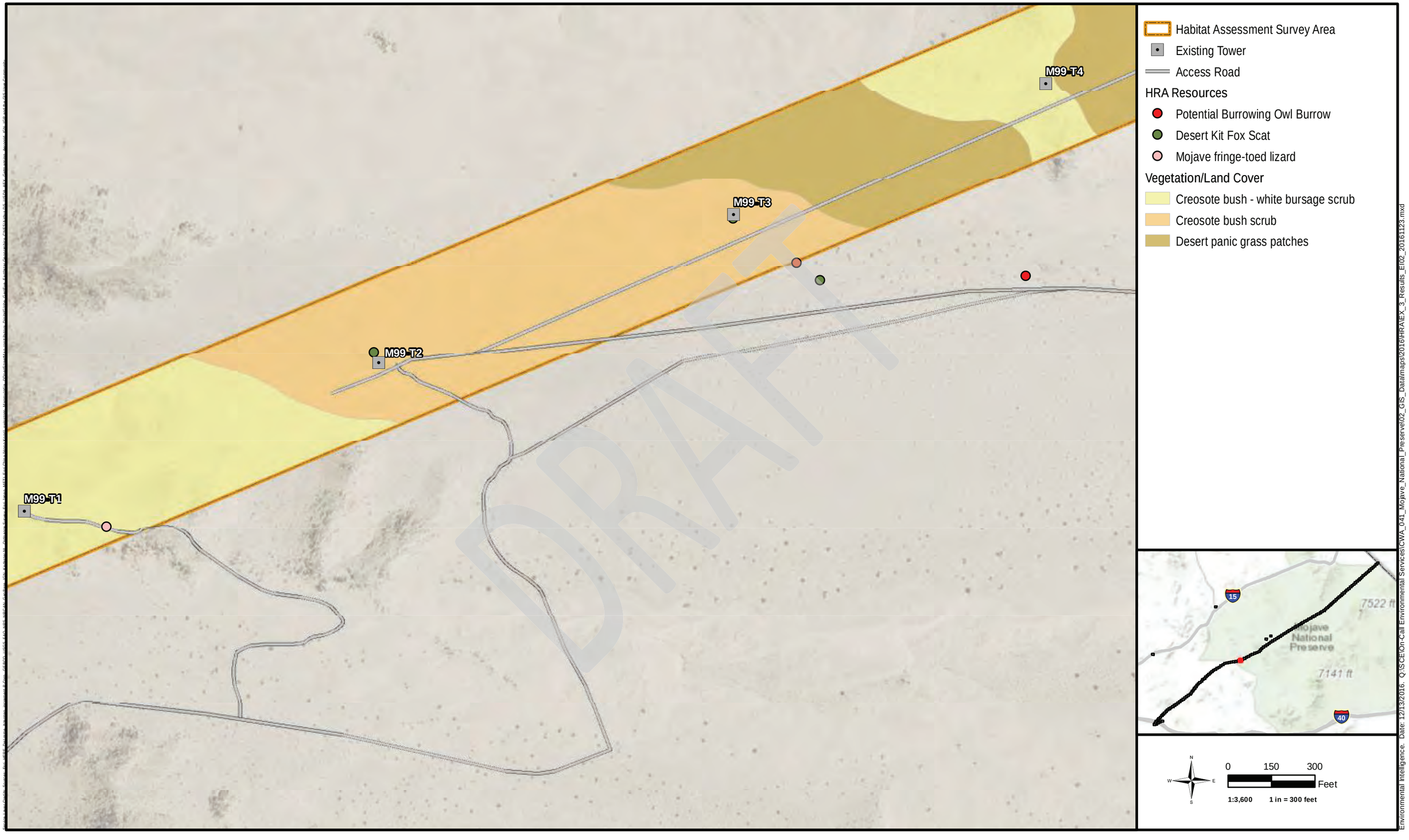


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 56 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat
Mojave fringe-toed lizard
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
M99-T1
M98-T3
DRAFT
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI\02_20161123.mxd


M99-T4
M99-T3
M99-T2
M99-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat
Mojave fringe-toed lizard
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
Desert panic grass patches
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI\02_20161123.mxd

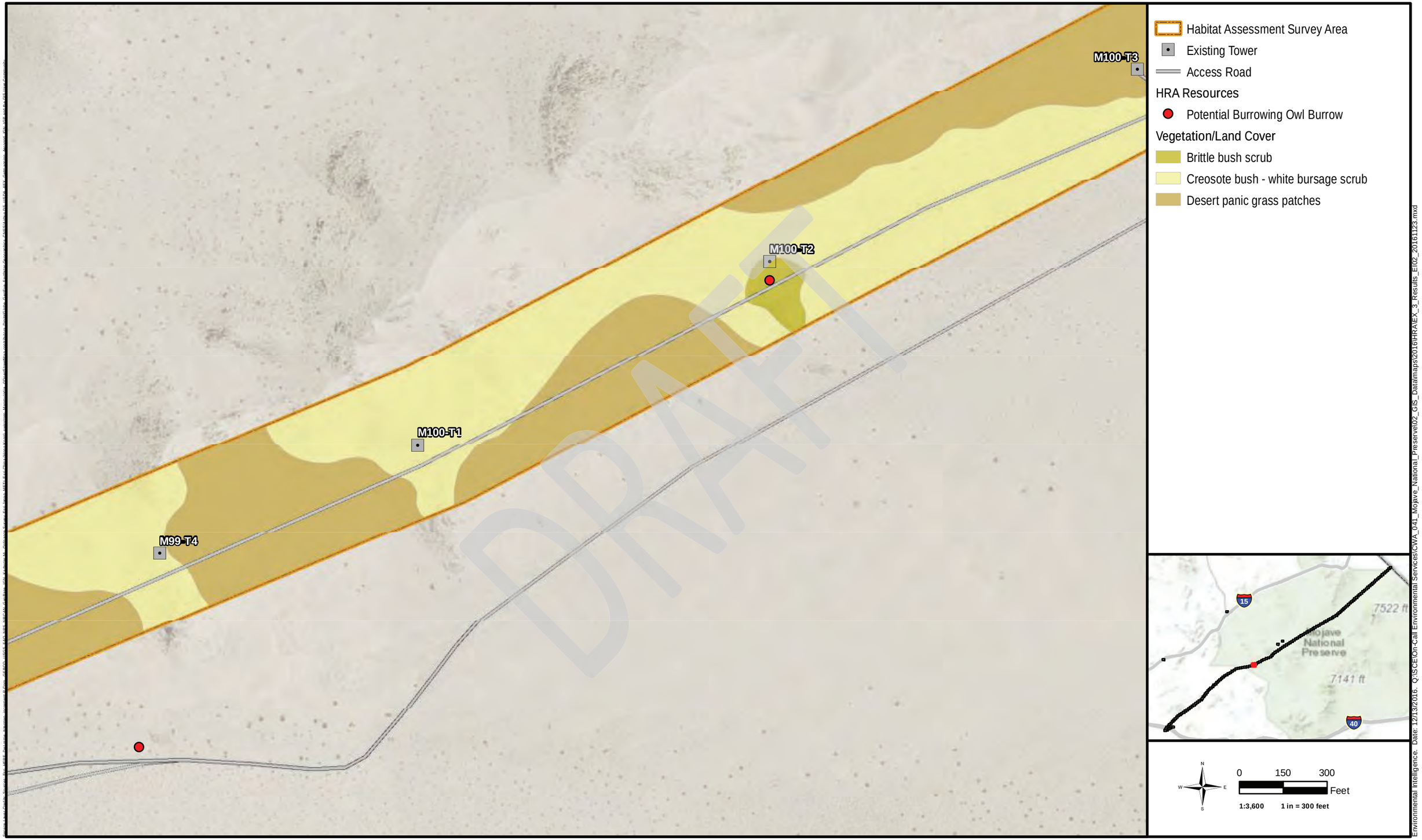


Exhibit 3. Survey Areas and Results (Page 59 of 140)
LVRAS Project | San Bernardino County, CA

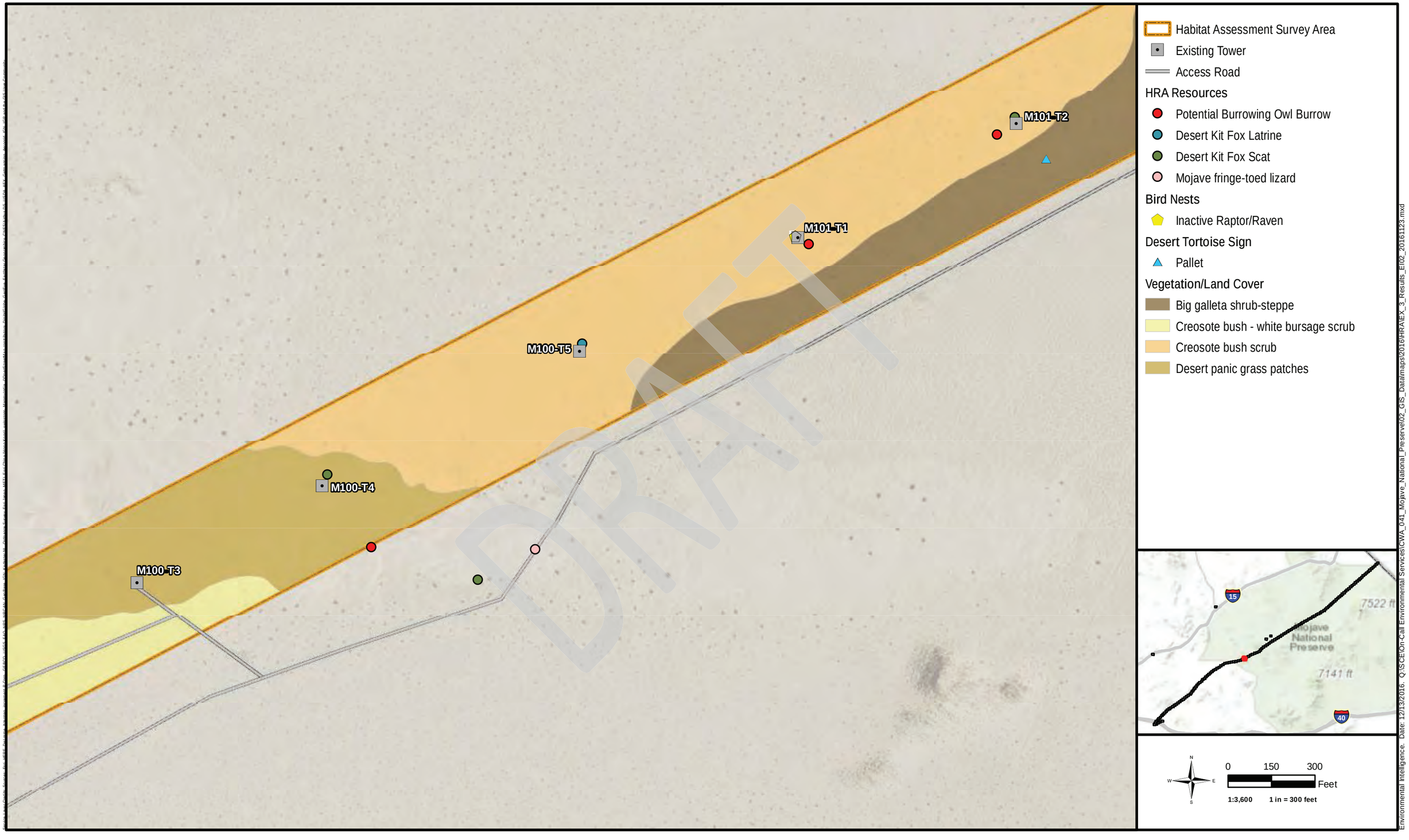
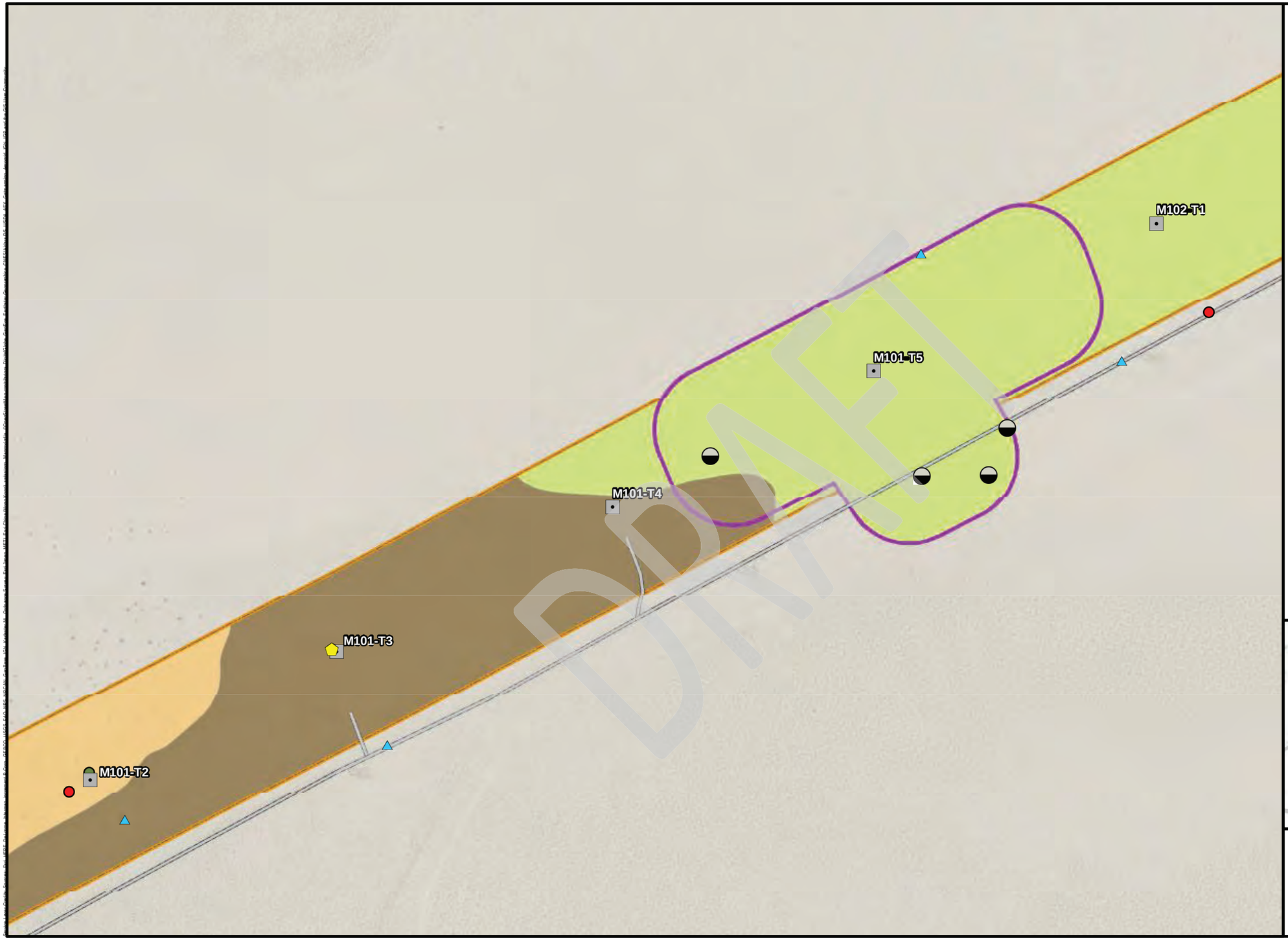


Exhibit 3. Survey Areas and Results (Page 60 of 140)

LVRAS Project | San Bernardino County, CA



Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road

HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat

Bird Nests
Inactive Raptor/Raven

Desert Tortoise Sign
Pallet

Desert Tortoise Burrows
Class 3 - 5

Vegetation/Land Cover
Annual brome grasslands
Big galleta shrub-steppe
Creosote bush scrub

N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 61 of 140)
LVRAS Project | San Bernardino County, CA

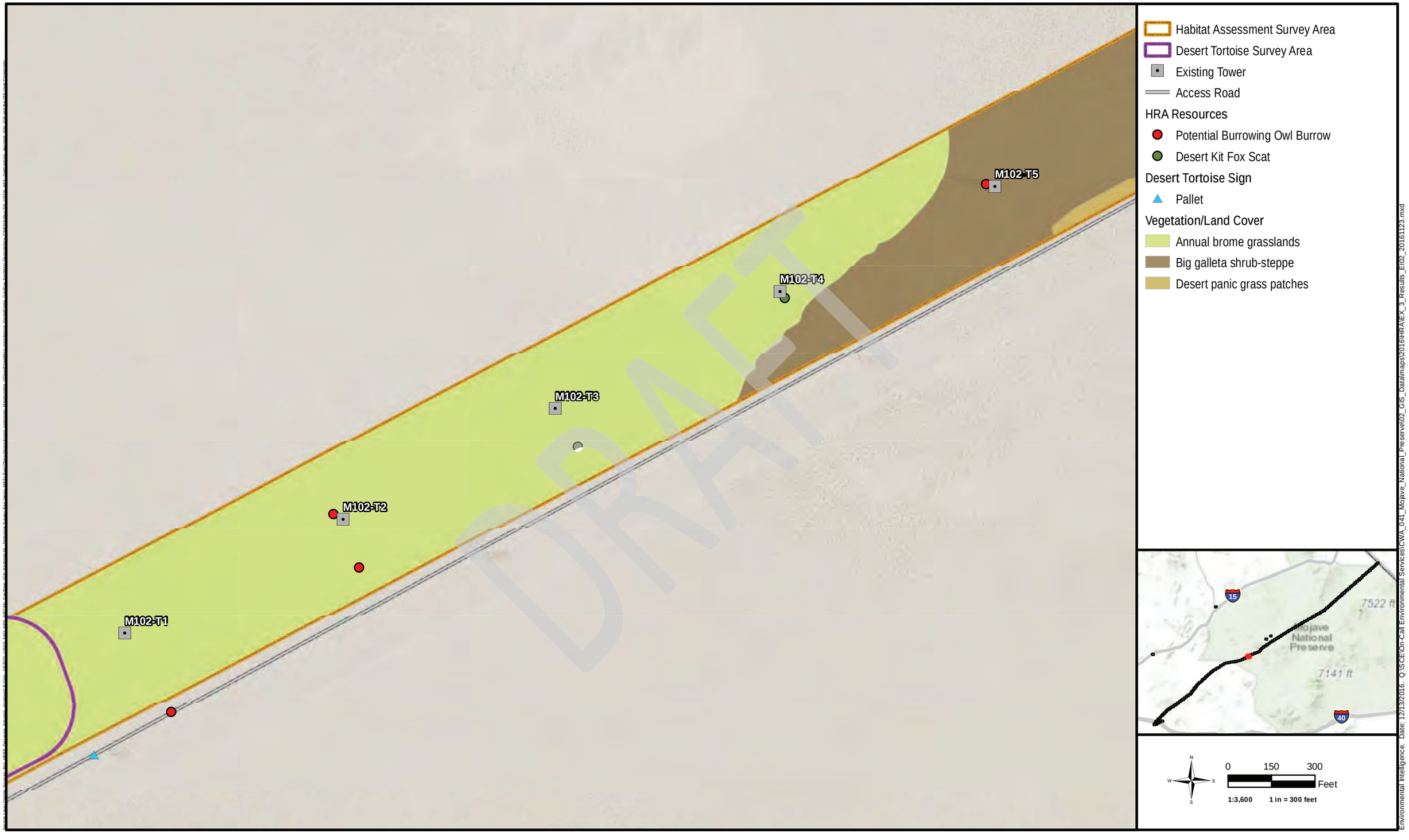


Exhibit 3. Survey Areas and Results (Page 62 of 140)
LVRAS Project | San Bernardino County, CA

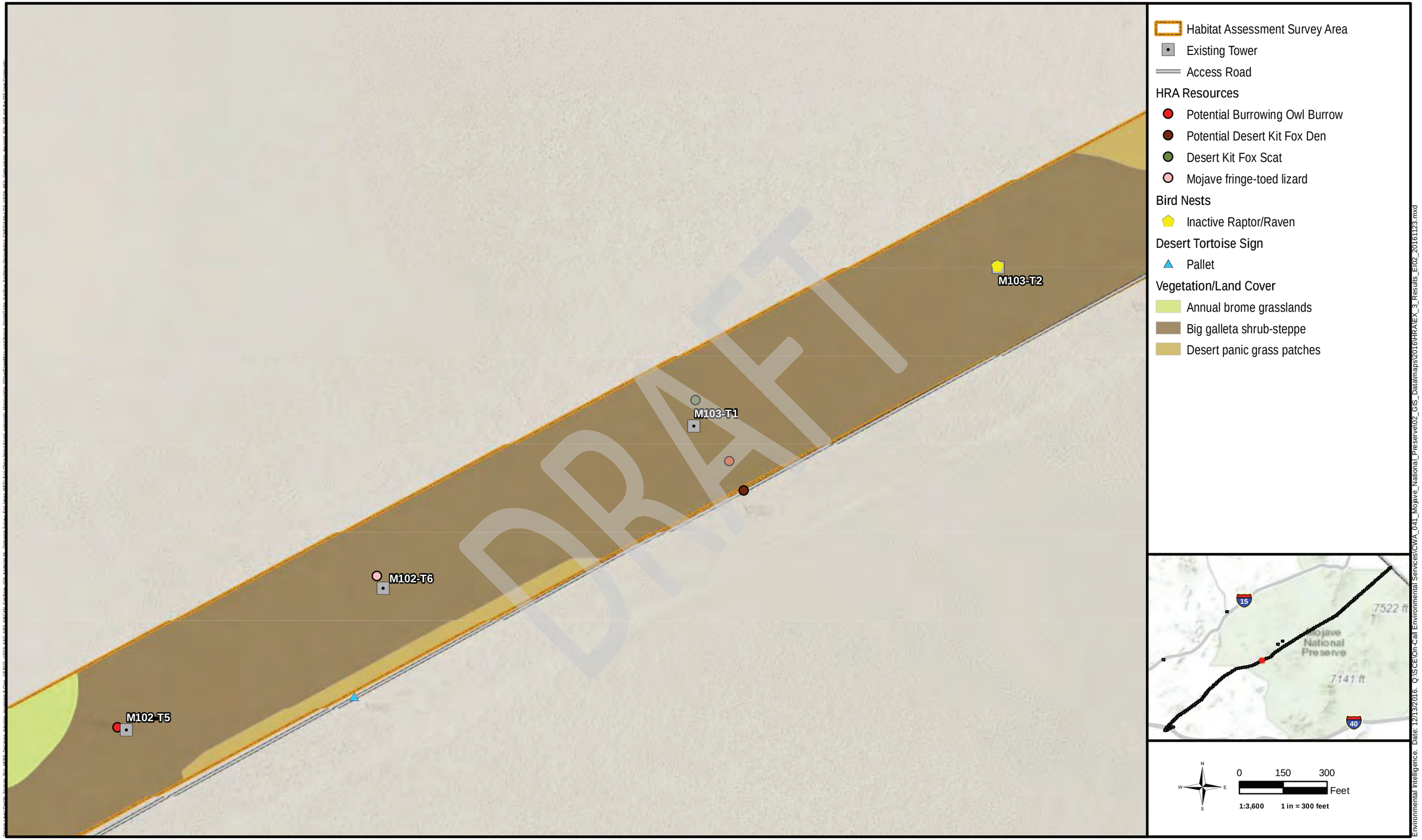


Exhibit 3. Survey Areas and Results (Page 63 of 140)

LVRAS Project | San Bernardino County, CA

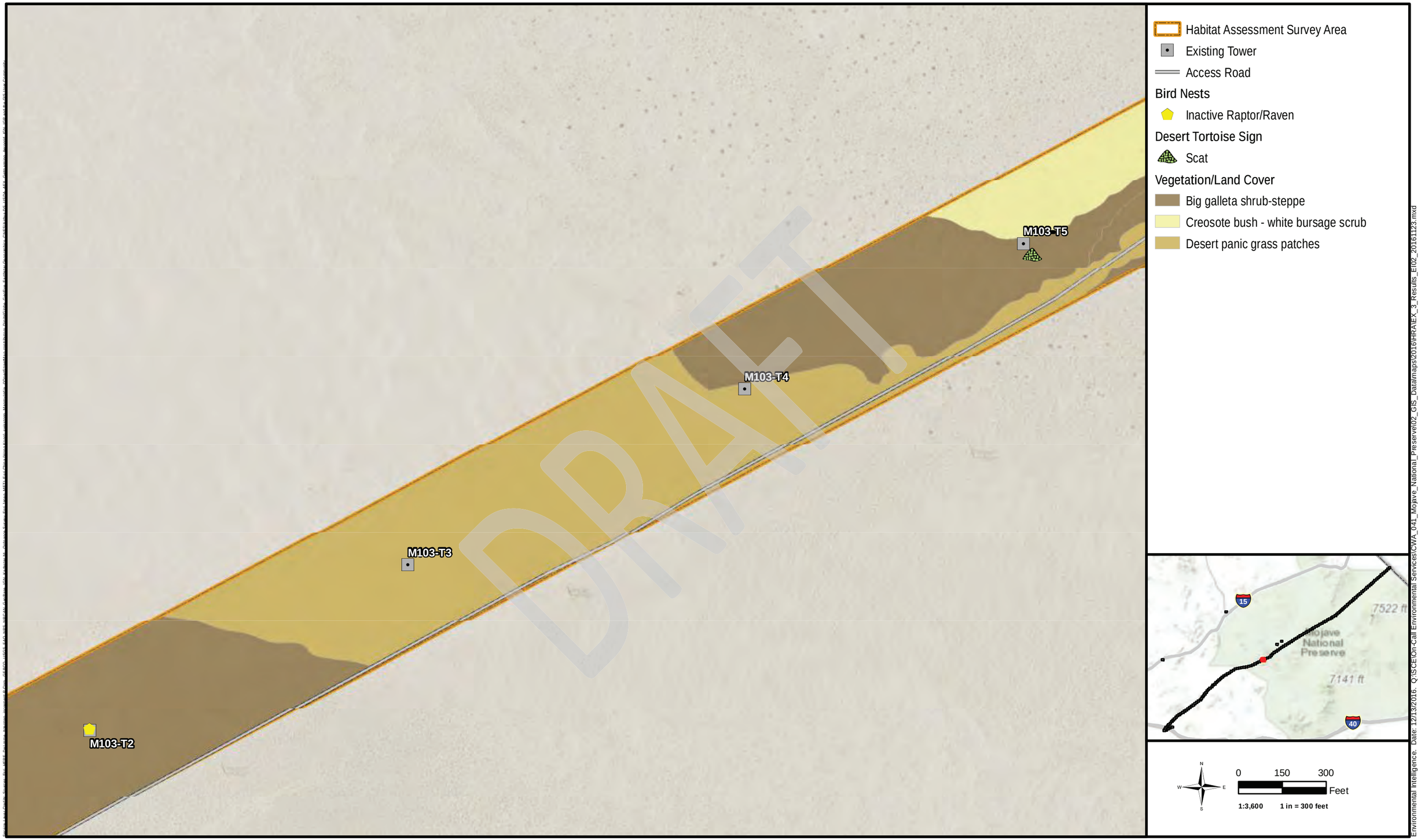


Exhibit 3. Survey Areas and Results (Page 64 of 140)

LVRAS Project | San Bernardino County, CA

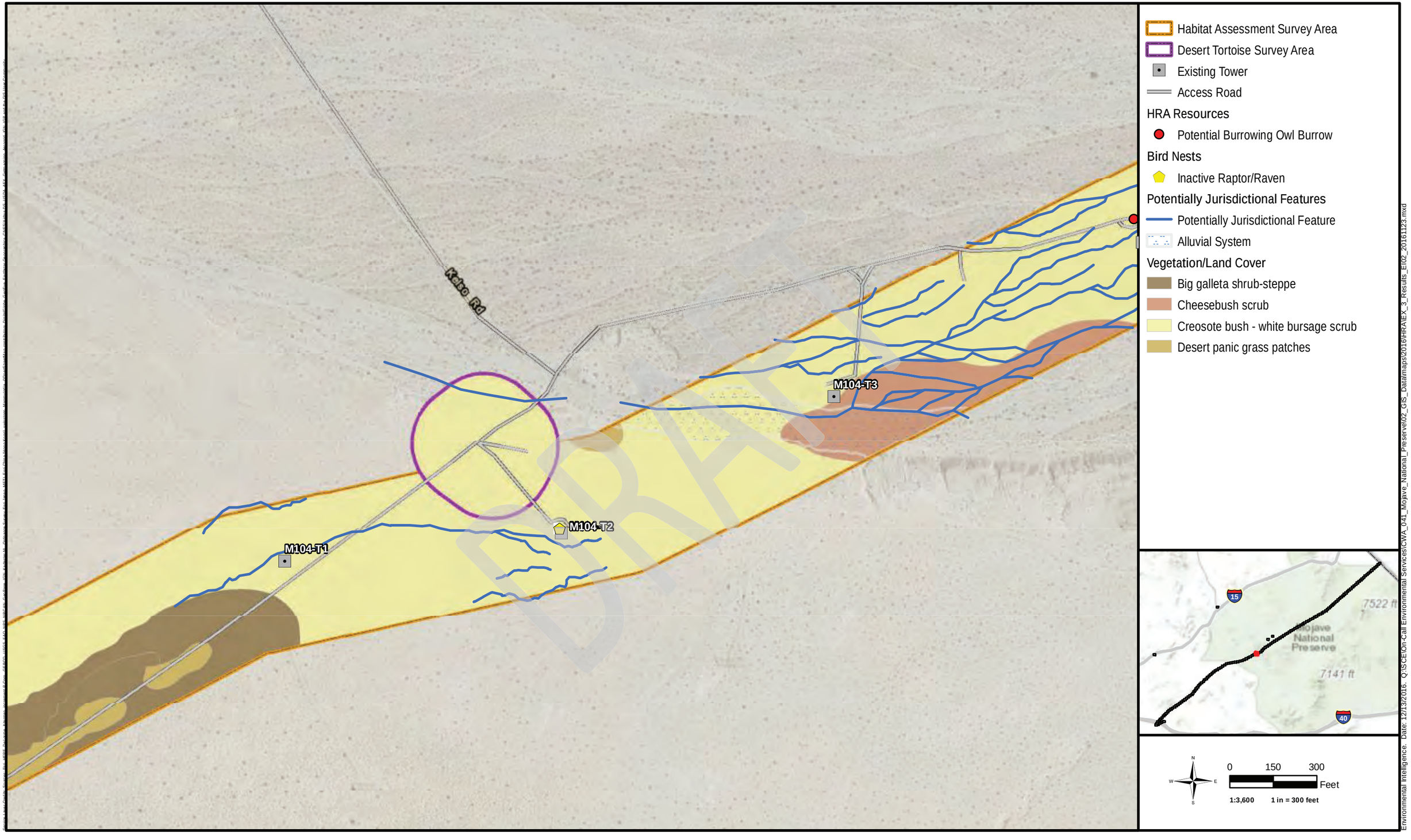


Exhibit 3. Survey Areas and Results (Page 65 of 140)

LVRAS Project | San Bernardino County, CA

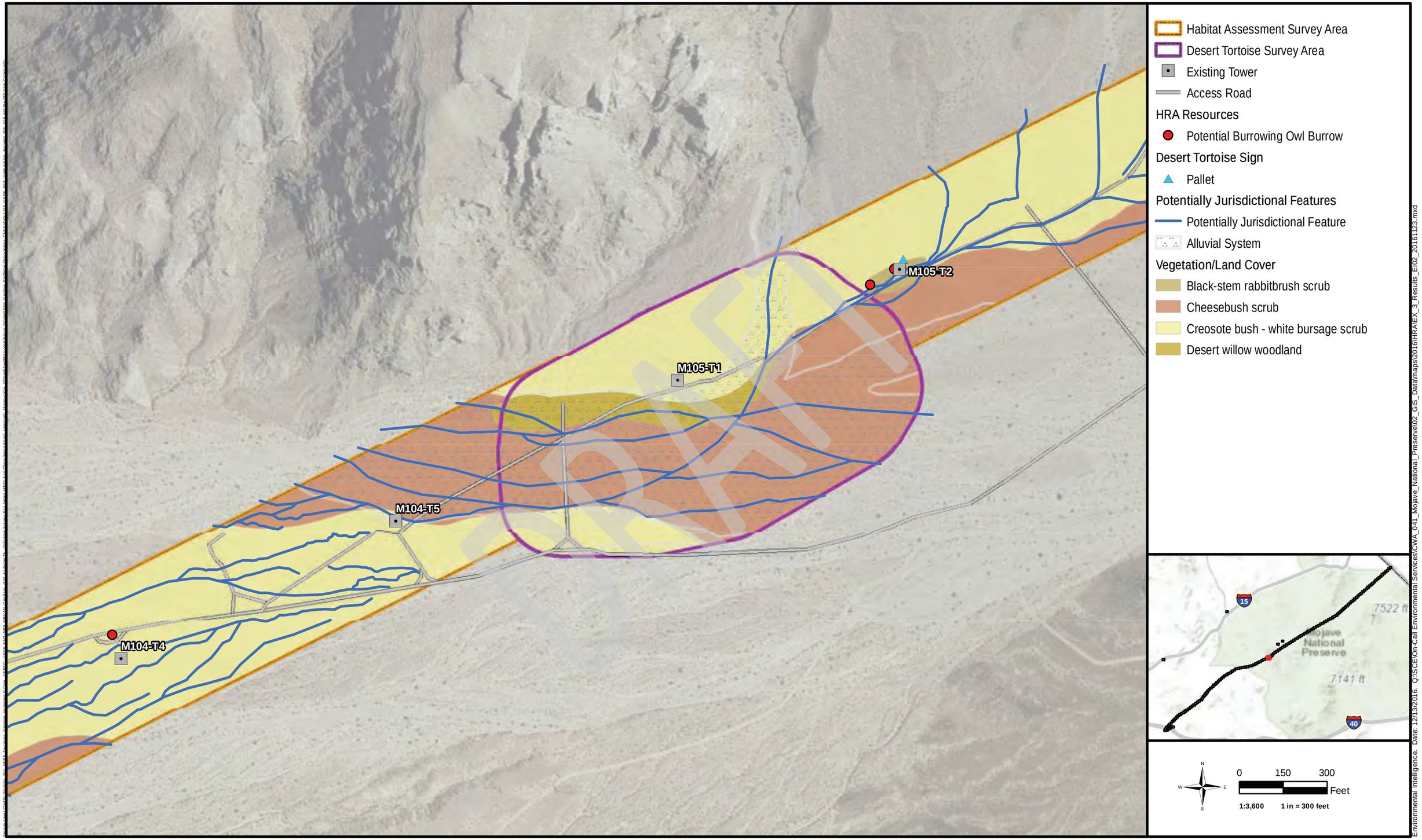


Exhibit 3. Survey Areas and Results (Page 66 of 140)

LVRAS Project | San Bernardino County, CA

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 67 of 140)

LVRAS Project | San Bernardino County, CA

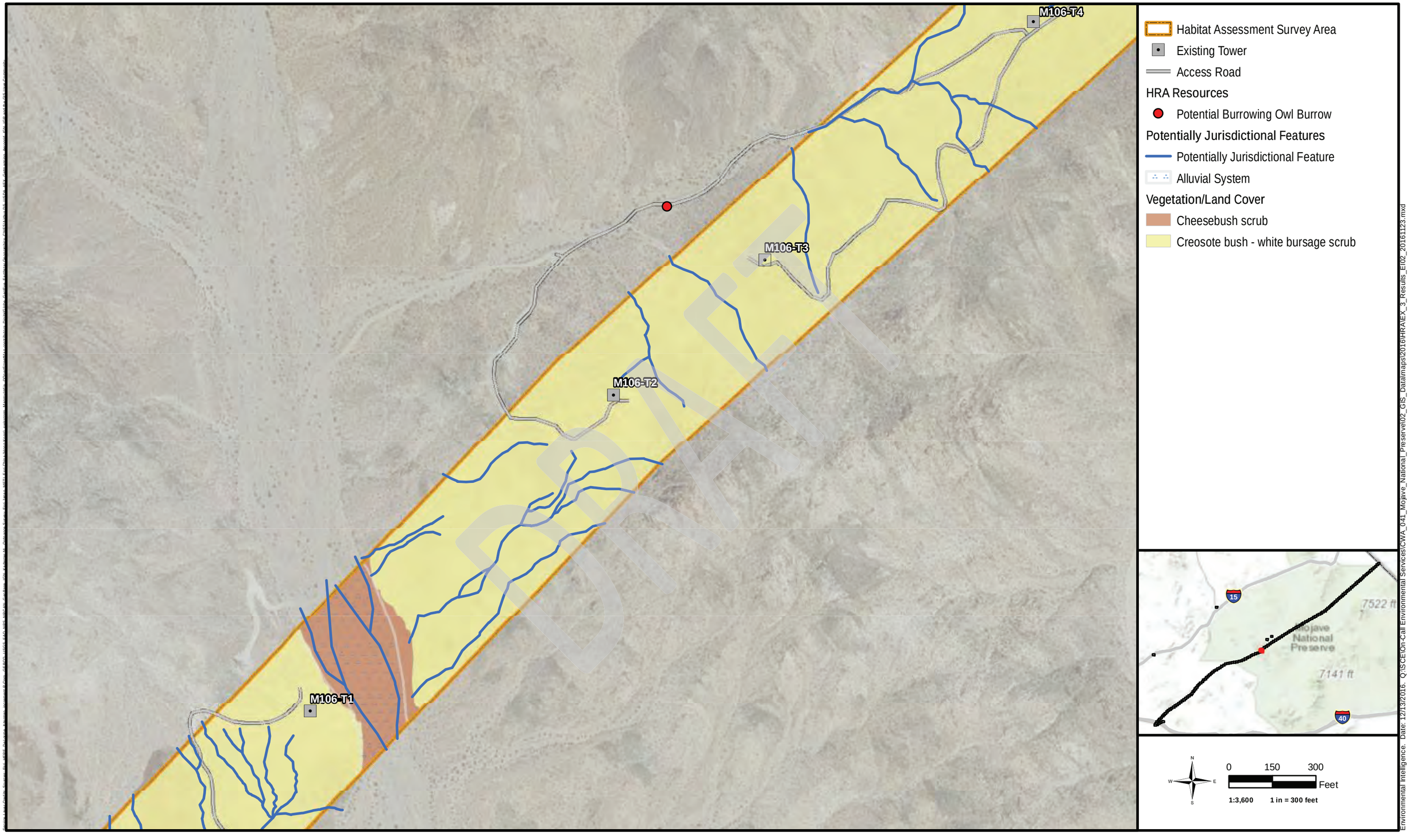
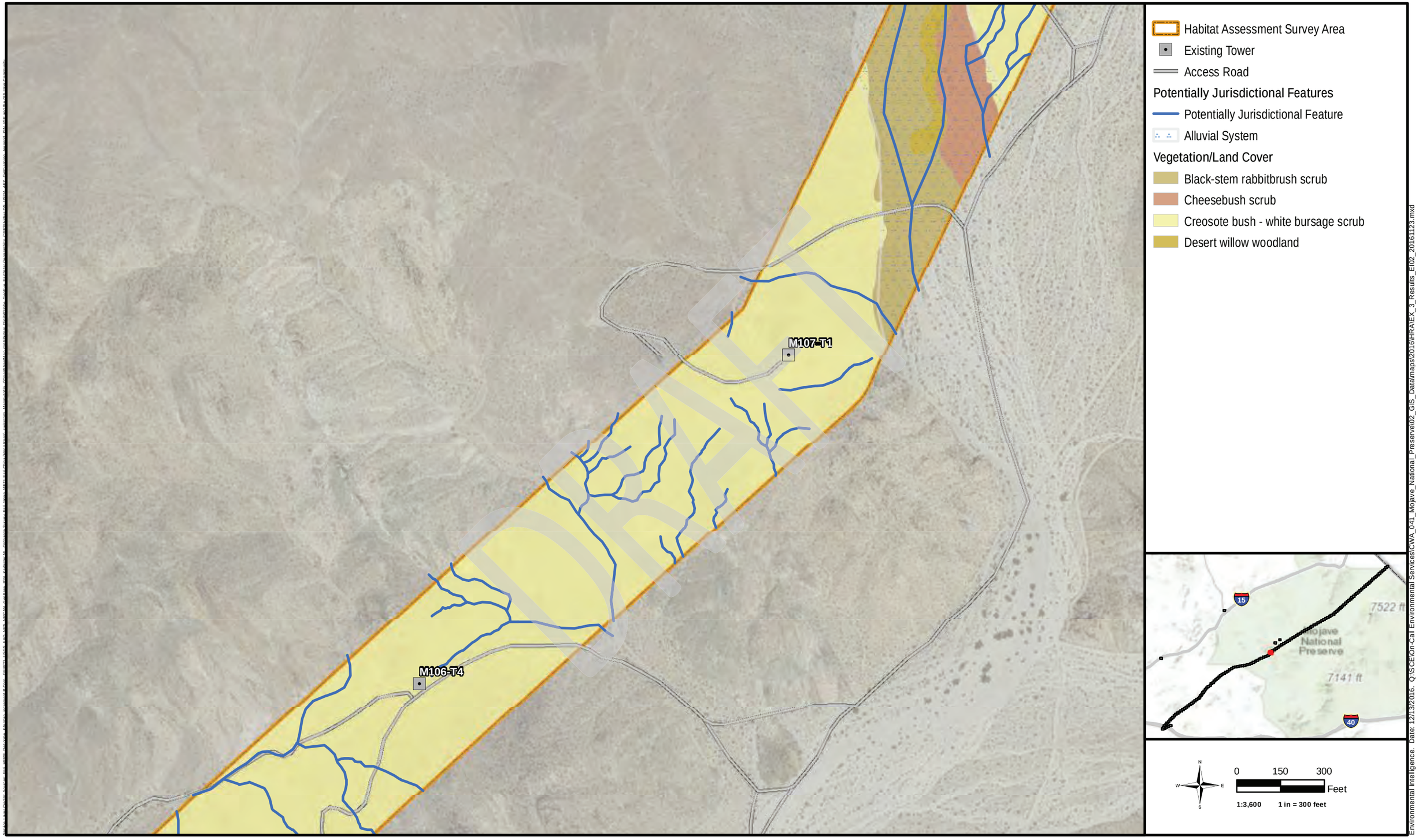


Exhibit 3. Survey Areas and Results (Page 68 of 140)

LVRAS Project | San Bernardino County, CA


M107-T1
M106-T4
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Black-stem rabbitbrush scrub
Cheesebush scrub
Creosote bush - white bursage scrub
Desert willow woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsd\2016\HRA\EX_3_Results_EI02_20161123.mxd

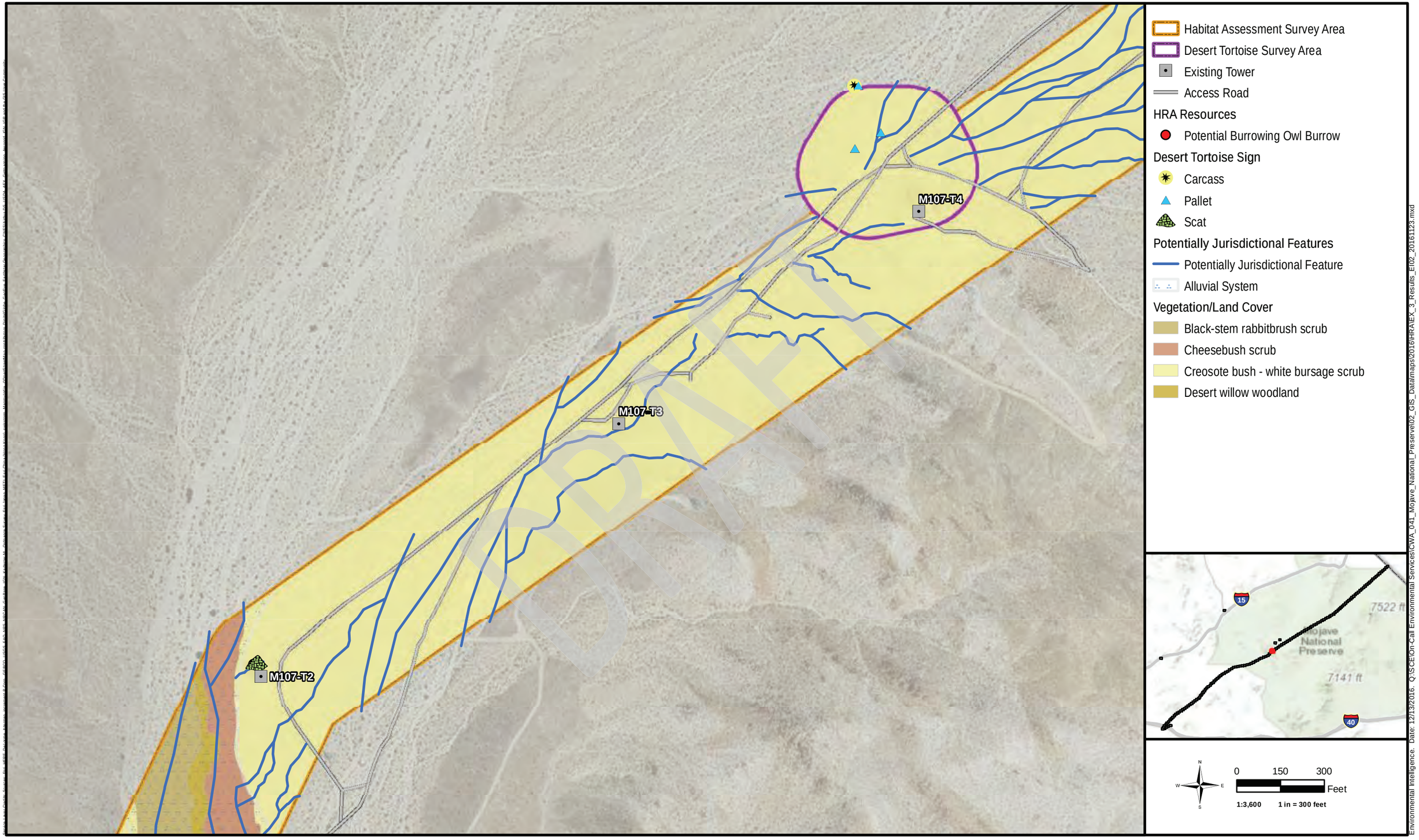
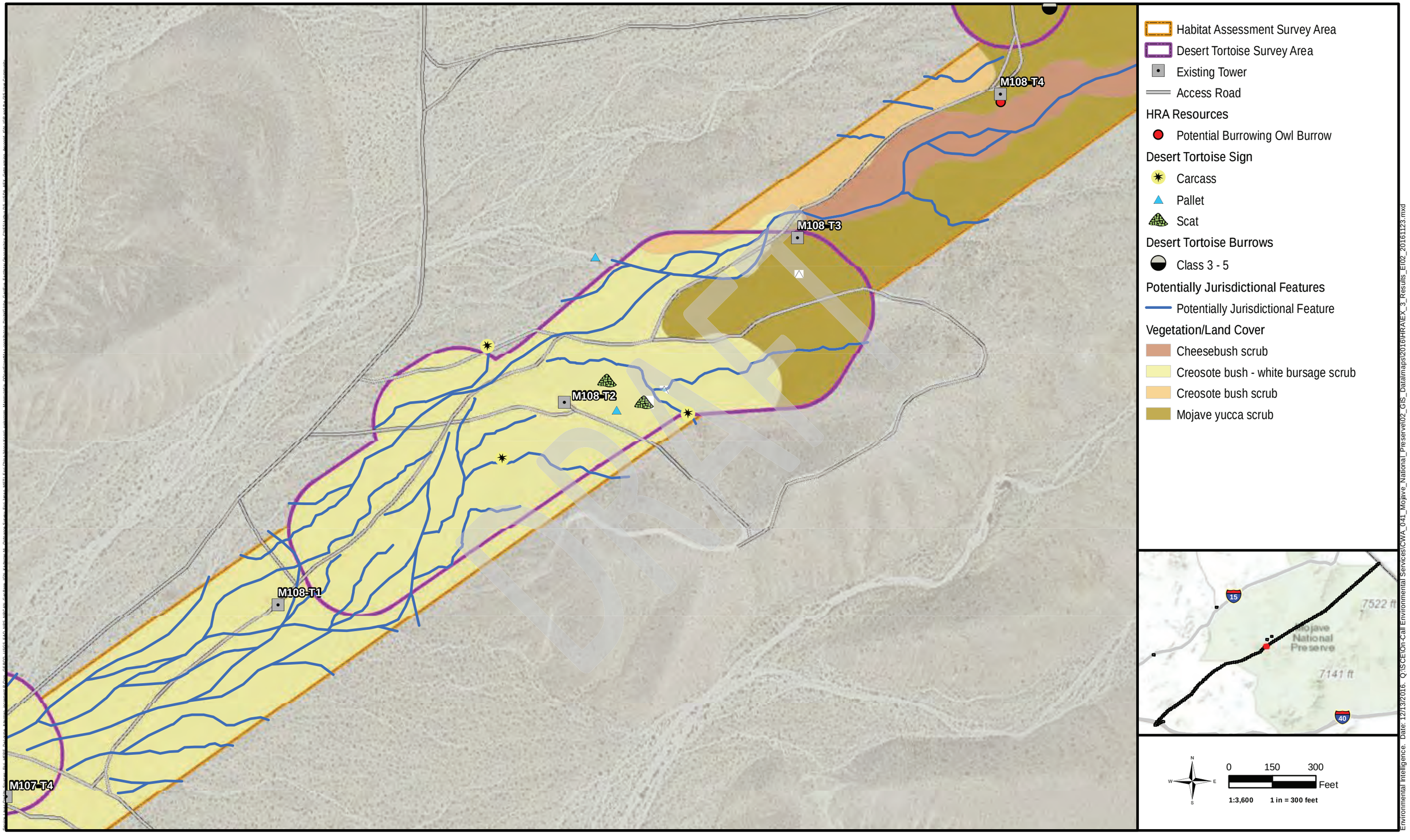


Exhibit 3. Survey Areas and Results (Page 70 of 140)

LVRAS Project | San Bernardino County, CA


M108-T4
M108-T3
M108-T2
M108-T1
M107-T4
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Pallet
Scat
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Cheesebush scrub
Creosote bush - white bursage scrub
Creosote bush scrub
Mojave yucca scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

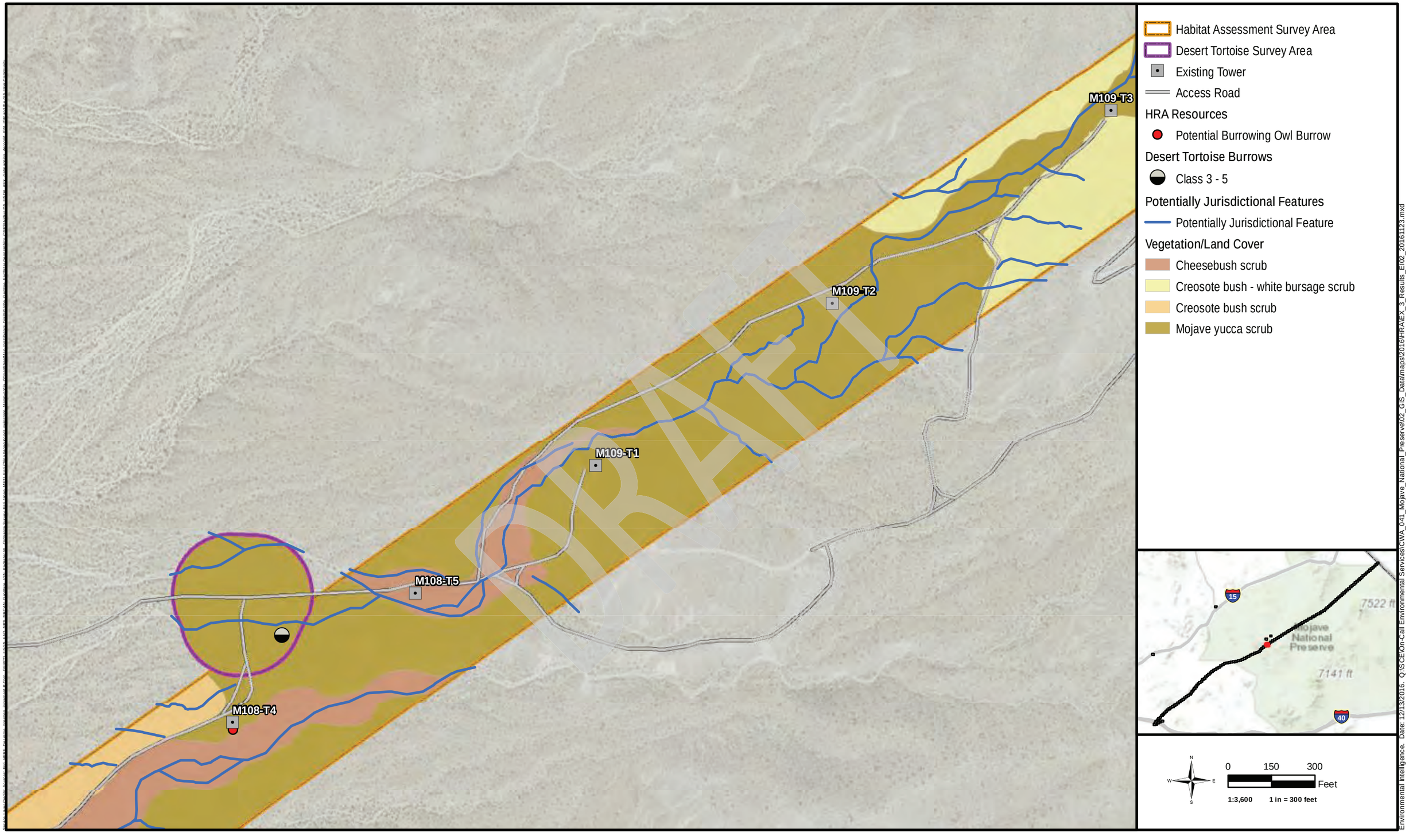


Exhibit 3. Survey Areas and Results (Page 72 of 140)

LVRAS Project | San Bernardino County, CA

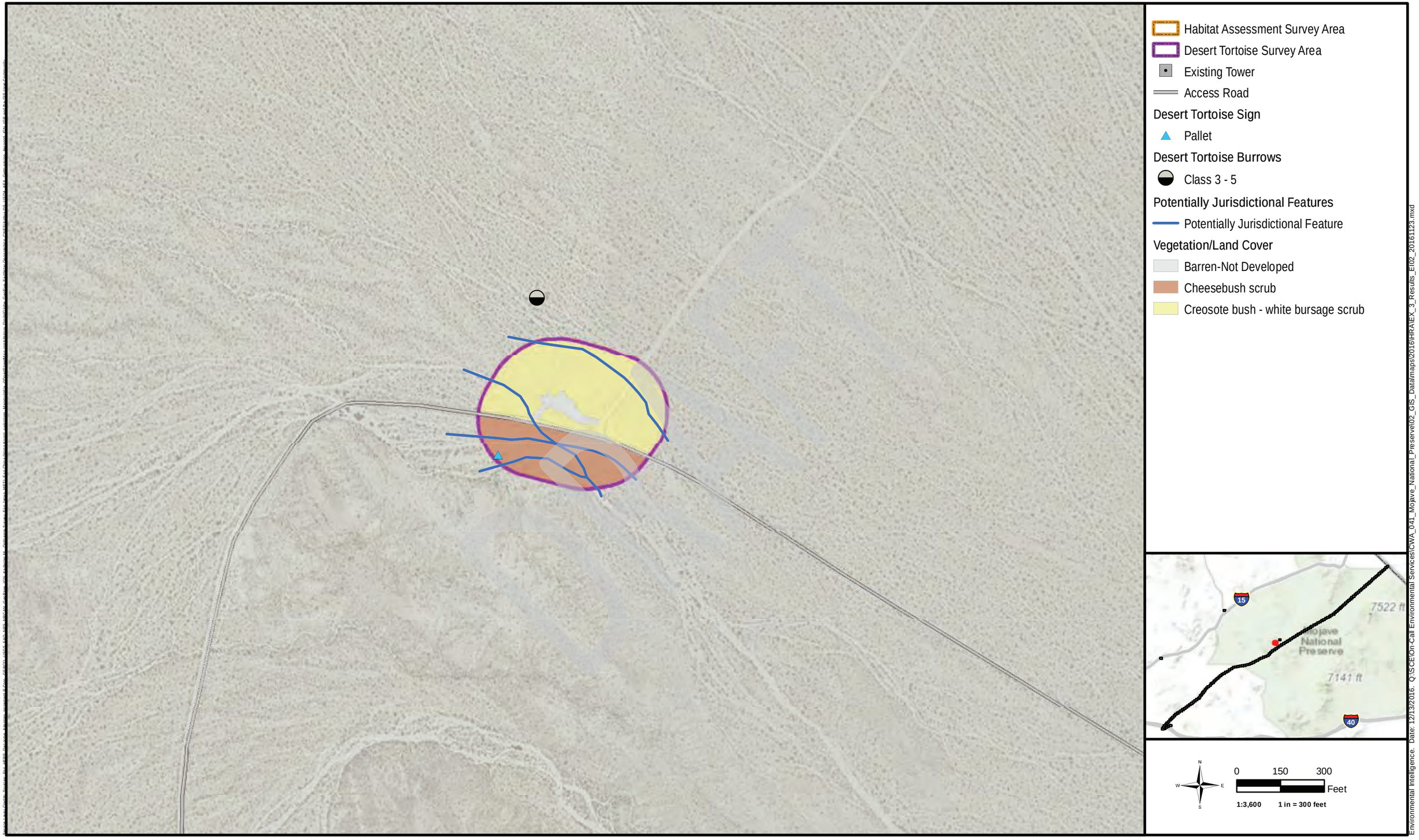


Exhibit 3. Survey Areas and Results (Page 73 of 140)

LVRAS Project | San Bernardino County, CA

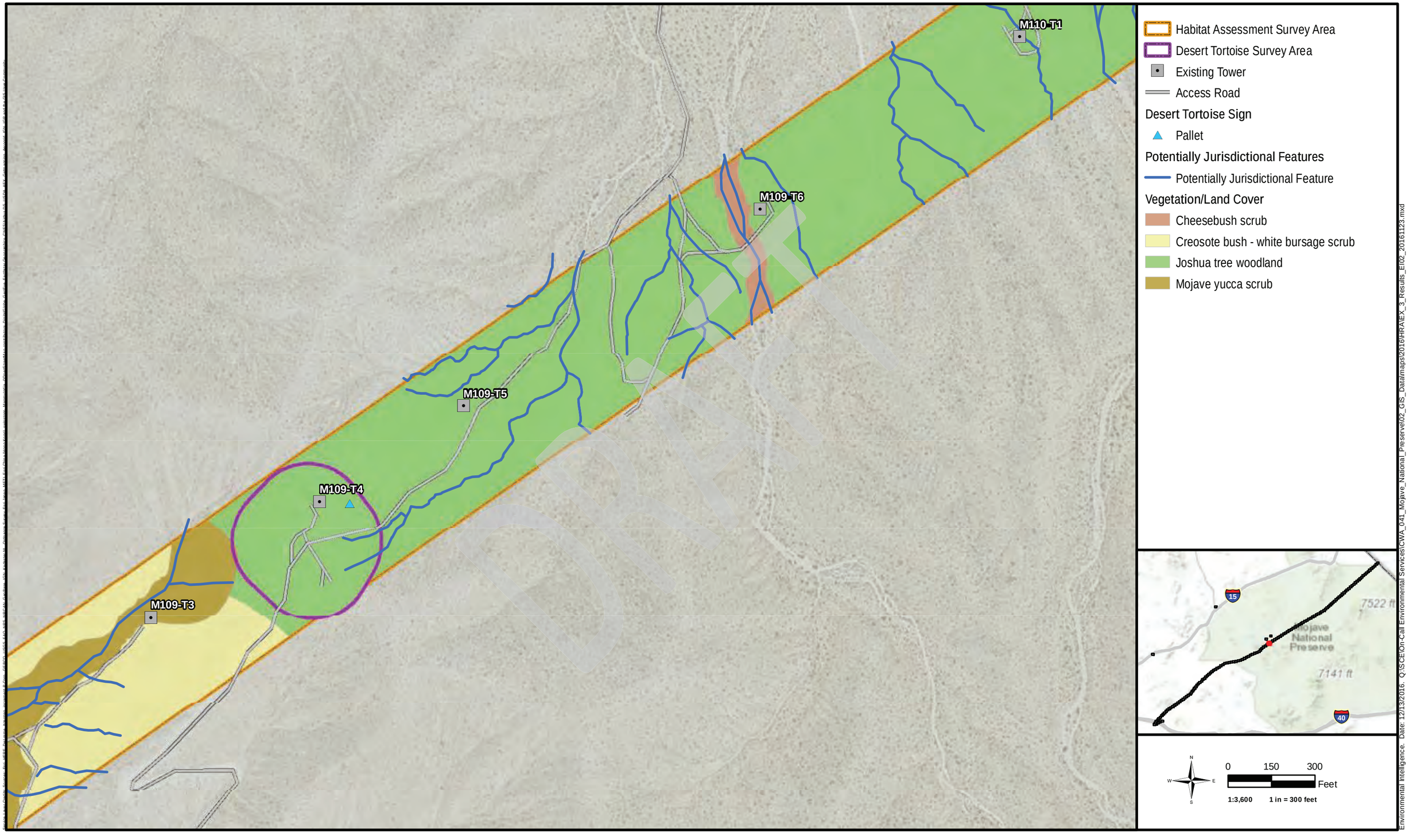


Exhibit 3. Survey Areas and Results (Page 74 of 140)

LVRAS Project | San Bernardino County, CA

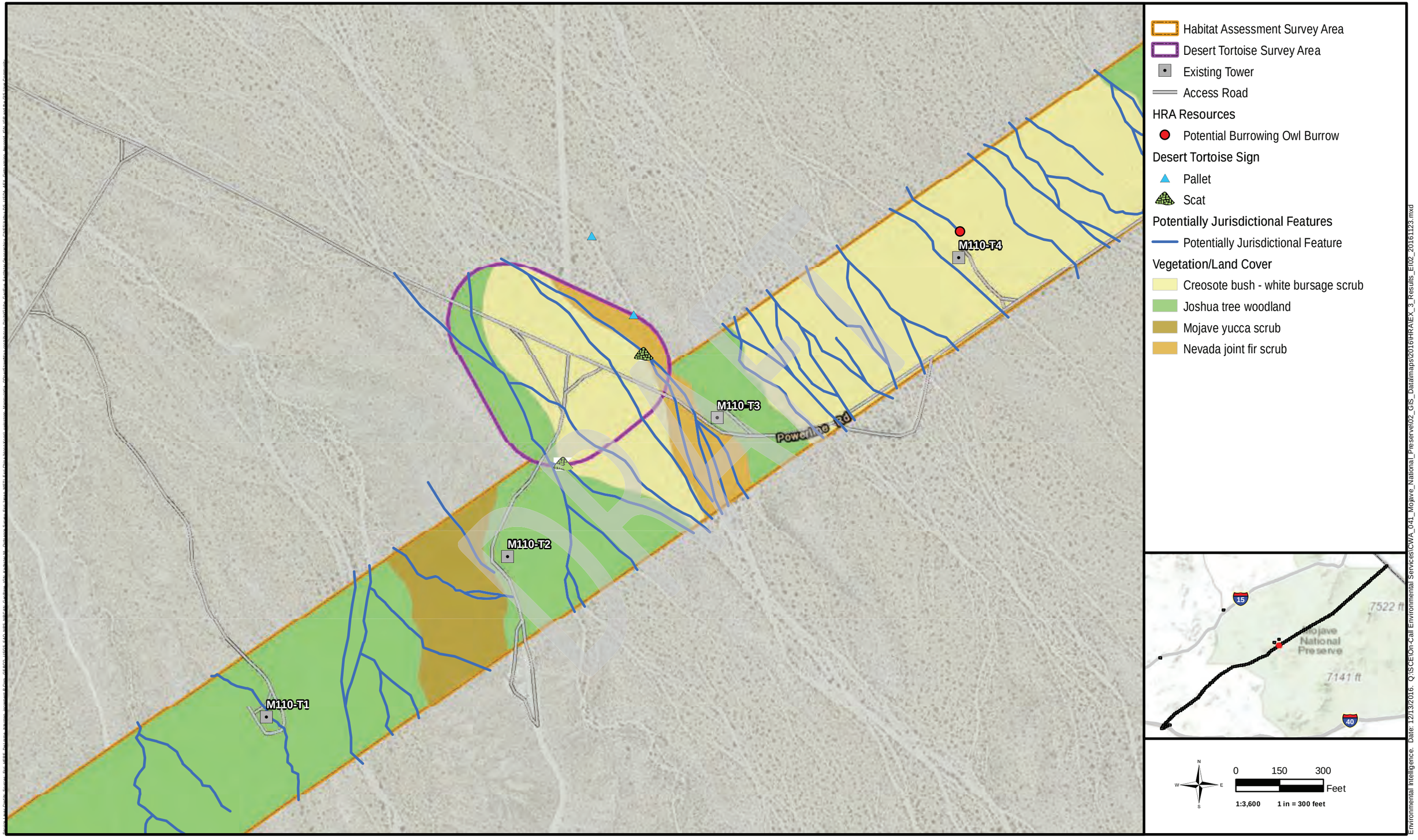


Exhibit 3. Survey Areas and Results (Page 75 of 140)

LVRAS Project | San Bernardino County, CA

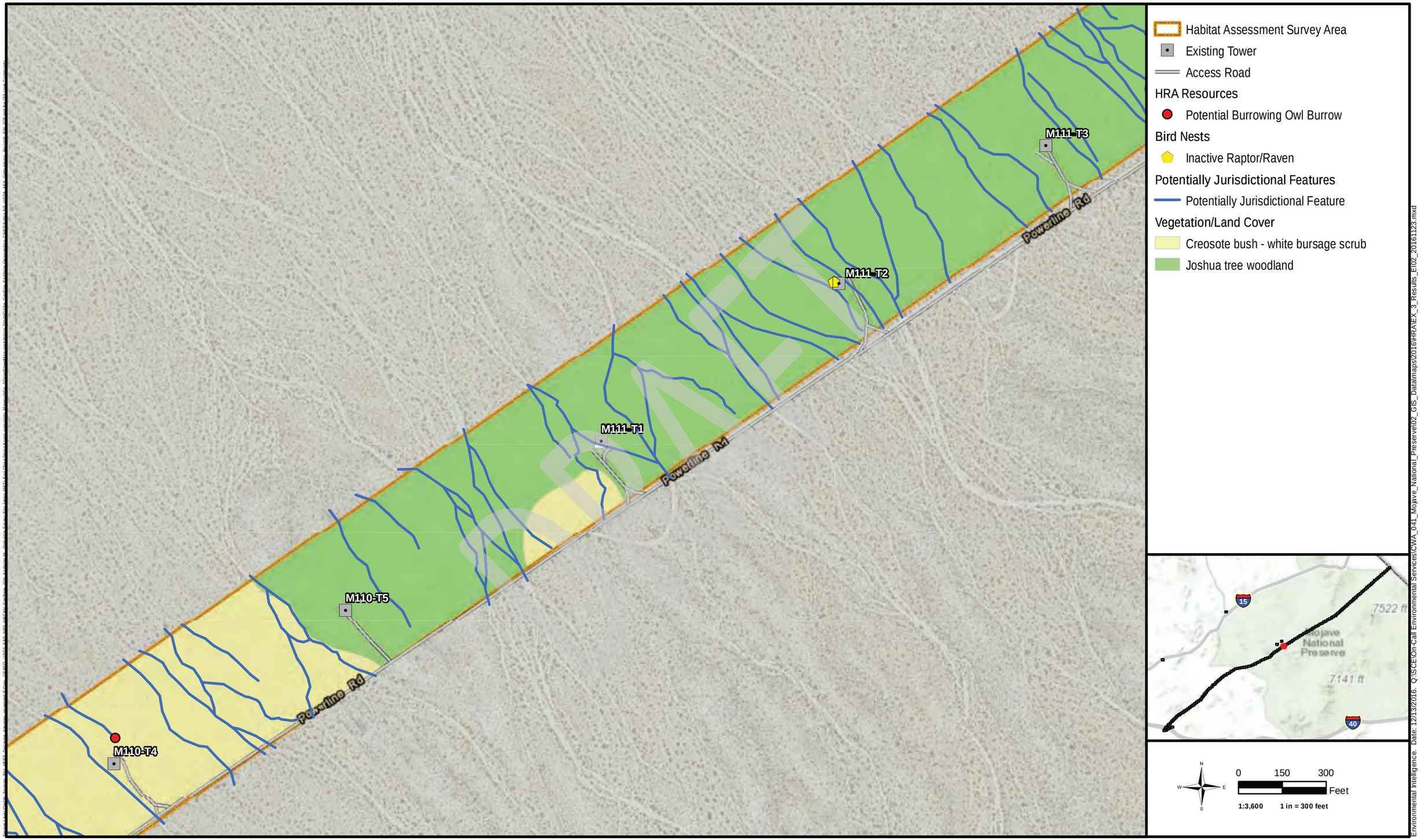


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Exhibit 3. Survey Areas and Results (Page 76 of 140)

LVRAS Project | San Bernardino County, CA

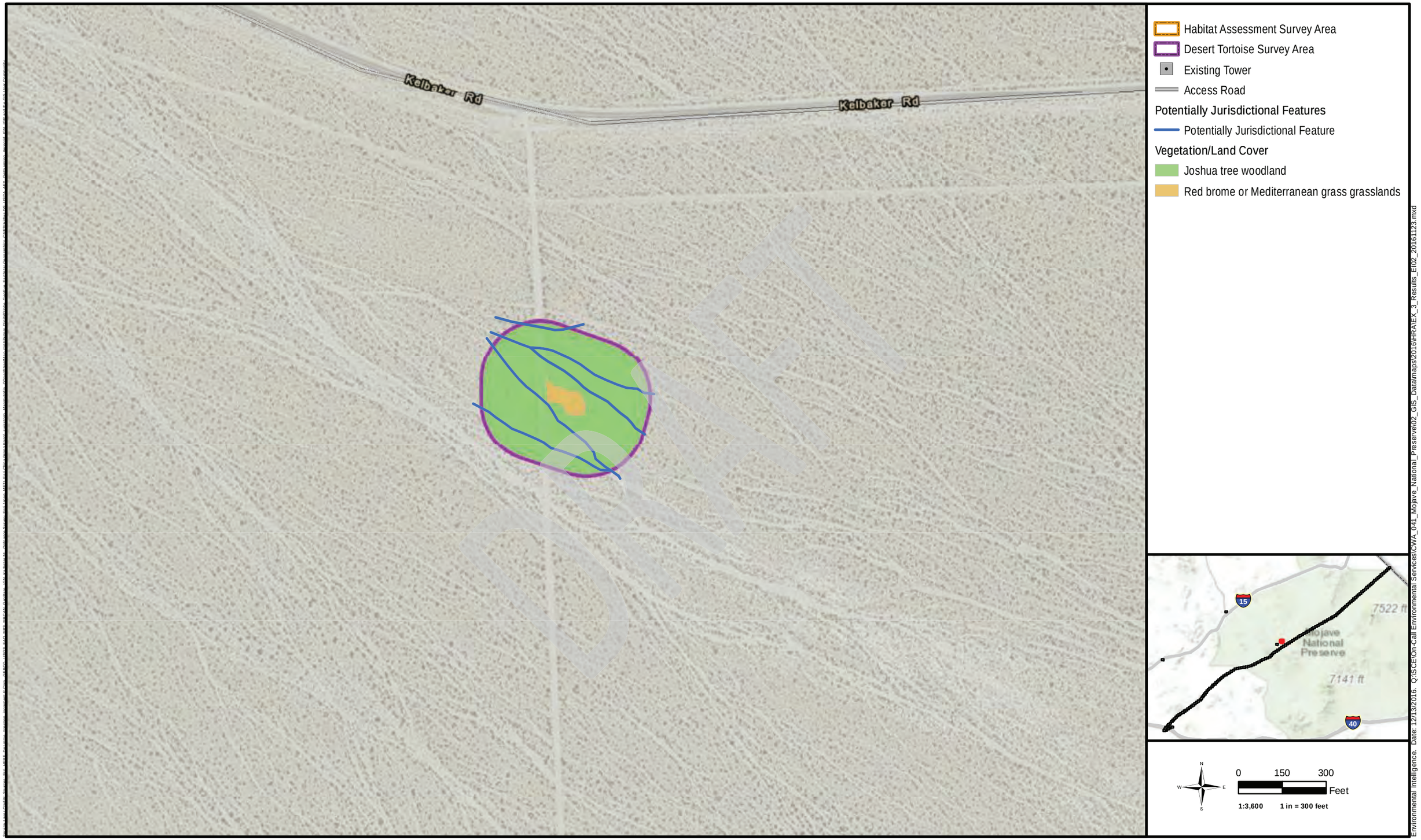

Kelbaker Rd
Kelbaker Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
Red brome or Mediterranean grass grasslands
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 78 of 140)

LVRAS Project | San Bernardino County, CA

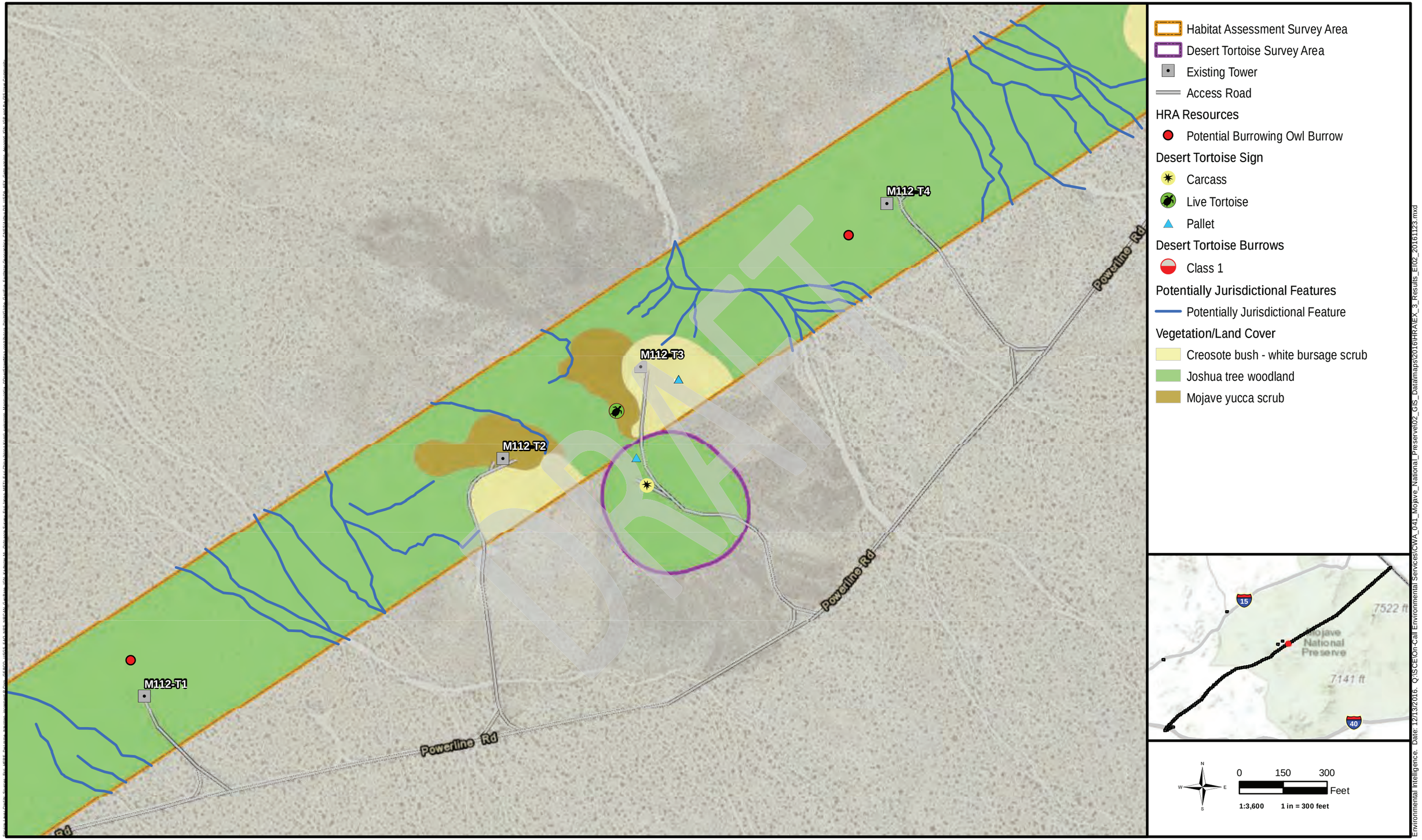


Exhibit 3. Survey Areas and Results (Page 79 of 140)
LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 80 of 140)
LVRAS Project | San Bernardino County, CA

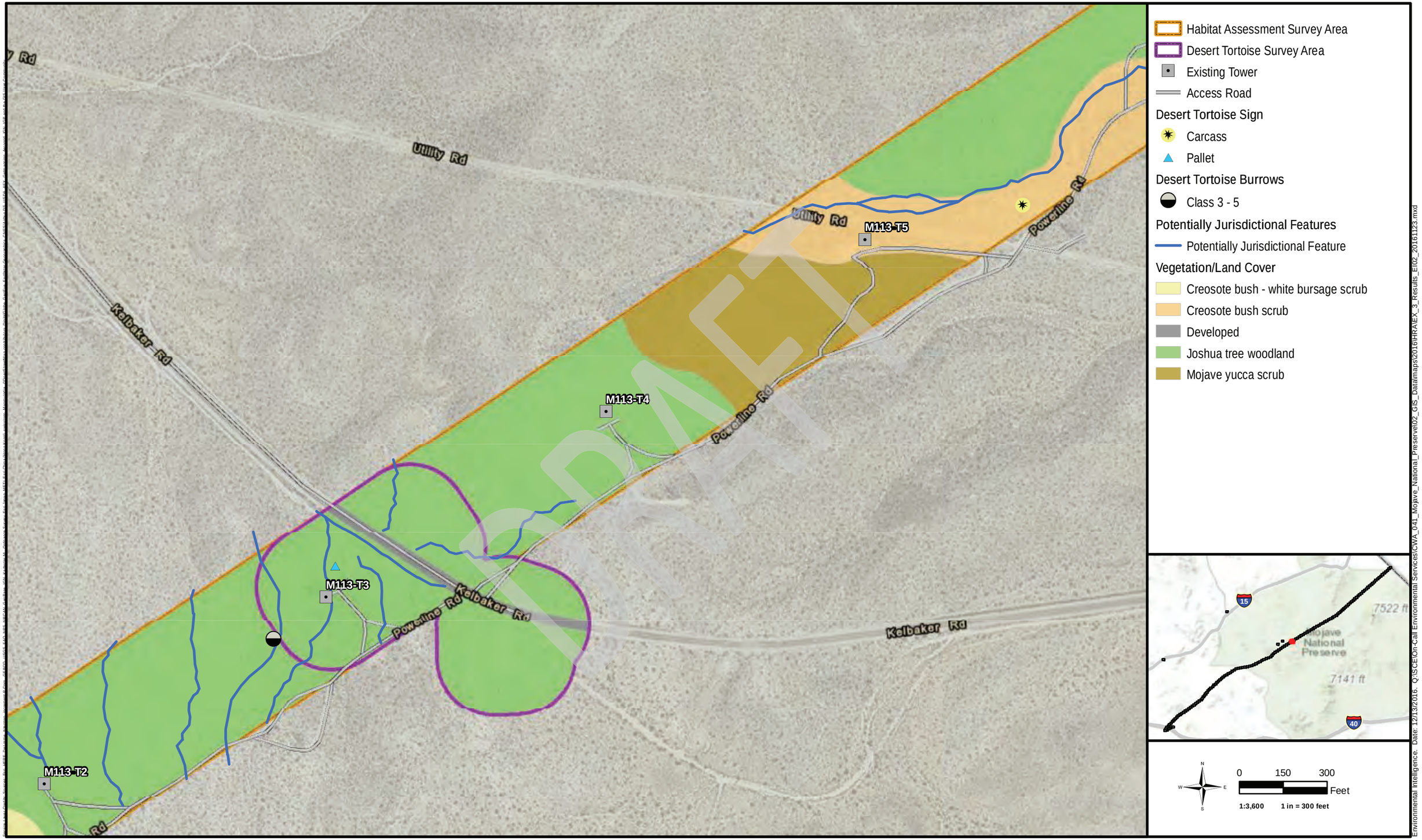


Exhibit 3. Survey Areas and Results (Page 81 of 140)
LVRAS Project | San Bernardino County, CA

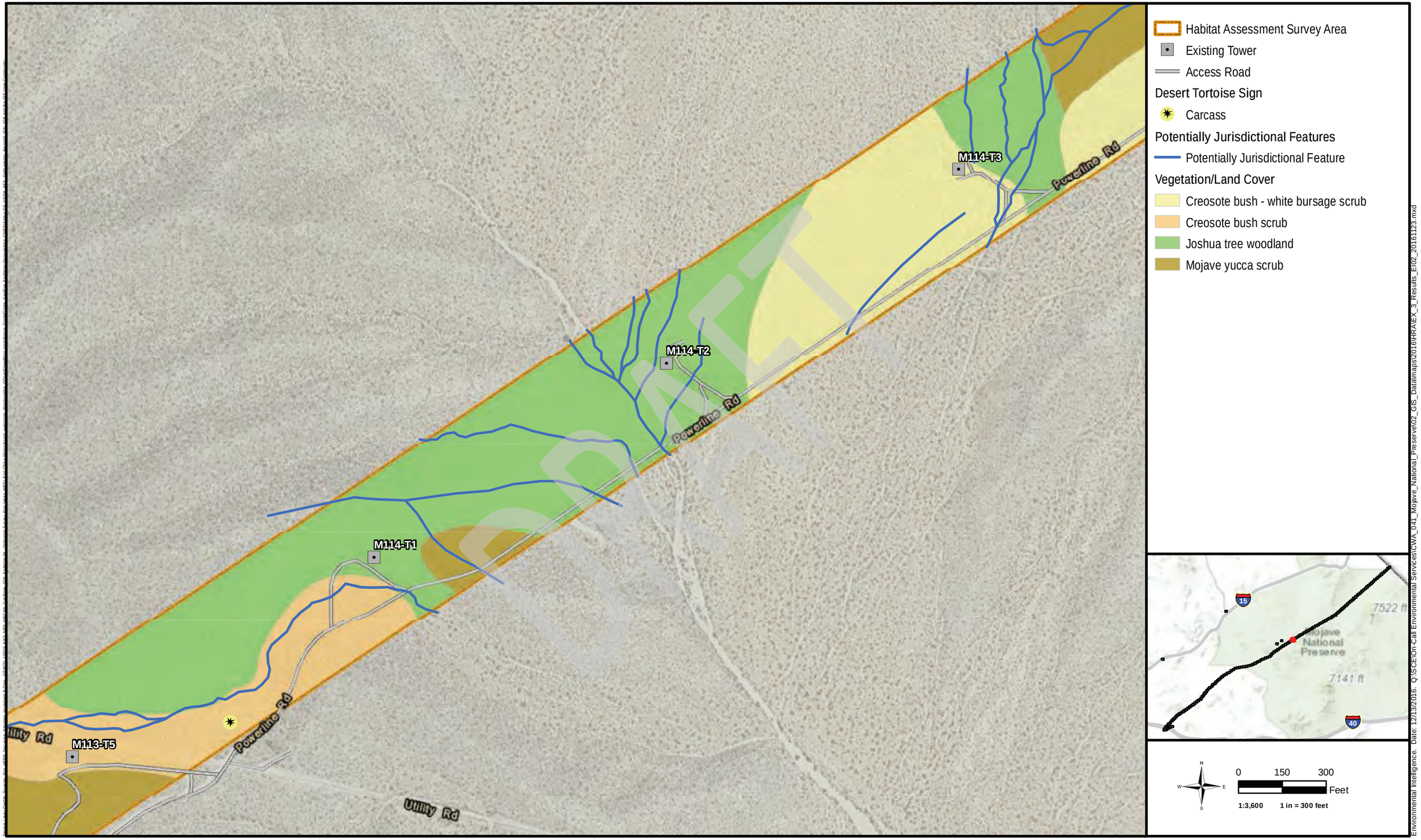


Exhibit 3. Survey Areas and Results (Page 82 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 83 of 140)

LVRAS Project | San Bernardino County, CA

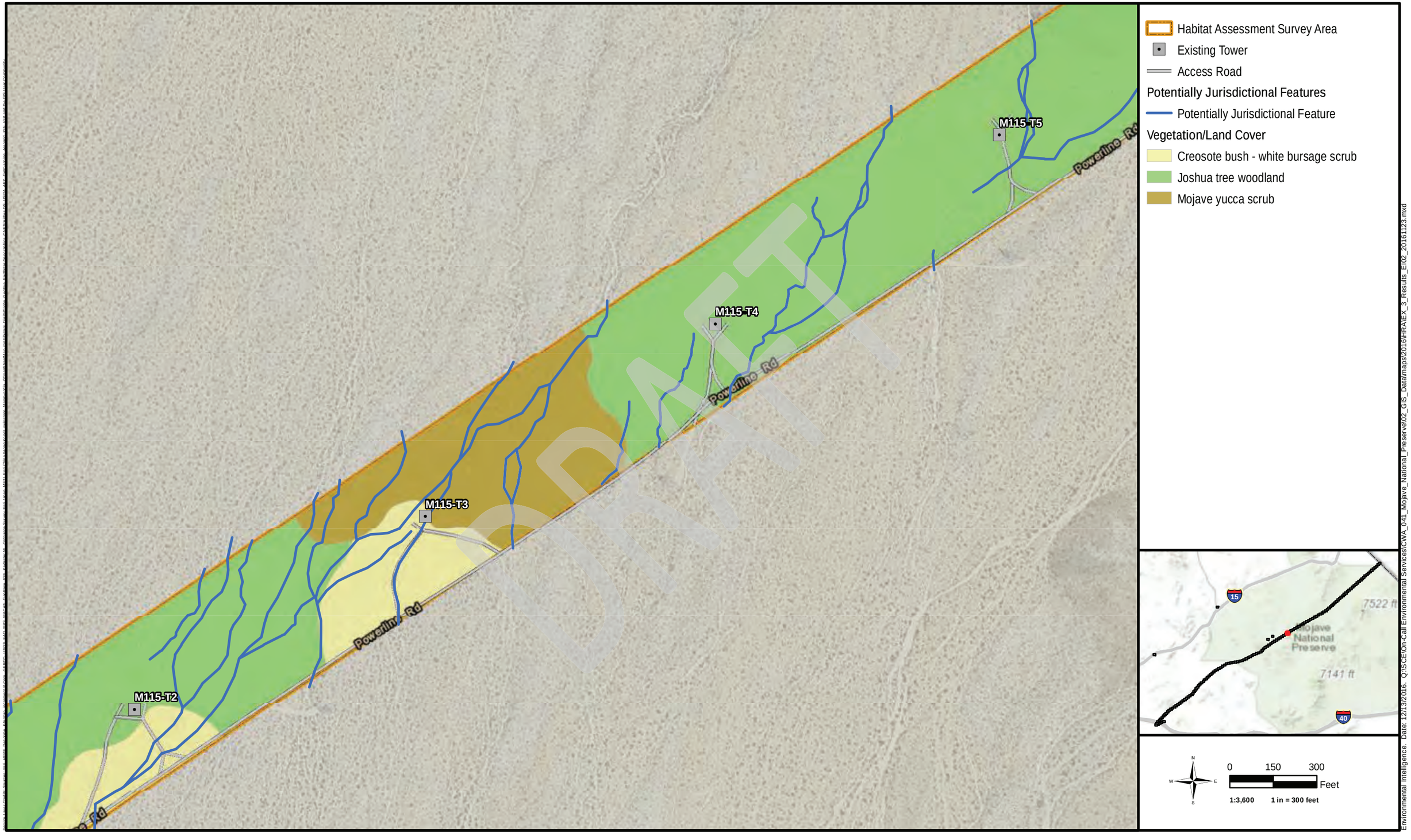
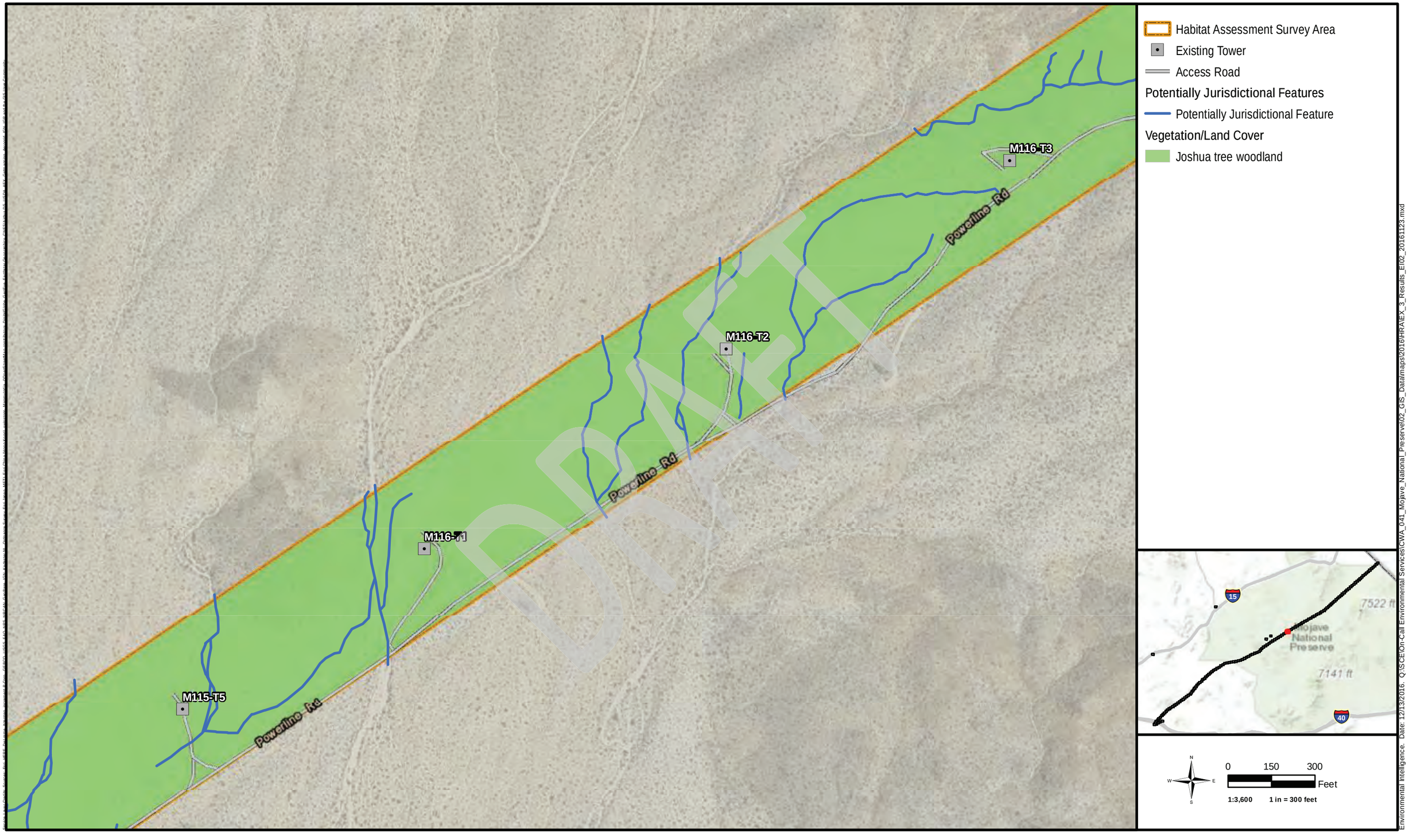


Exhibit 3. Survey Areas and Results (Page 84 of 140)

LVRAS Project | San Bernardino County, CA


M116-T3
M116-T2
M116-T1
M115-T5
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd

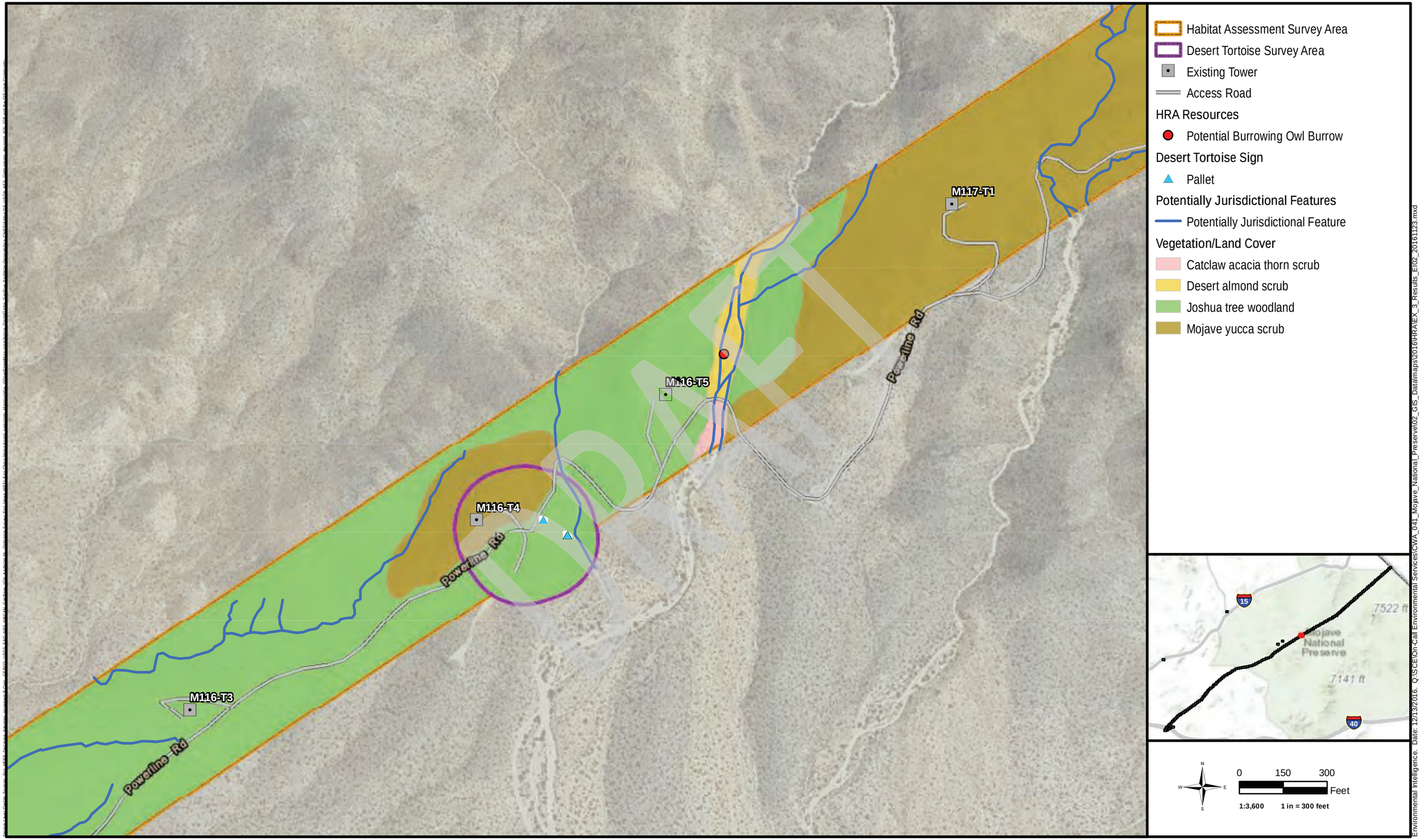


Exhibit 3. Survey Areas and Results (Page 86 of 140)
LVRAS Project | San Bernardino County, CA

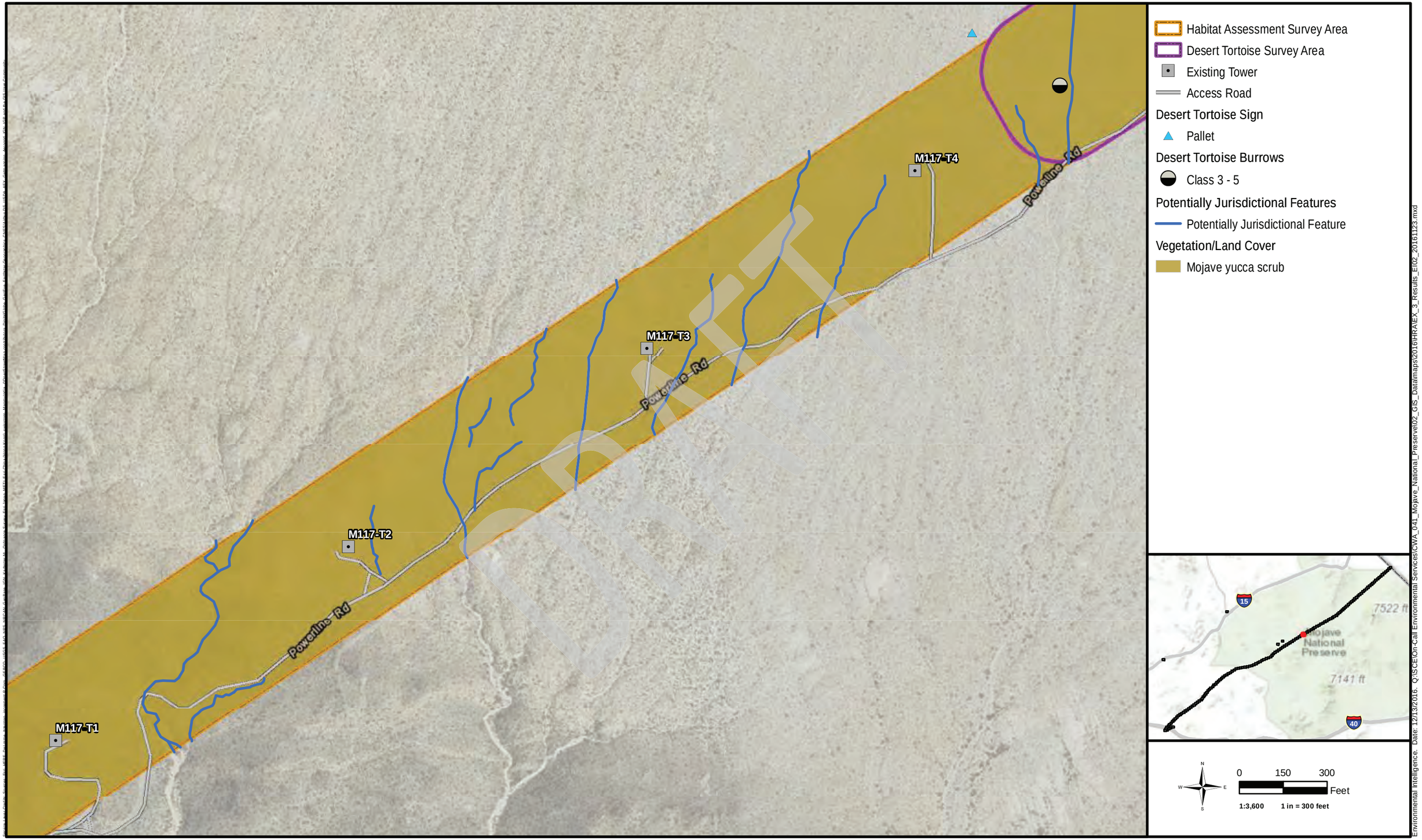


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 87 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

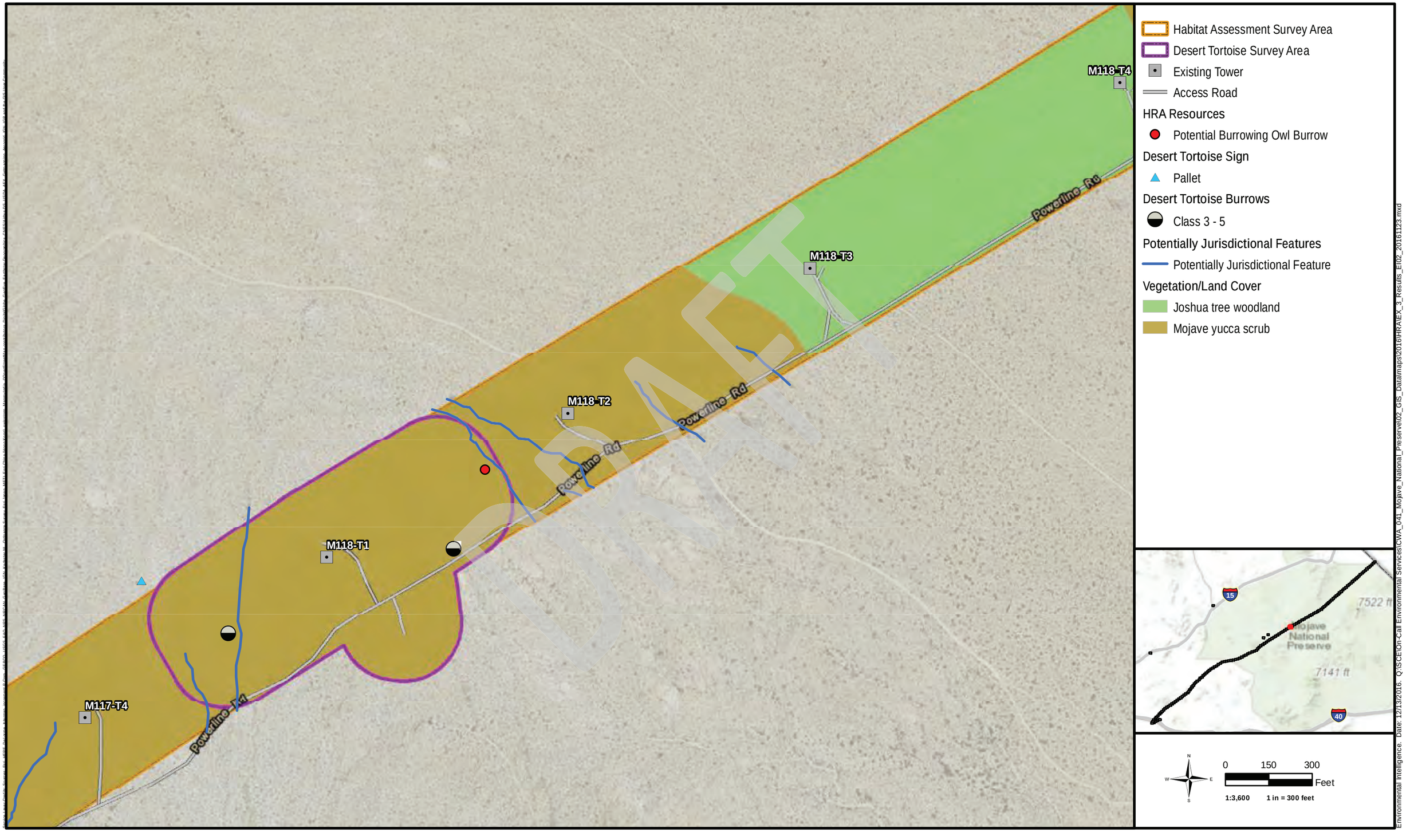


Exhibit 3. Survey Areas and Results (Page 88 of 140)
LVRAS Project | San Bernardino County, CA

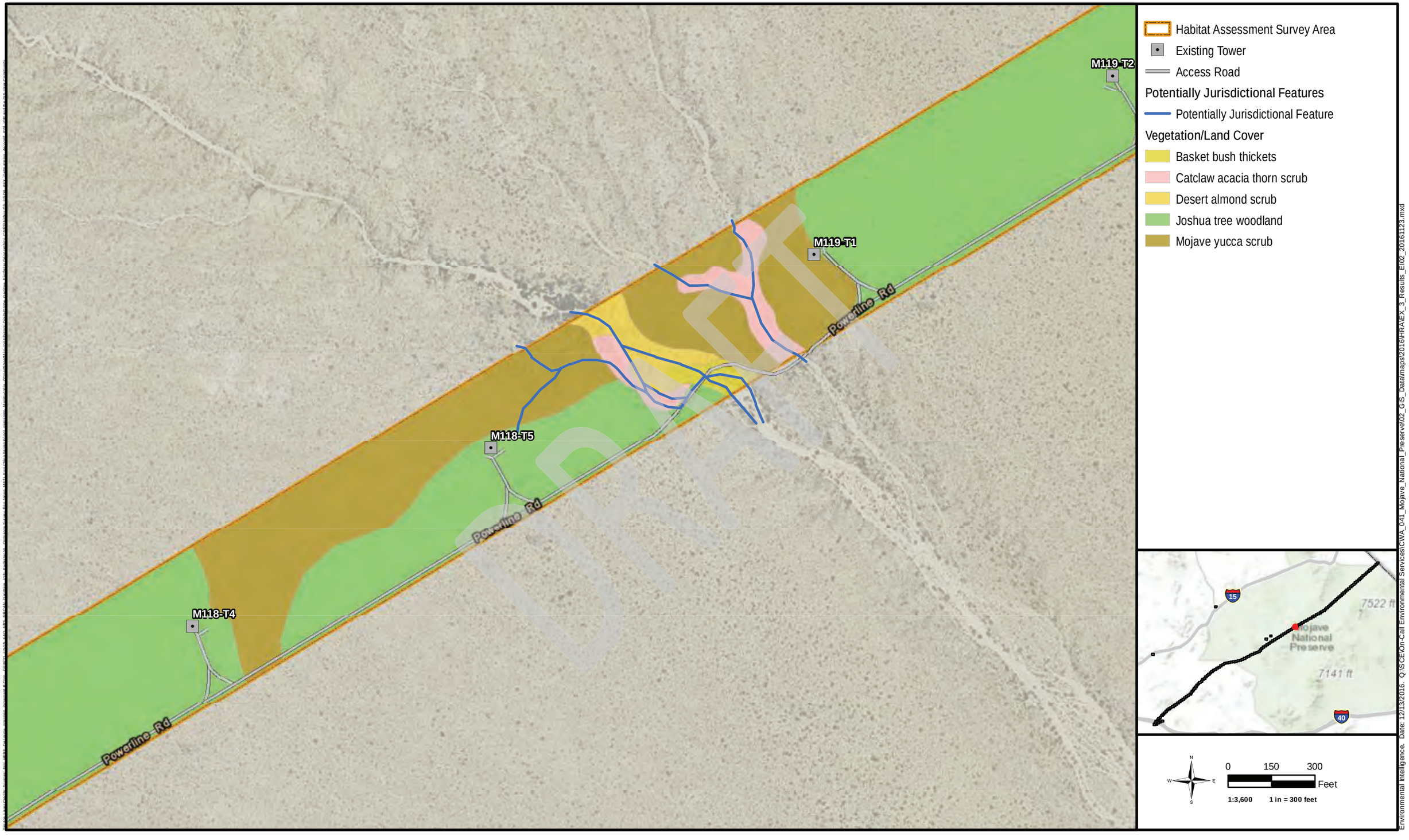


Exhibit 3. Survey Areas and Results (Page 89 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 90 of 140)

LVRAS Project | San Bernardino County, CA

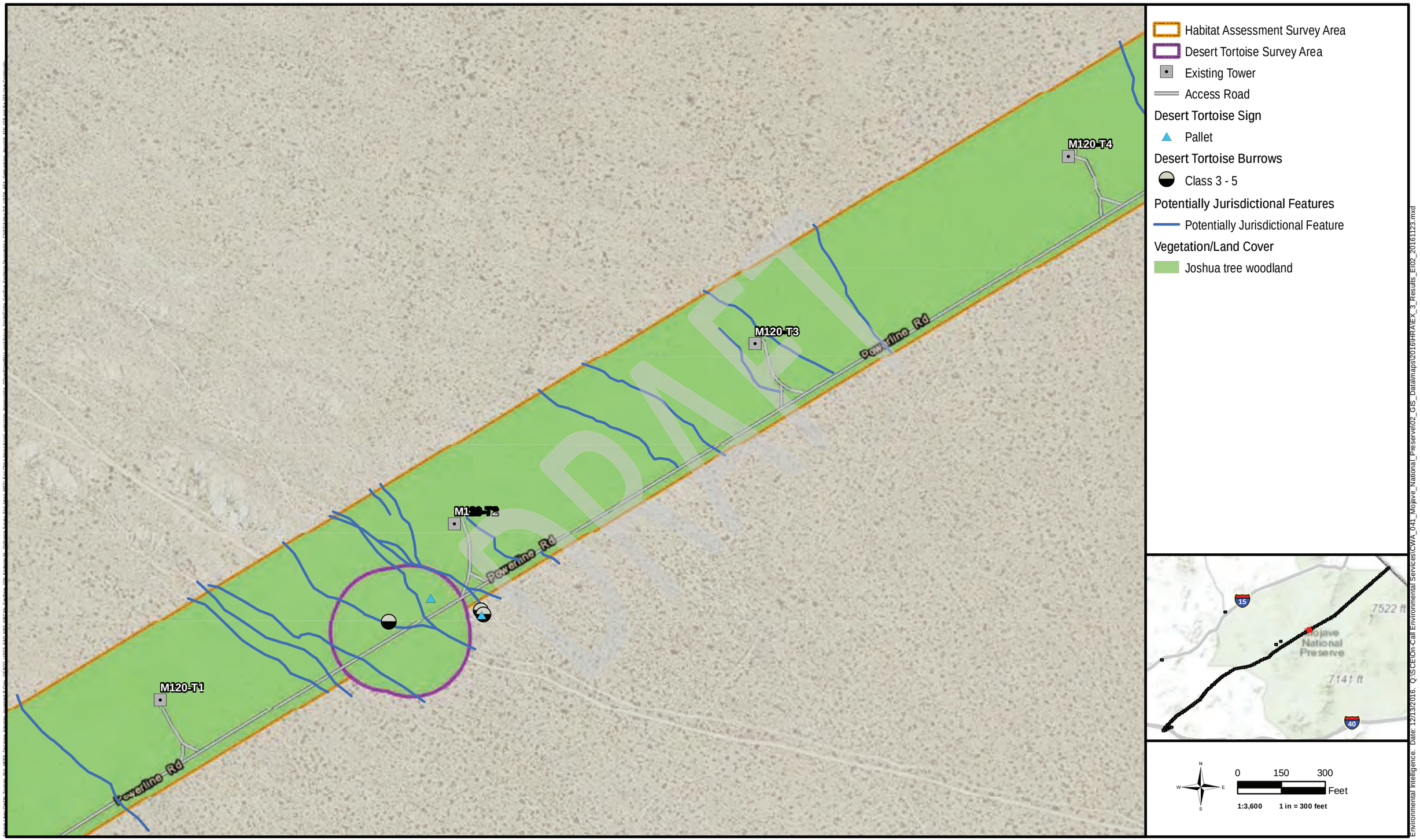


Exhibit 3. Survey Areas and Results (Page 91 of 140)

LVRAS Project | San Bernardino County, CA

Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road

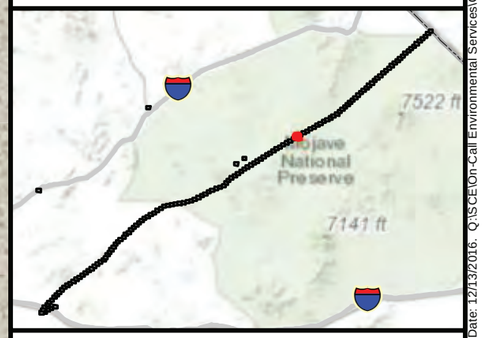
Bird Nests
Inactive Raptor/Raven

Desert Tortoise Sign
Pallet
Scat

Desert Tortoise Burrows
Class 3 - 5

Potentially Jurisdictional Features
Potentially Jurisdictional Feature

Vegetation/Land Cover
Desert almond scrub
Joshua tree woodland

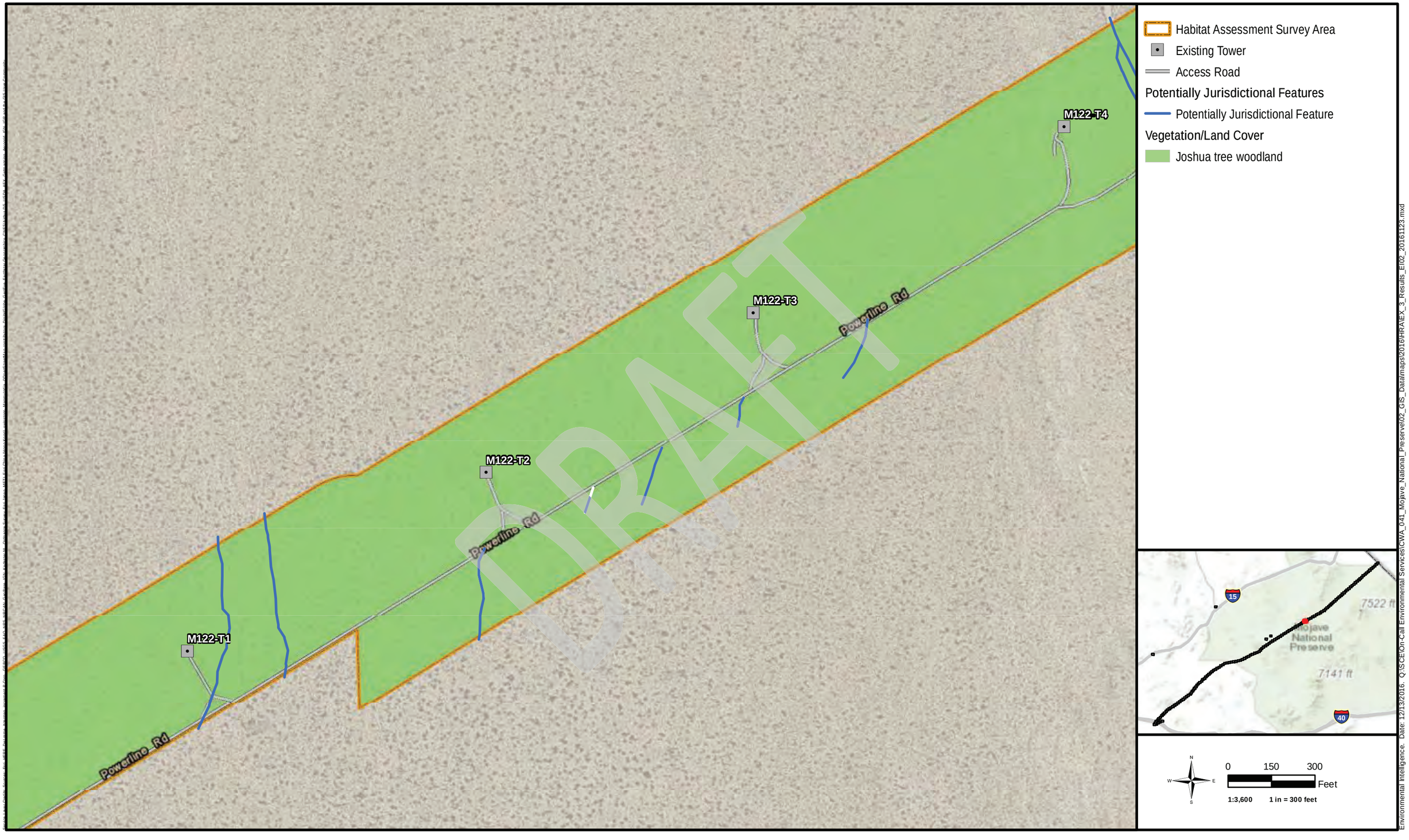


N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 92 of 140)
LVRAS Project | San Bernardino County, CA


M122-T1
M121-T4
M121-T3
M121-T2
Powerline Rd
Powerline Rd
Powerline Rd
Powerline Rd
DRAFT
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M122-T4
M122-T3
M122-T2
M122-T1
Powerline Rd
Powerline Rd
Powerline Rd
DRAFT
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ei\02_20161123.mxd


M123-T2
M123-T1
M122-T5
M122-T4
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsl\2016\HRA\EX_3_Results_EI\02_20161123.mxd

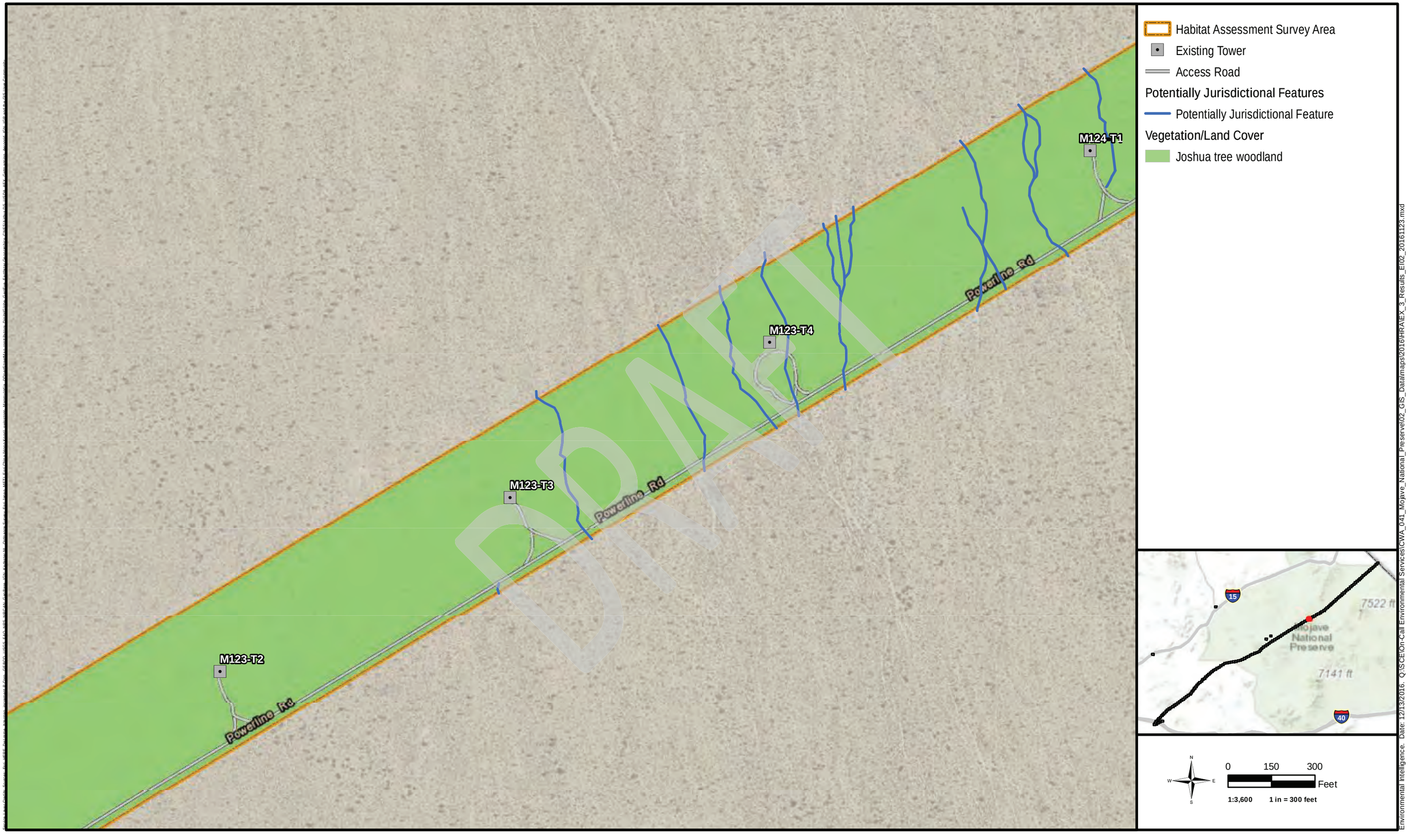

M124-T1
M123-T4
M123-T3
M123-T2
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 97 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

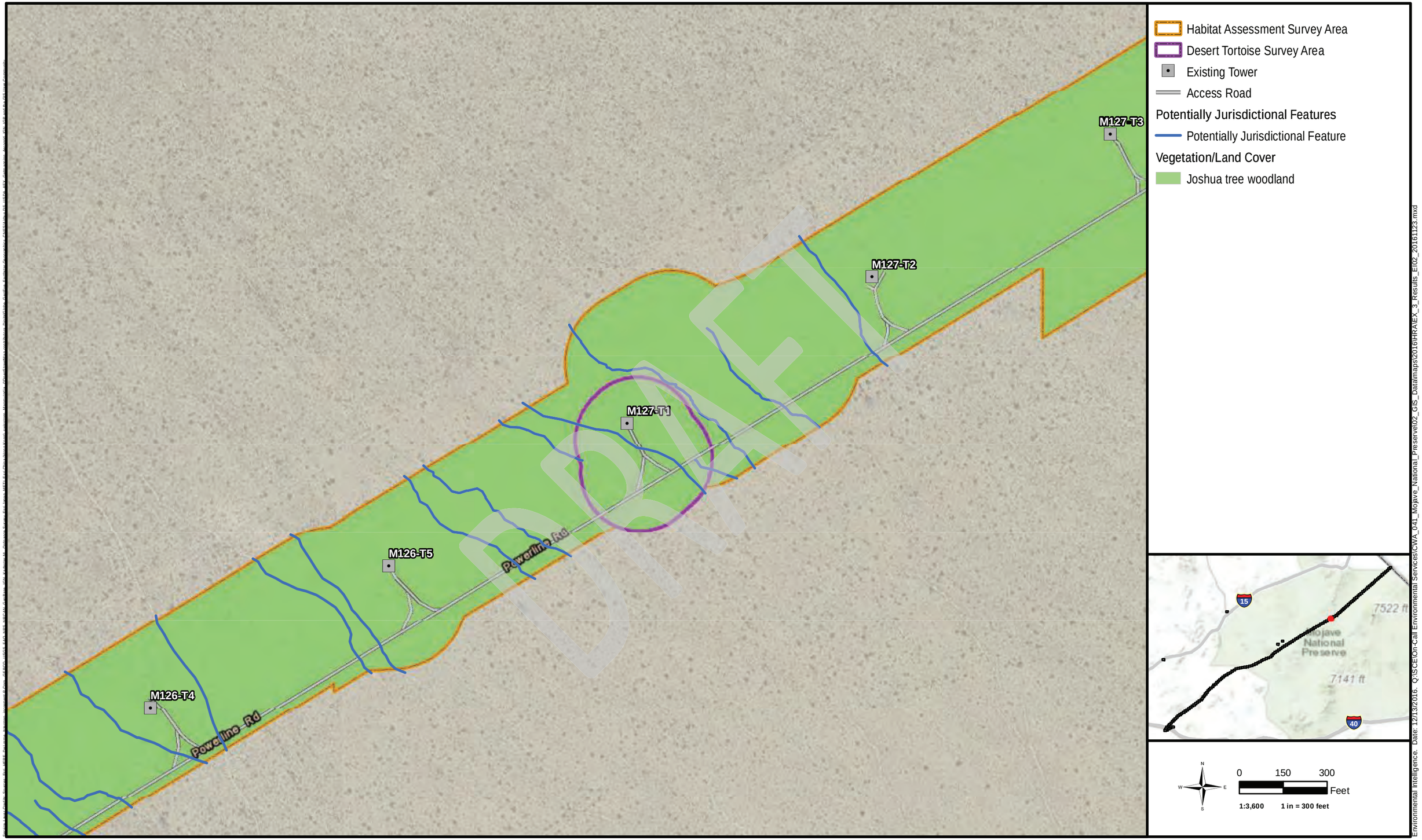
Exhibit 3. Survey Areas and Results (Page 98 of 140)

LVRAS Project | San Bernardino County, CA


M125-T4
M125-T3
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Scat
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Datamaps\2016\HRA\EX_3_Results_EI02_20161123.mxd

Exhibit 3. Survey Areas and Results (Page 100 of 140)

LVRAS Project | San Bernardino County, CA


M127-T3
M127-T2
M127-T1
M126-T5
M126-T4
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Joshua tree woodland
15
40
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mapsl2016\HRA\EX_3_Results_Ef\02_20161123.mxd

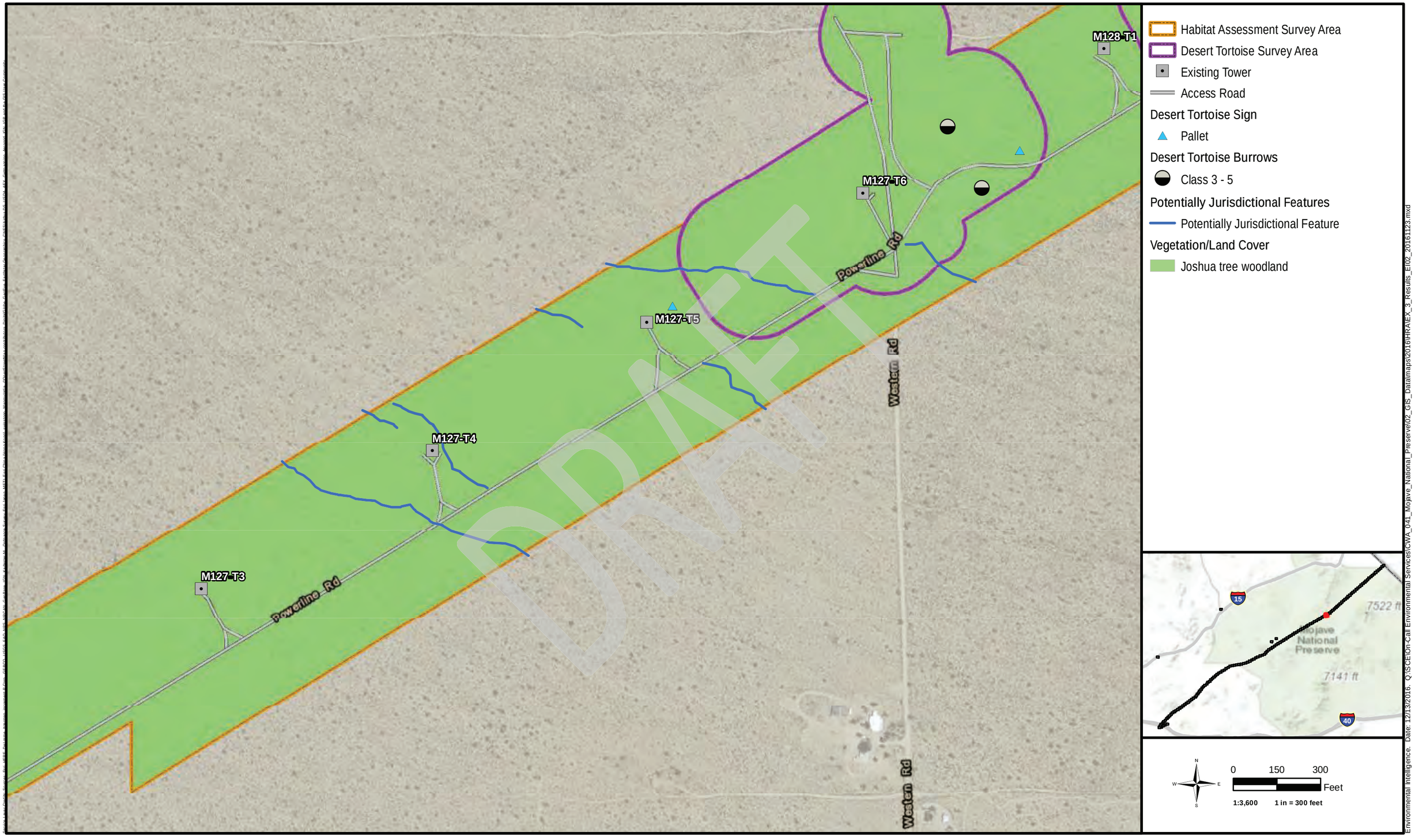


Exhibit 3. Survey Areas and Results (Page 102 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 103 of 140)

LVRAS Project | San Bernardino County, CA

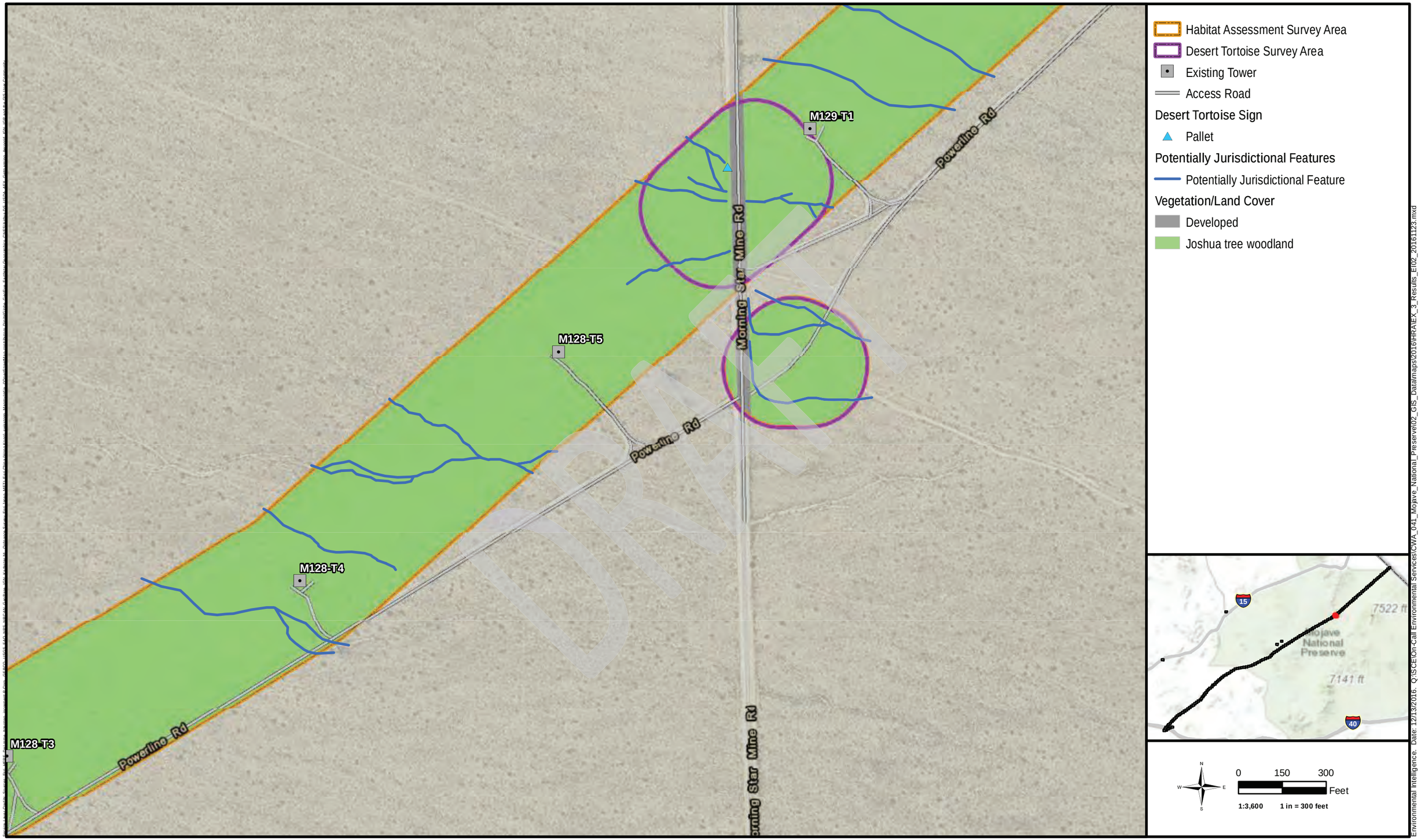


Exhibit 3. Survey Areas and Results (Page 104 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 105 of 140)

LVRAS Project | San Bernardino County, CA

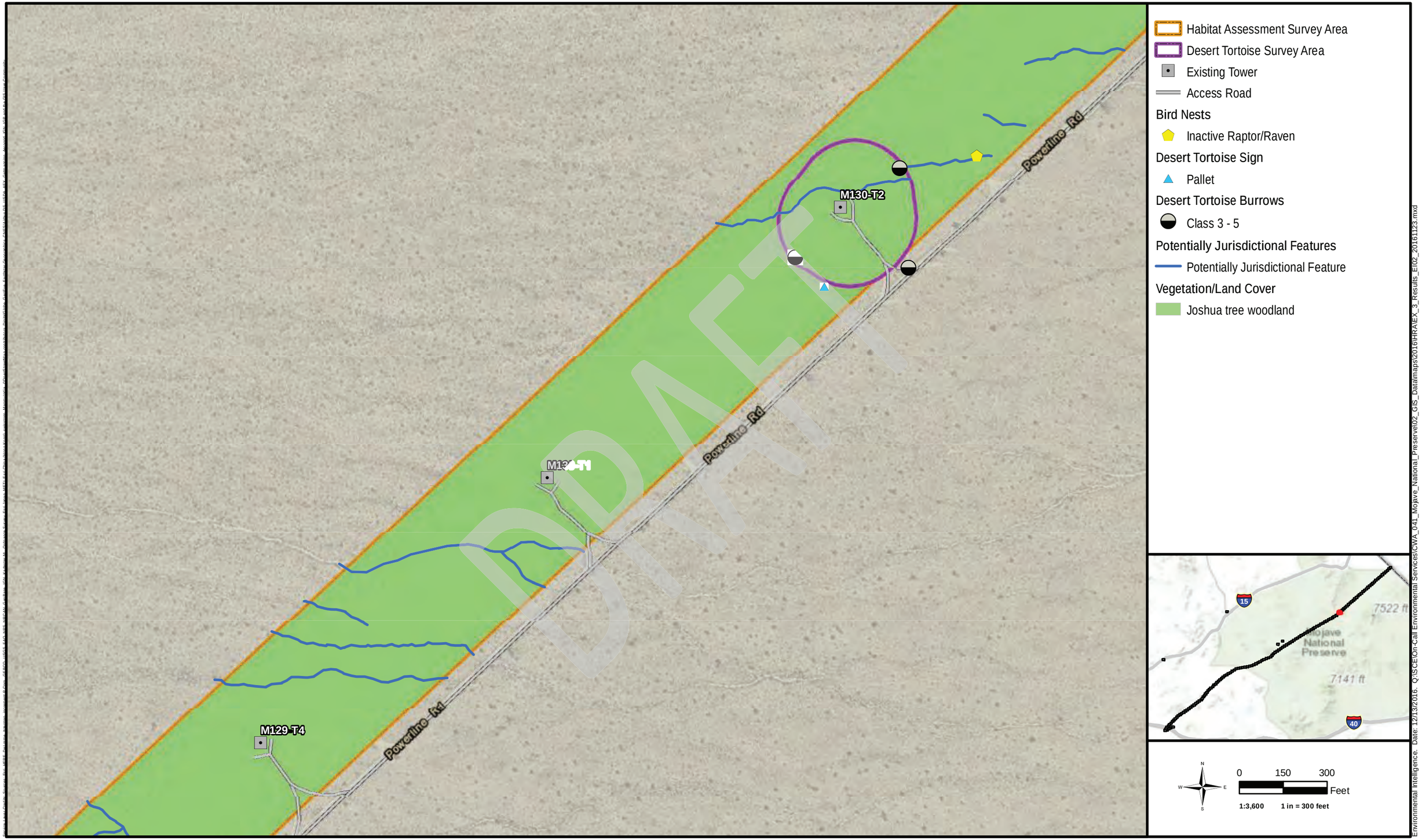


Exhibit 3. Survey Areas and Results (Page 106 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 107 of 140)

LVRAS Project | San Bernardino County, CA

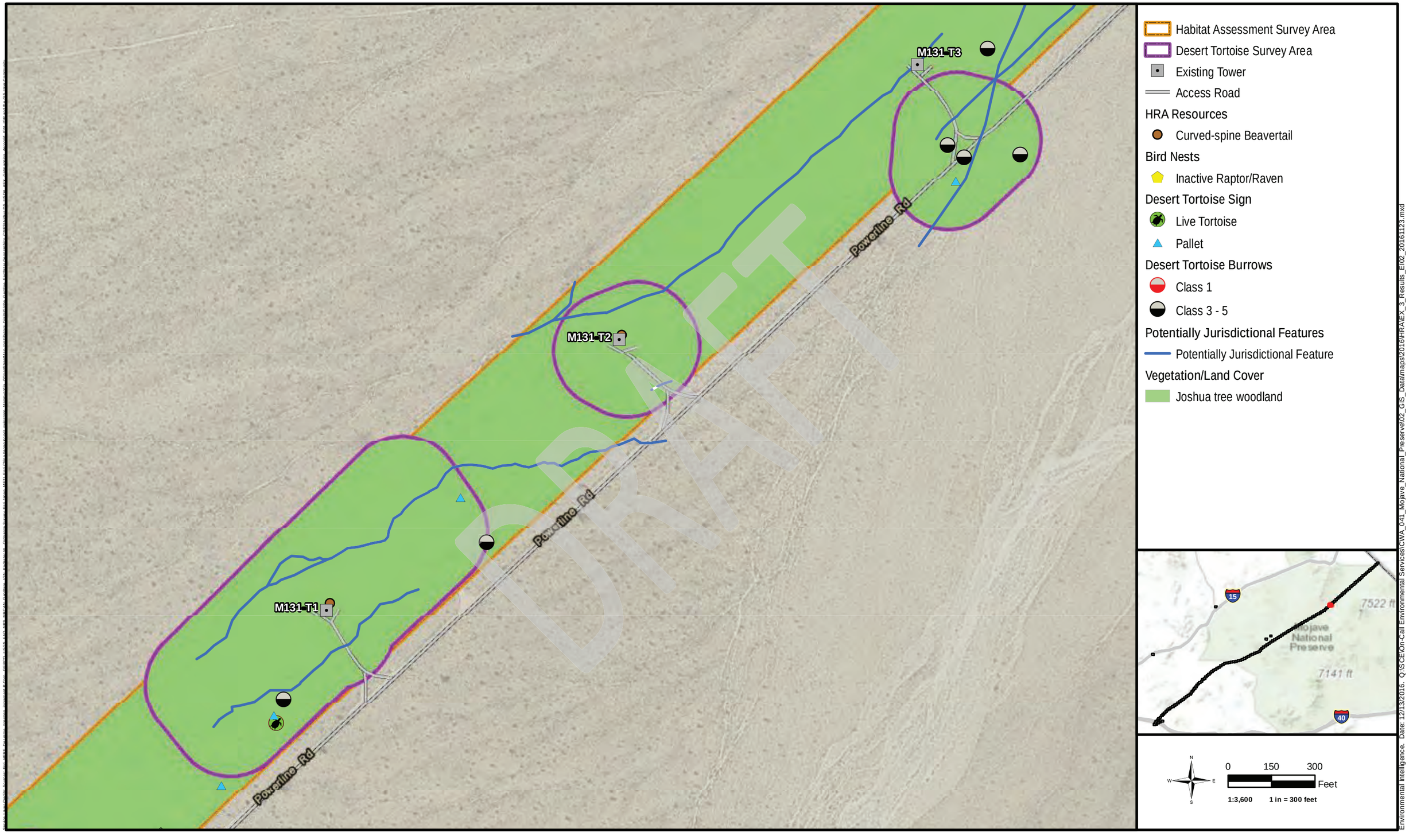
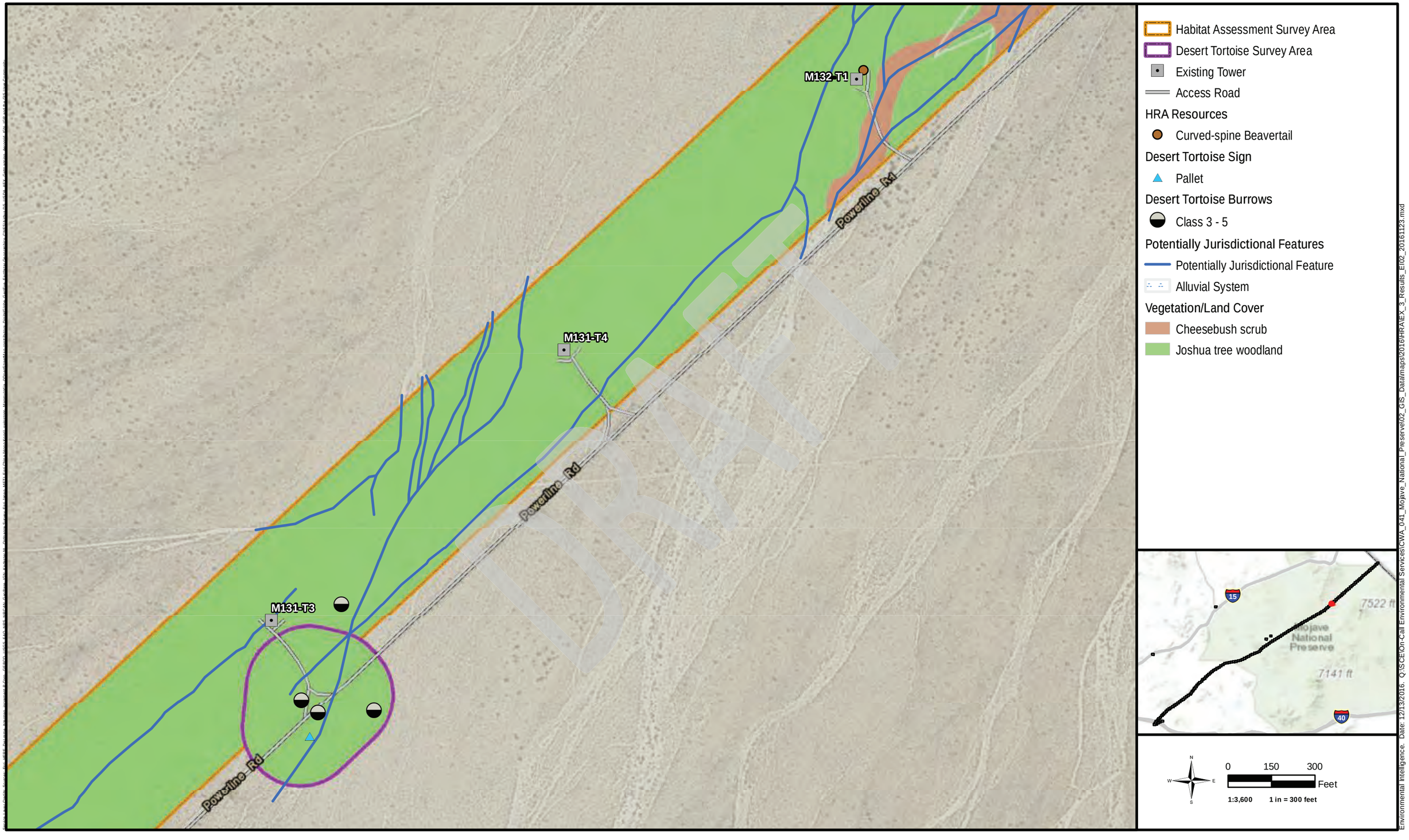


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 108 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M132-T1
M131-T4
M131-T3
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Curved-spine Beavertail
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Cheesebush scrub
Joshua tree woodland
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

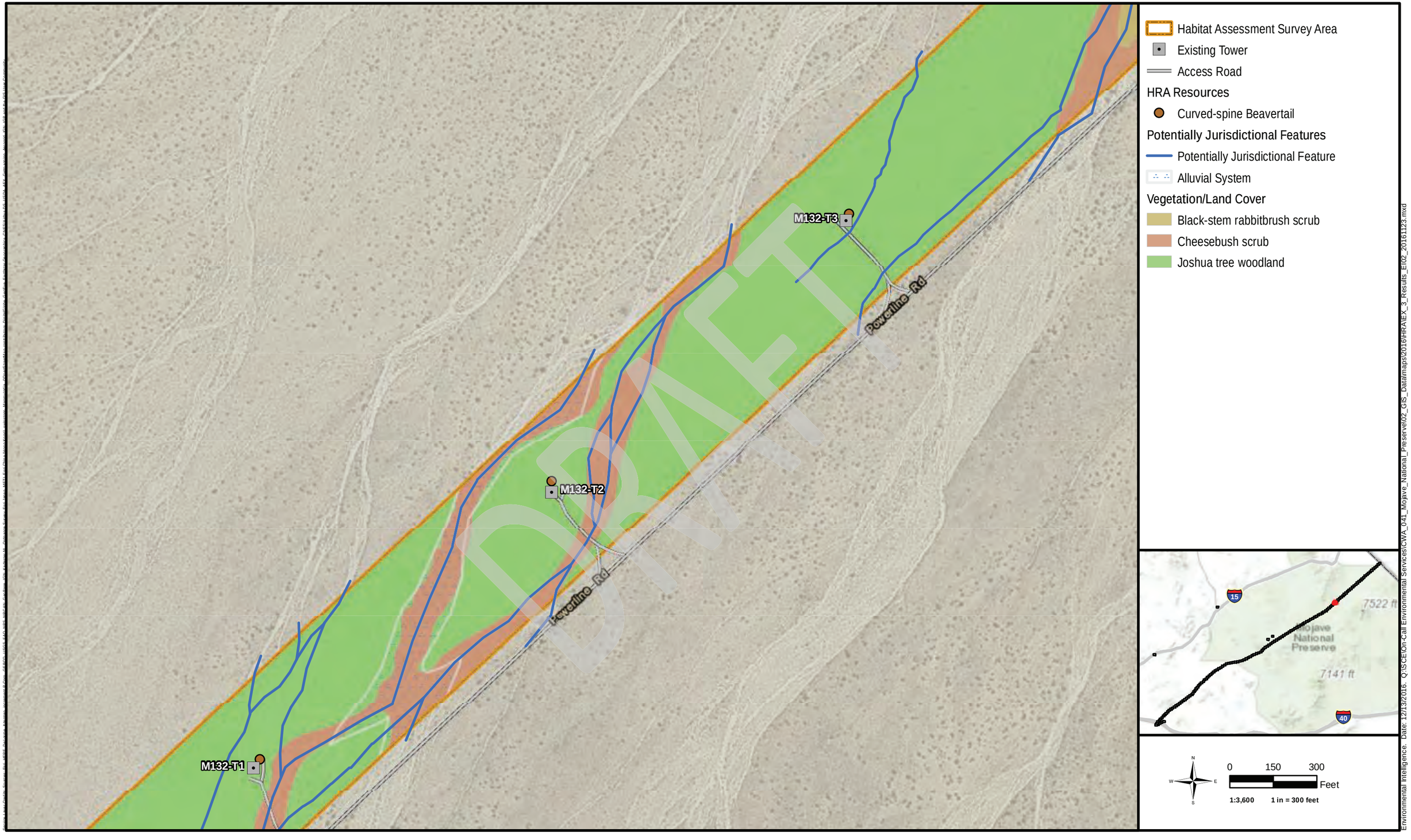


Exhibit 3. Survey Areas and Results (Page 110 of 140)

LVRAS Project | San Bernardino County, CA

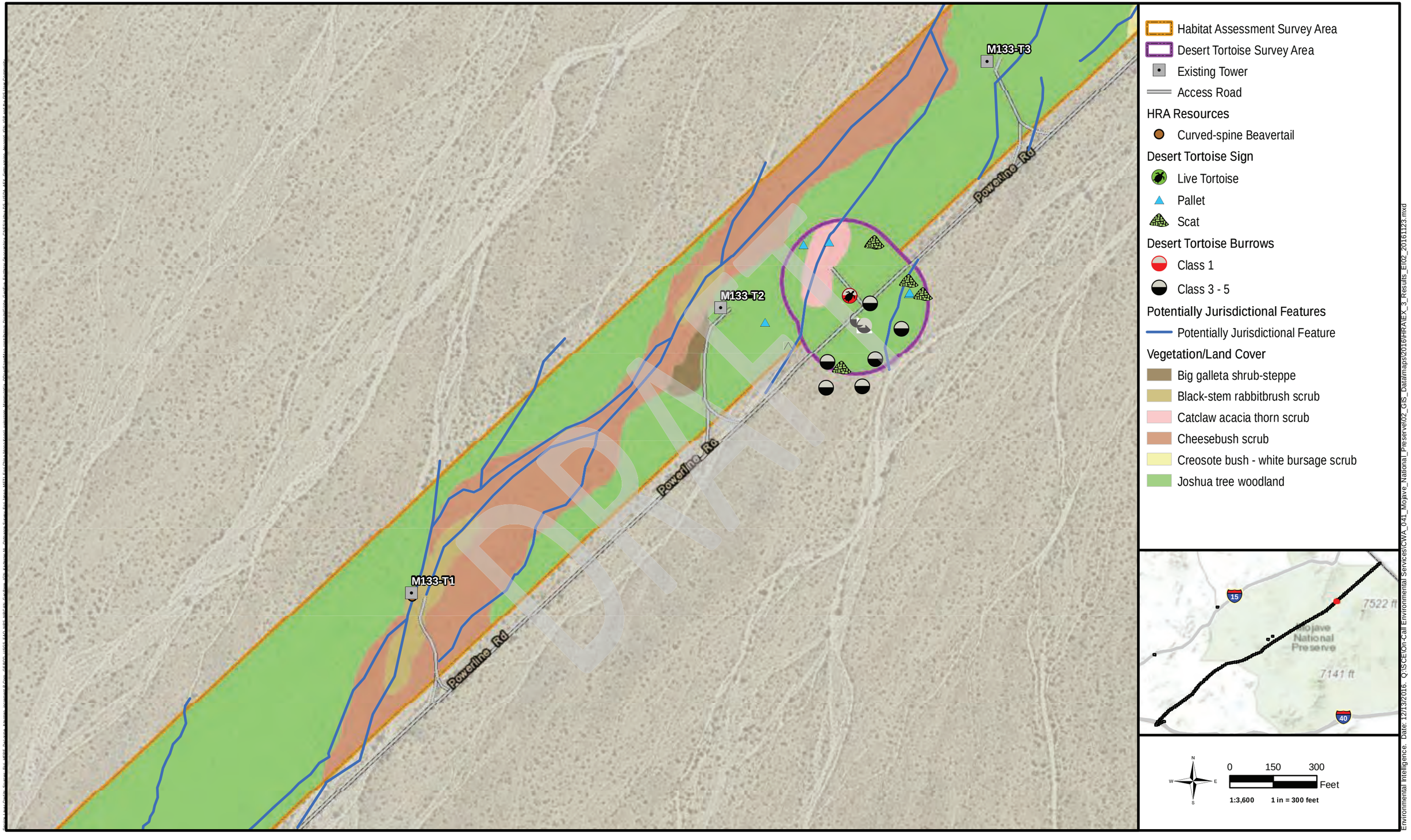


Exhibit 3. Survey Areas and Results (Page 111 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 112 of 140)

LVRAS Project | San Bernardino County, CA


M134-T3
M134-T2
M134-T1
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Curved-spine Beavertail
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Scat
Desert Tortoise Burrows
Class 1
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Catclaw acacia thorn scrub
Creosote bush scrub
Joshua tree woodland
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

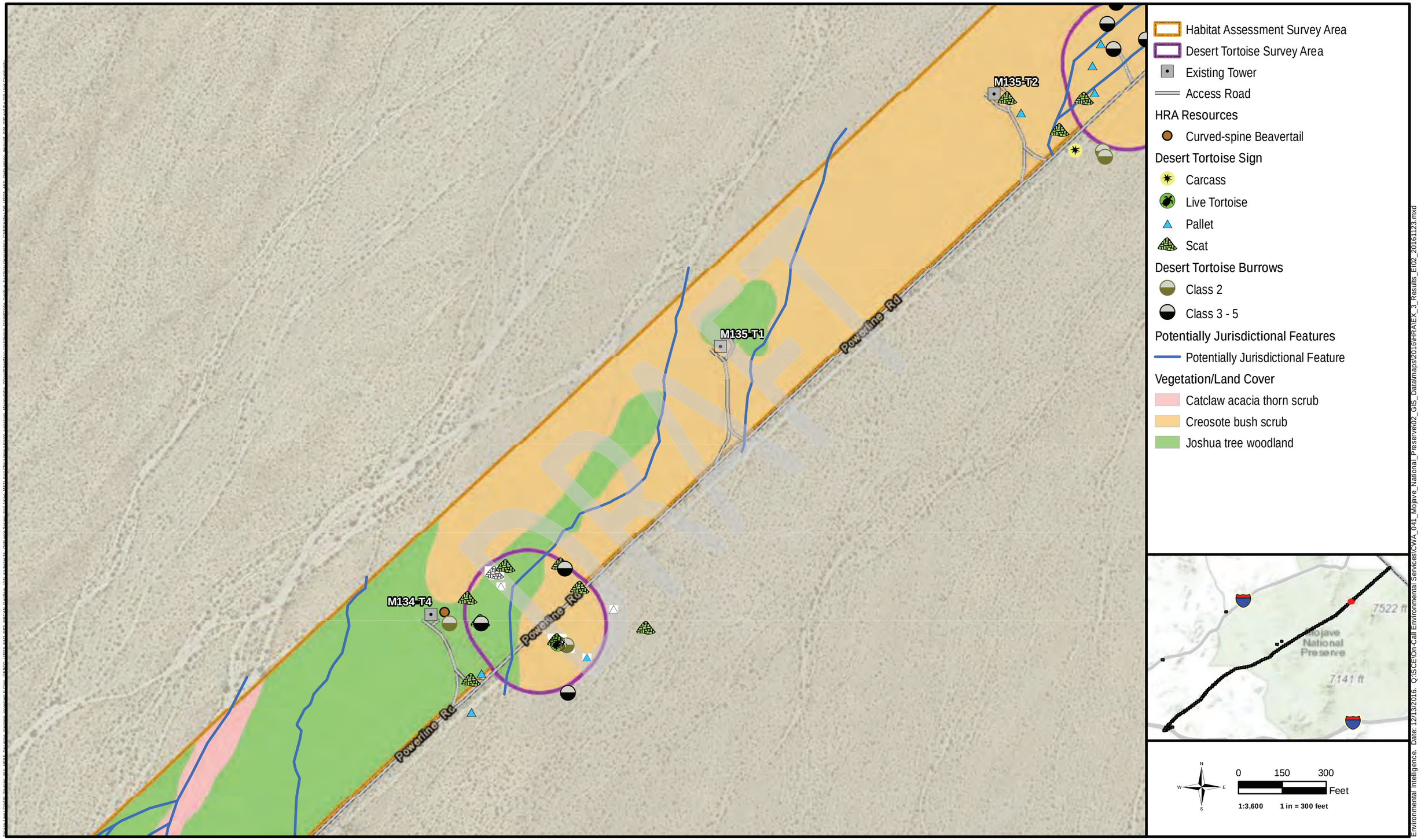


Exhibit 3. Survey Areas and Results (Page 114 of 140)

LVRAS Project | San Bernardino County, CA

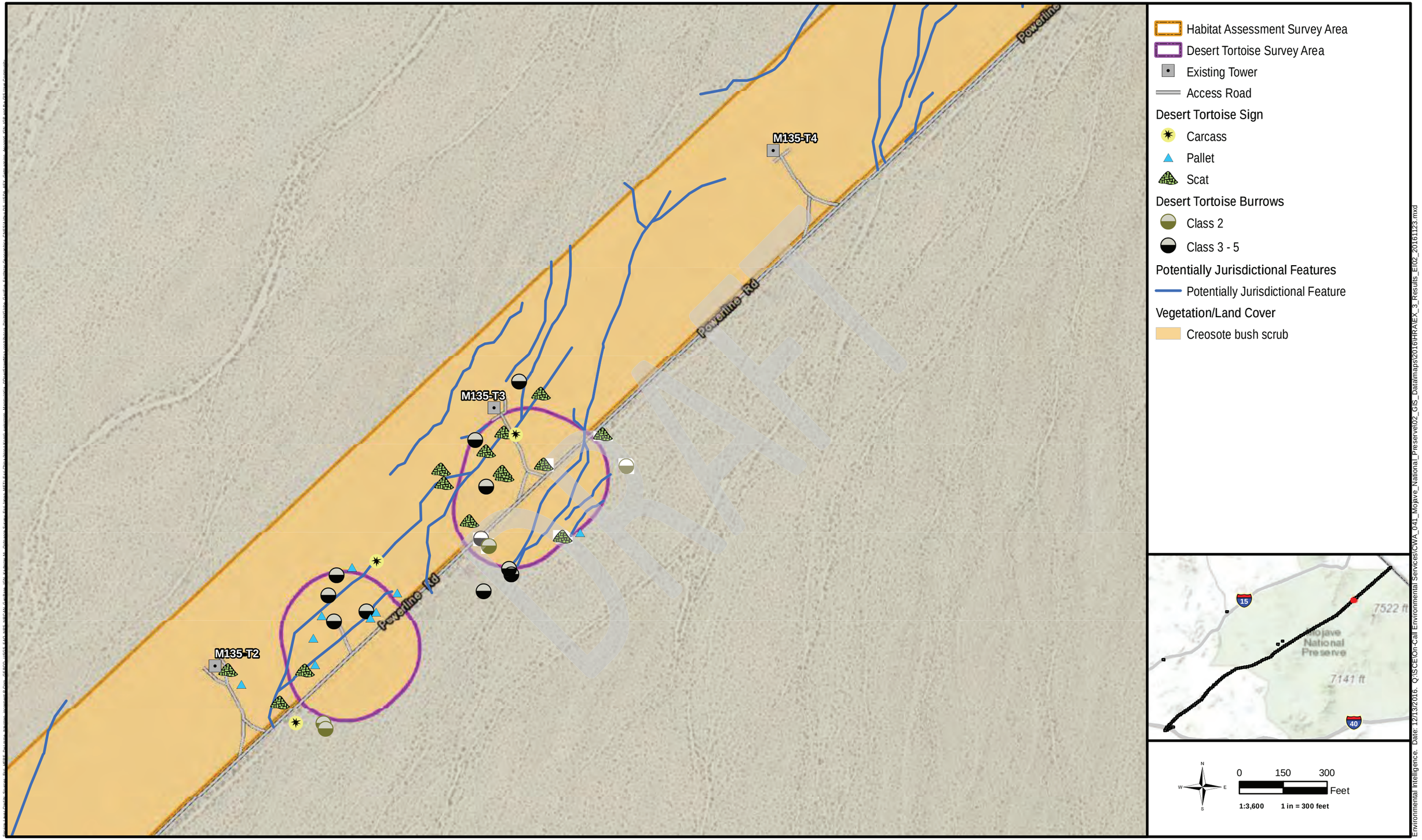


Exhibit 3. Survey Areas and Results (Page 115 of 140)

LVRAS Project | San Bernardino County, CA


M136-T3
M136-T2
M136-T1
Powerline Rd
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_Ef\02_20161123.mxd


M137-T1
M136-T4
M136-T3
Powerline Rd
Powerline Rd
Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
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150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
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Exhibit 3. Survey Areas and Results (Page 118 of 140)

LVRAS Project | San Bernardino County, CA

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 119 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

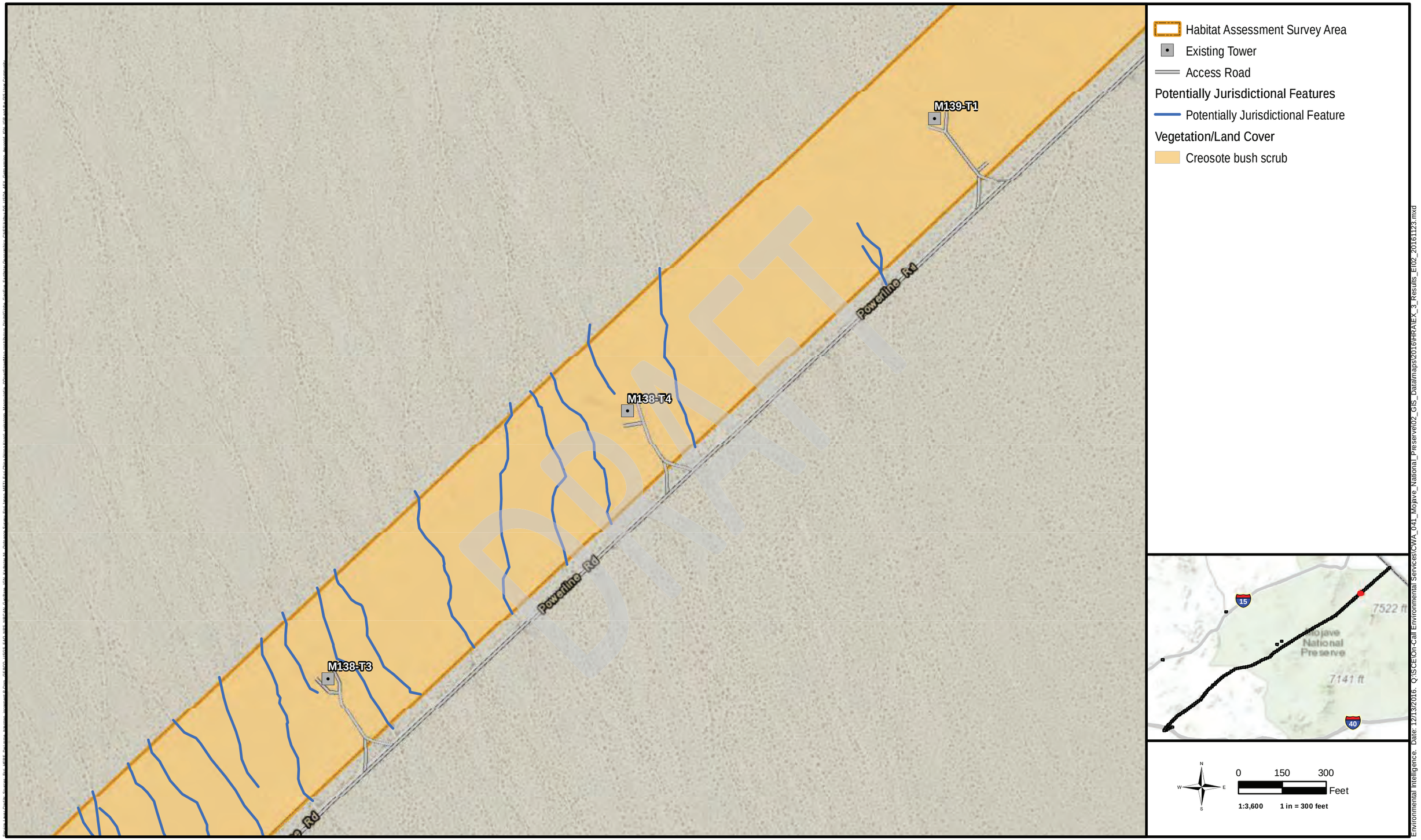

Exhibit 3. Survey Areas and Results (Page 120 of 140)

LVRAS Project | San Bernardino County, CA

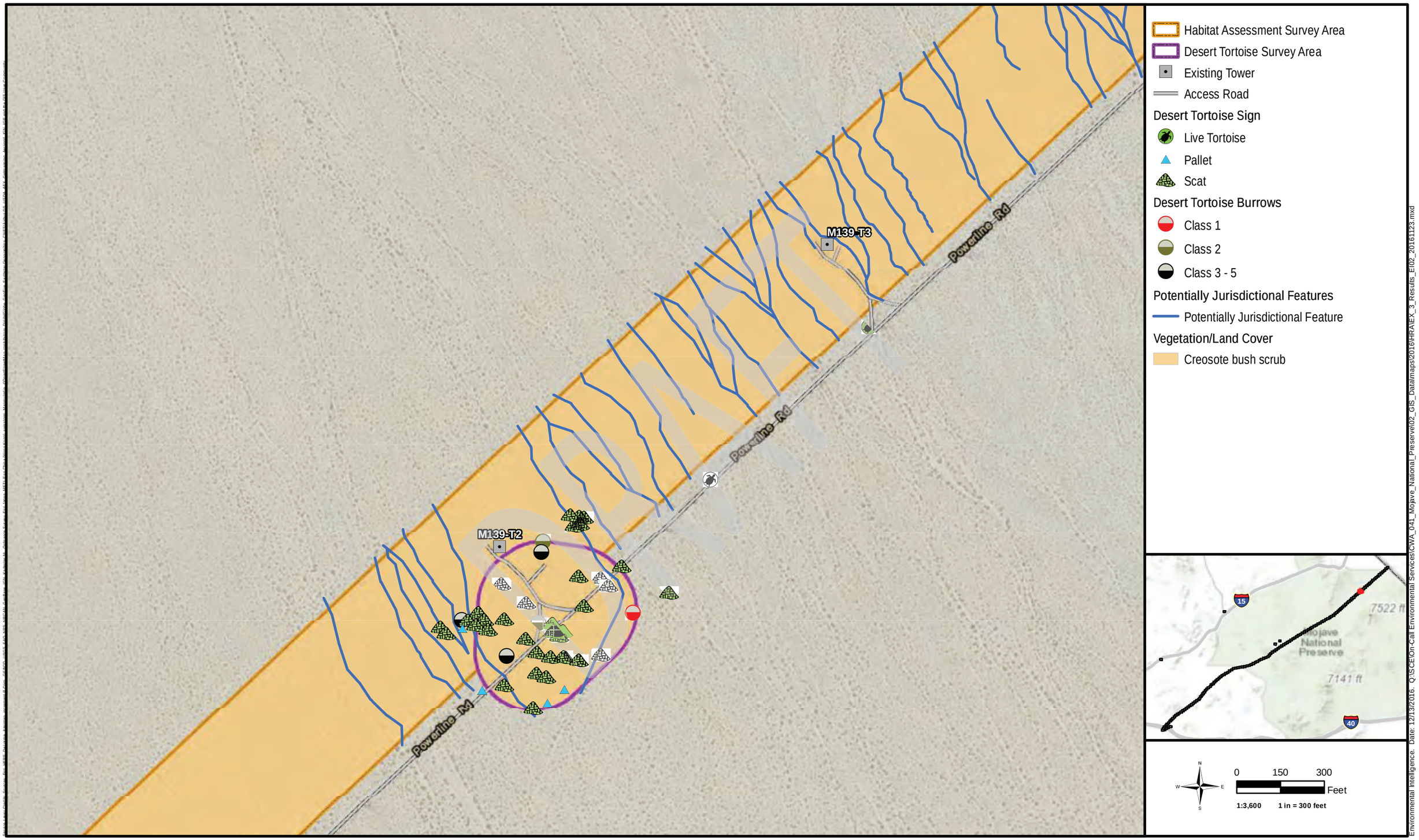

Exhibit 3. Survey Areas and Results (Page 121 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 122 of 140)

LVRAS Project | San Bernardino County, CA

Exhibit 3. Survey Areas and Results (Page 123 of 140)

LVRAS Project | San Bernardino County, CA


Saddle Horn Rd
Powerline Rd
M141_T3
M141_T2
M141_T1
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Live Tortoise
Pallet
Scat
Desert Tortoise Burrows
Class 1
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush scrub
7522 ft
Mojave National Preserve
7141 ft
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

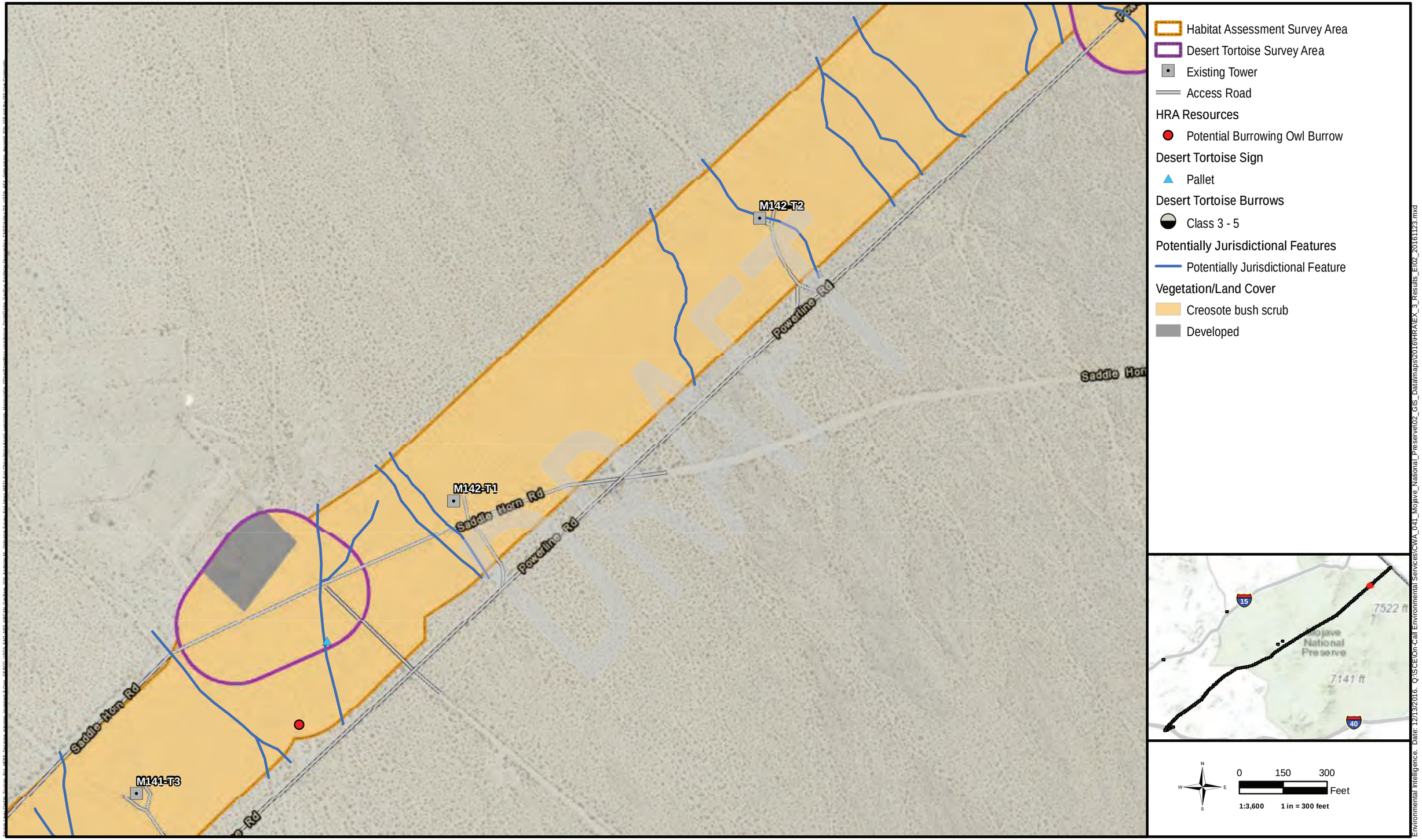

Exhibit 3. Survey Areas and Results (Page 125 of 140)

LVRAS Project | San Bernardino County, CA

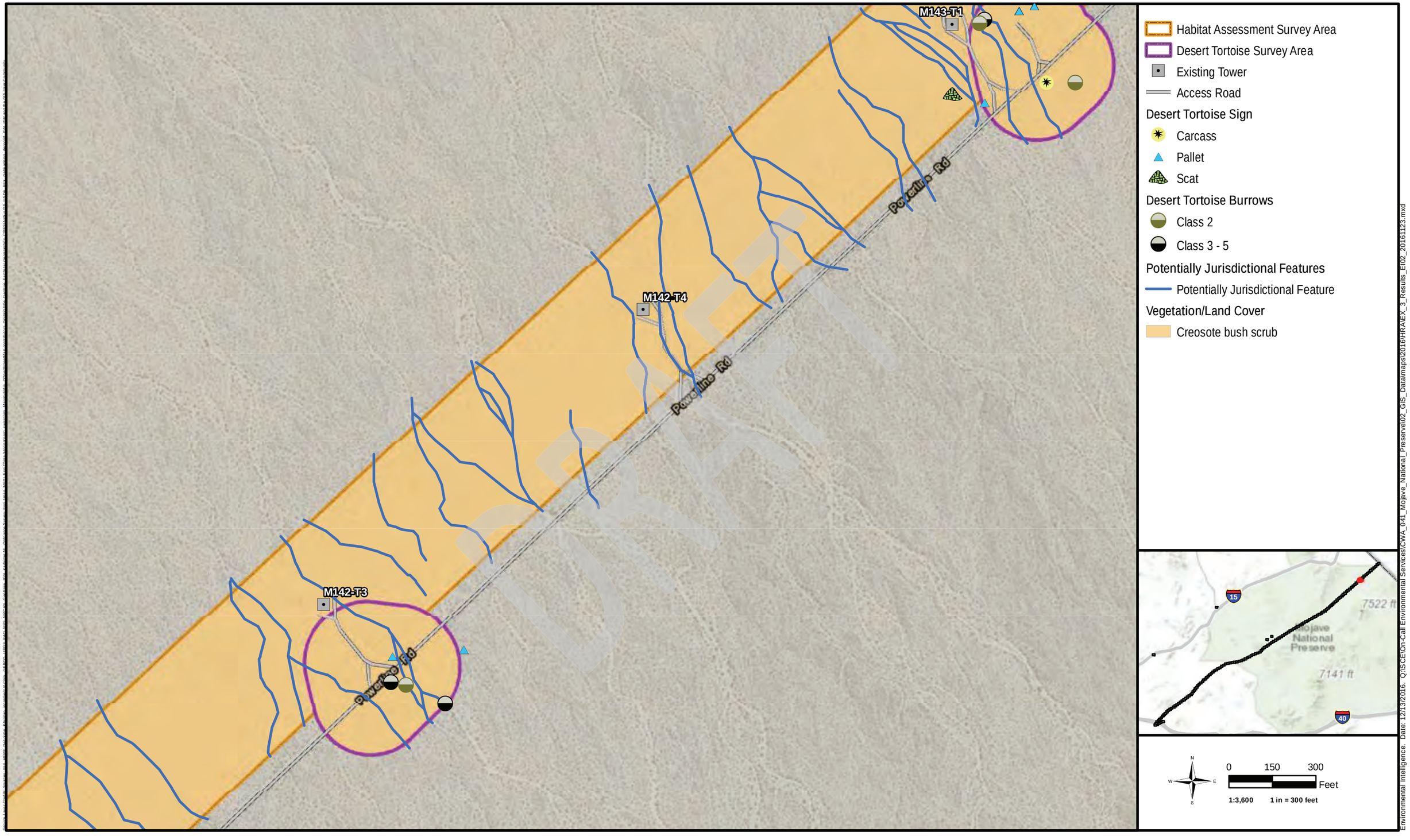

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Exhibit 3. Survey Areas and Results (Page 126 of 140)

LVRAS Project | San Bernardino County, CA

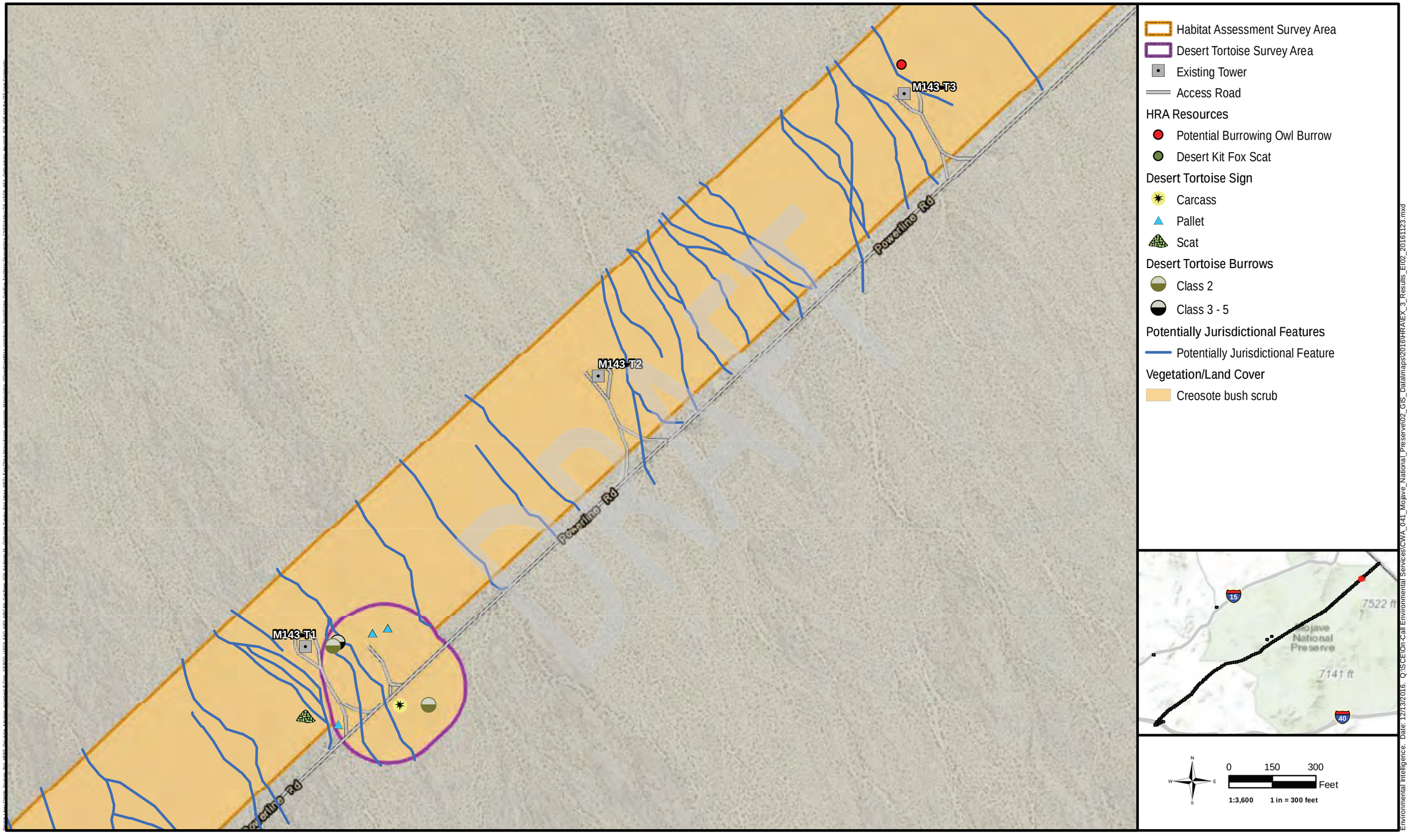
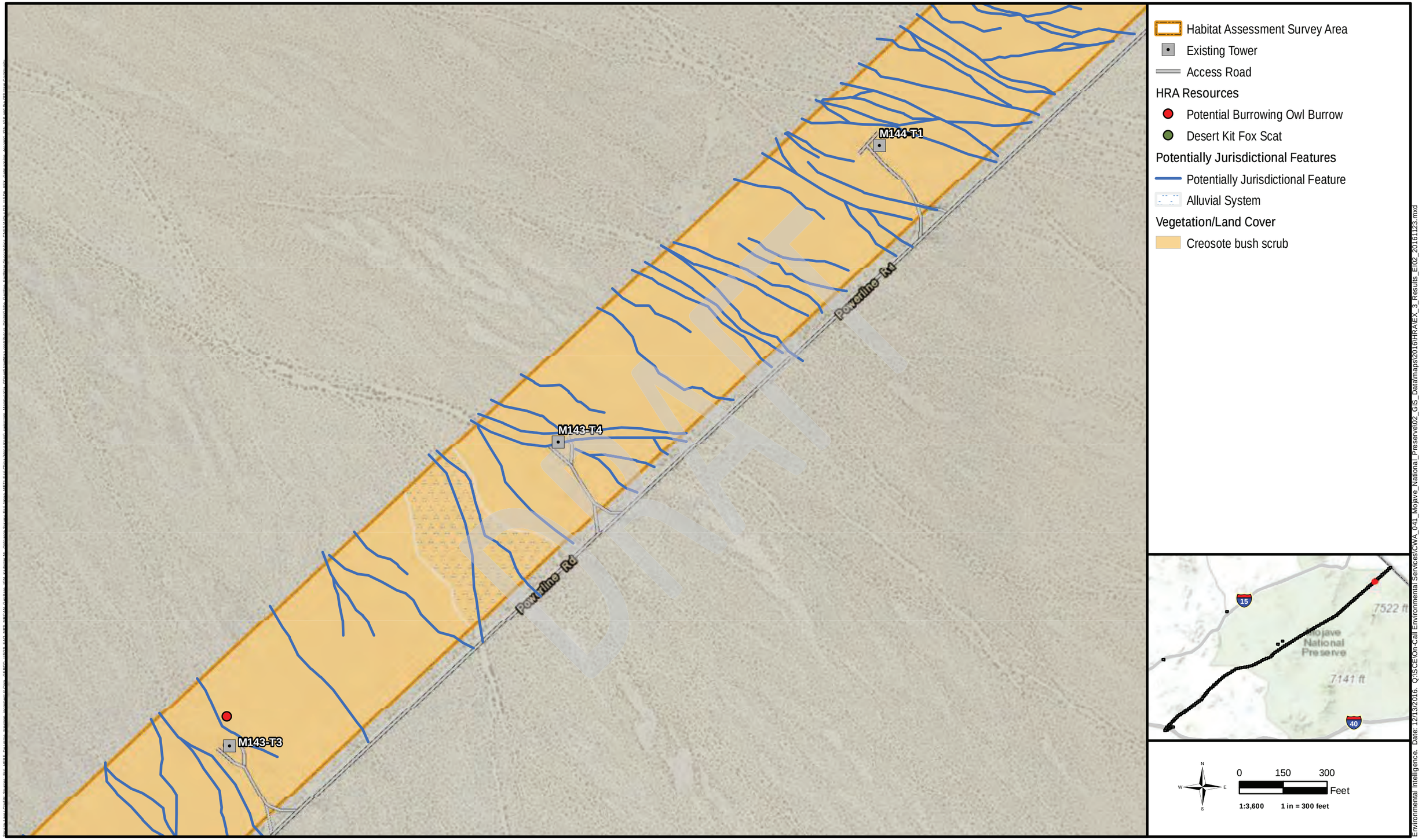


Exhibit 3. Survey Areas and Results (Page 127 of 140)

LVRAS Project | San Bernardino County, CA


M144-T1
Powerline Rd
M143-T4
Powerline Rd
M143-T3
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Kit Fox Scat
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush scrub
15
40
7522 ft
Mojave National Preserve
7141 ft
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_EI\02_20161123.mxd

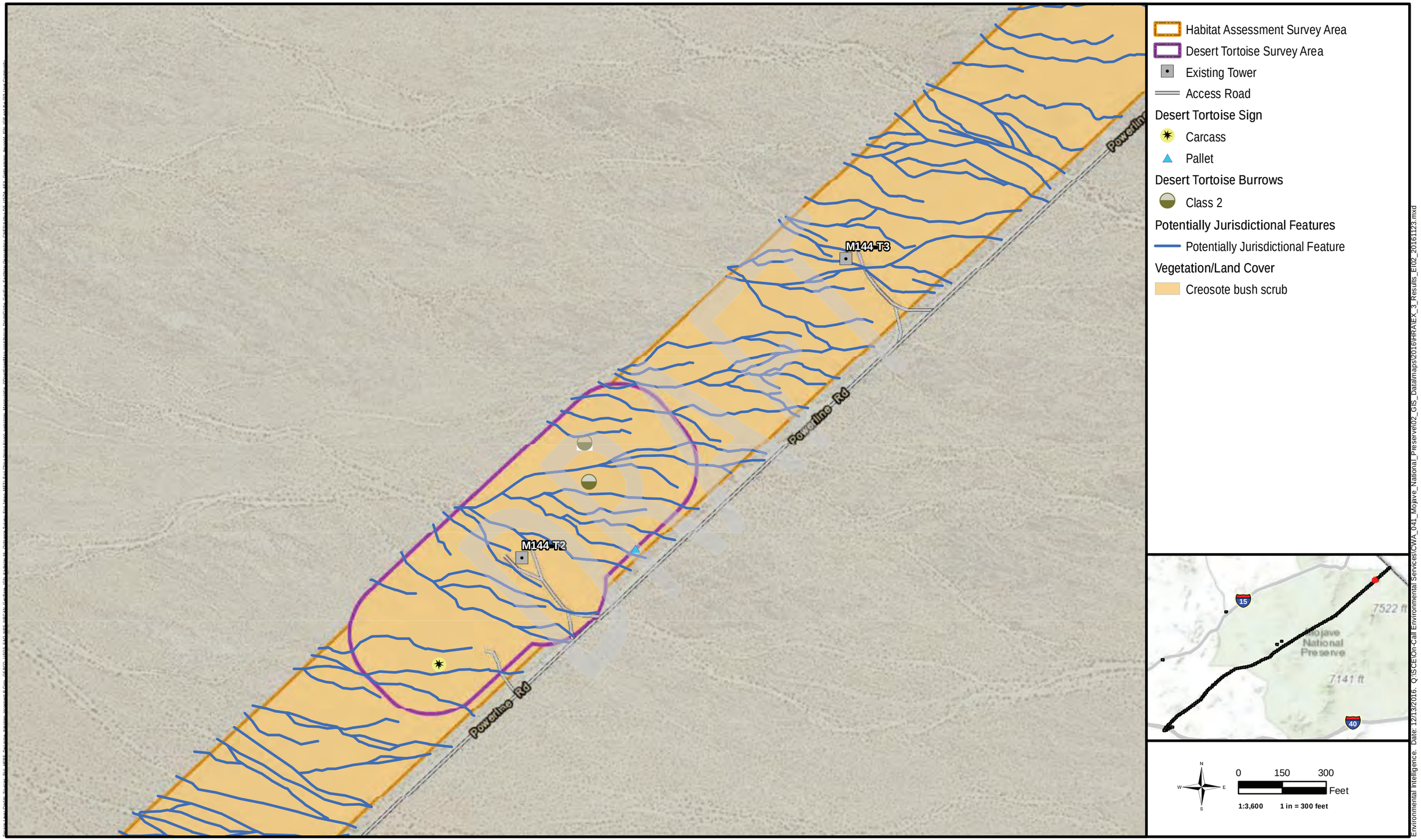


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 129 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


Habitat Assessment Survey Area
Existing Tower
Access Road
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Alluvial System
Vegetation/Land Cover
Creosote bush scrub
M145-T2
M145-T1
Powerline Rd
Powerline Rd
Powerline Rd
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

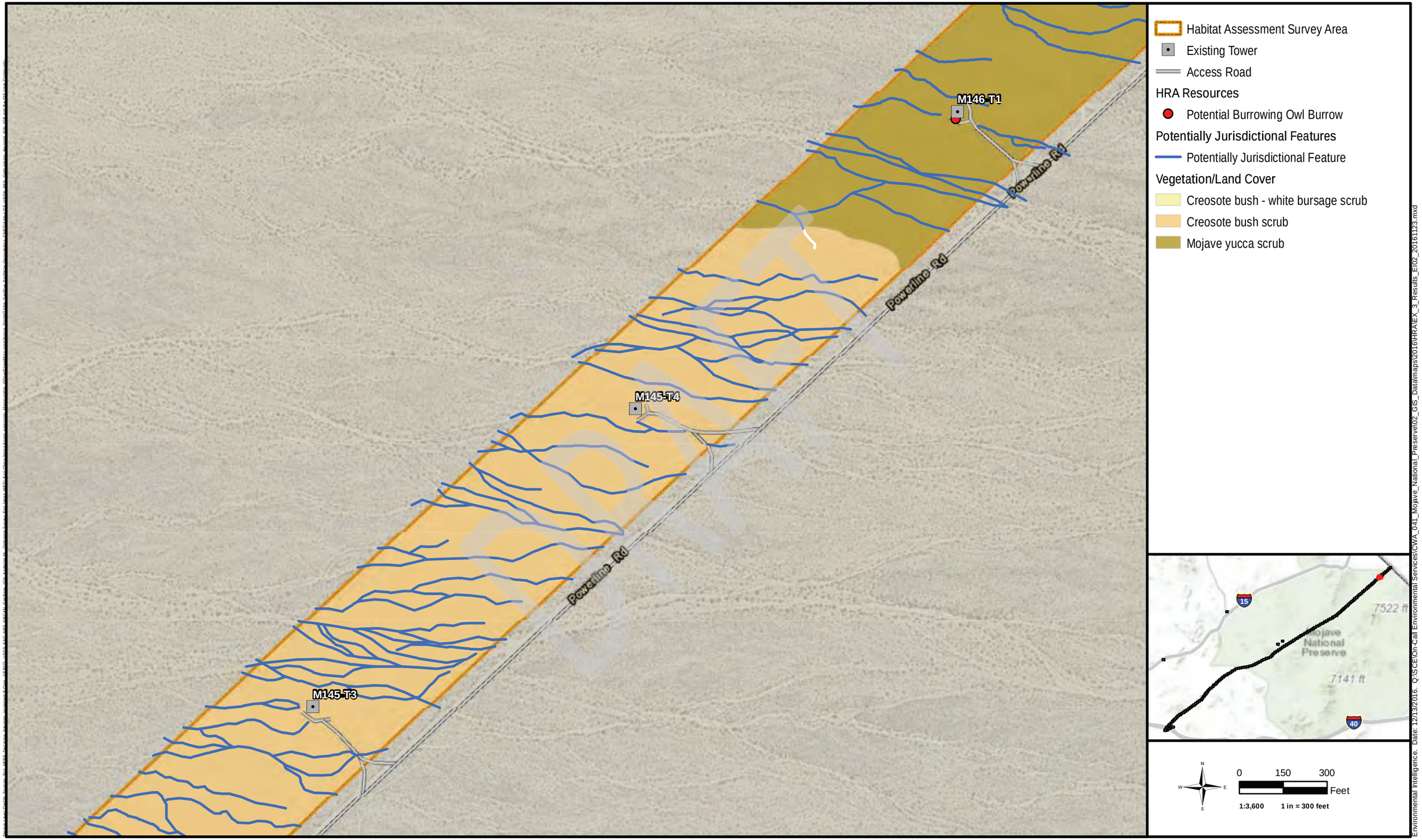


Exhibit 3. Survey Areas and Results (Page 131 of 140)
LVRAS Project | San Bernardino County, CA

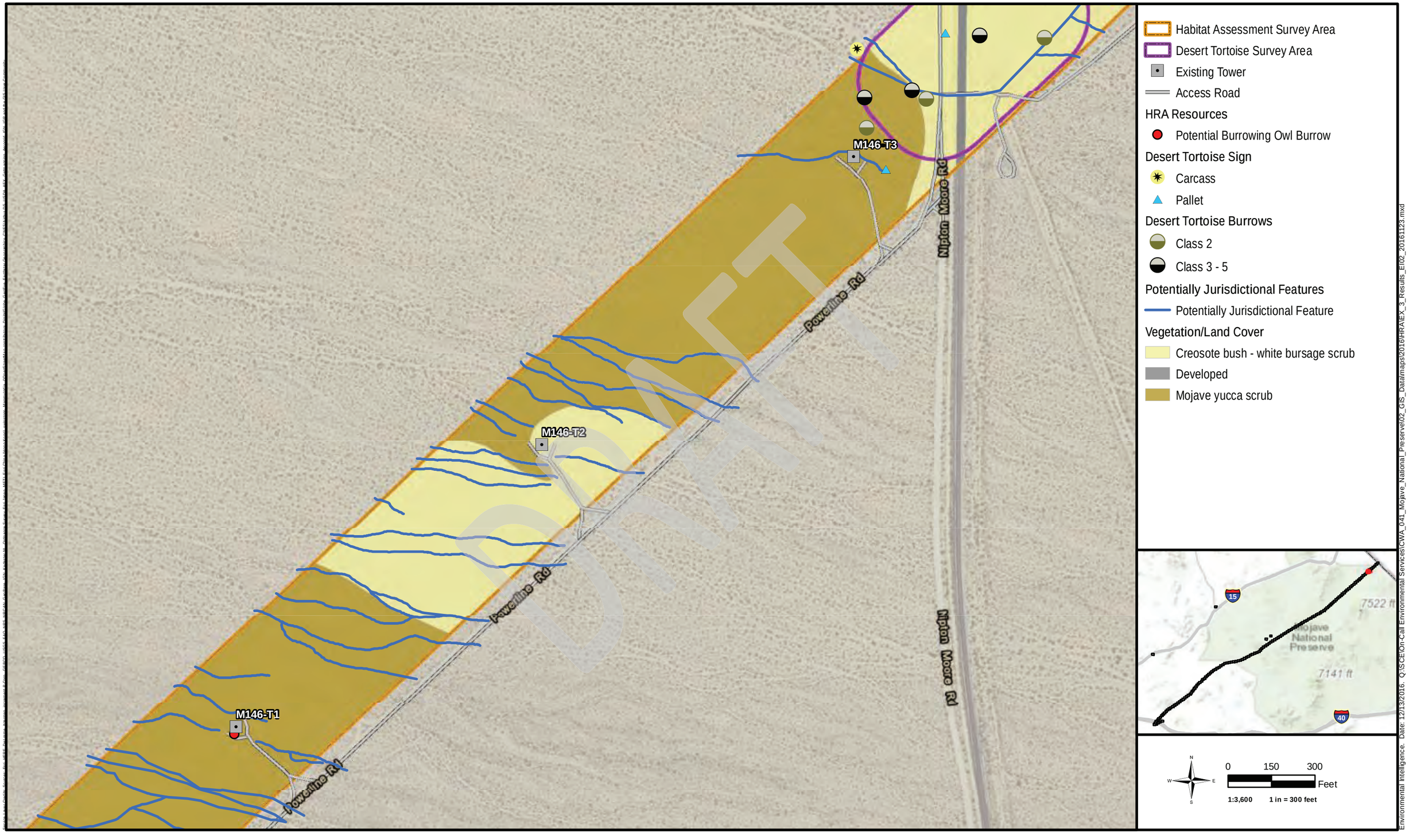


Exhibit 3. Survey Areas and Results (Page 132 of 140)

LVRAS Project | San Bernardino County, CA

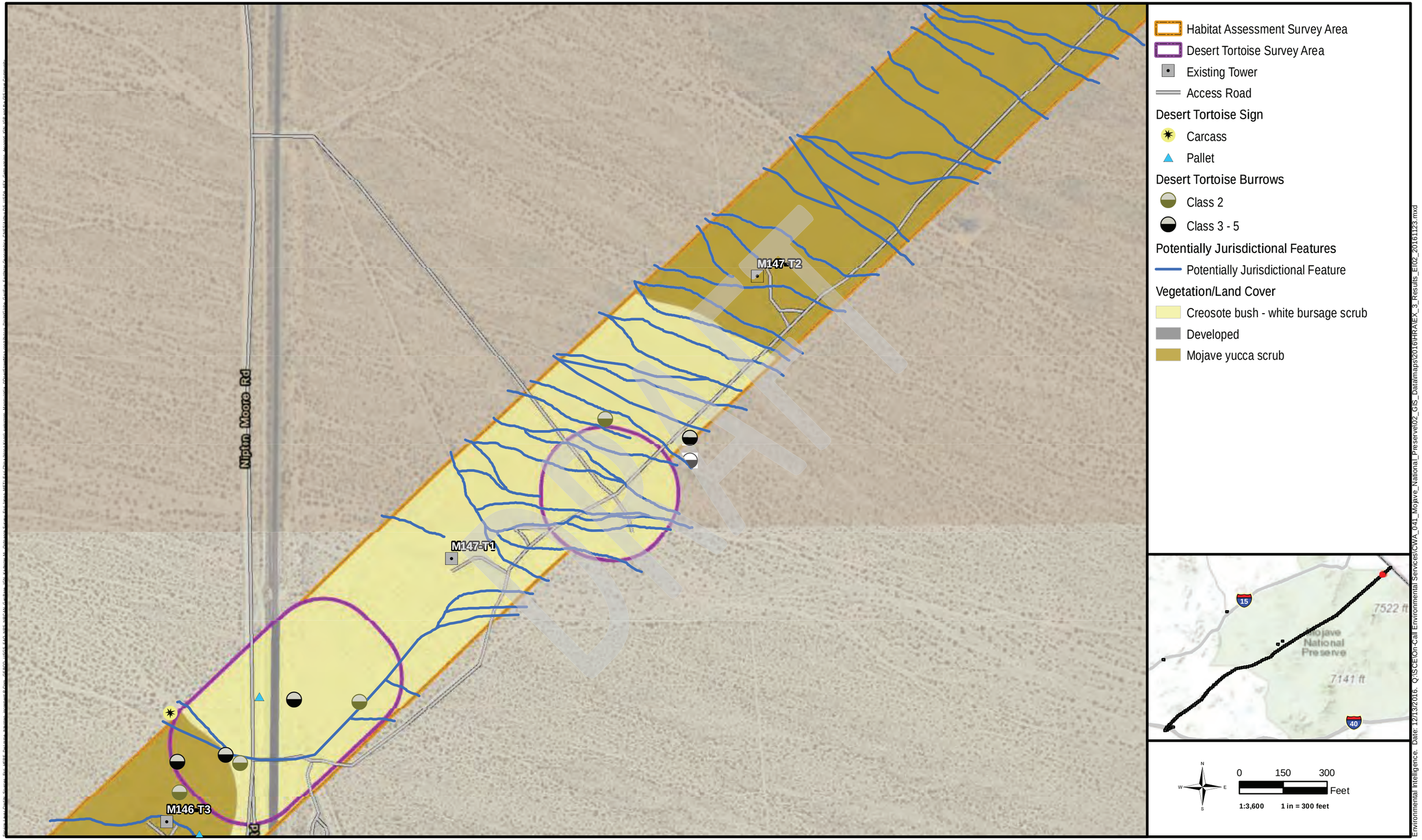
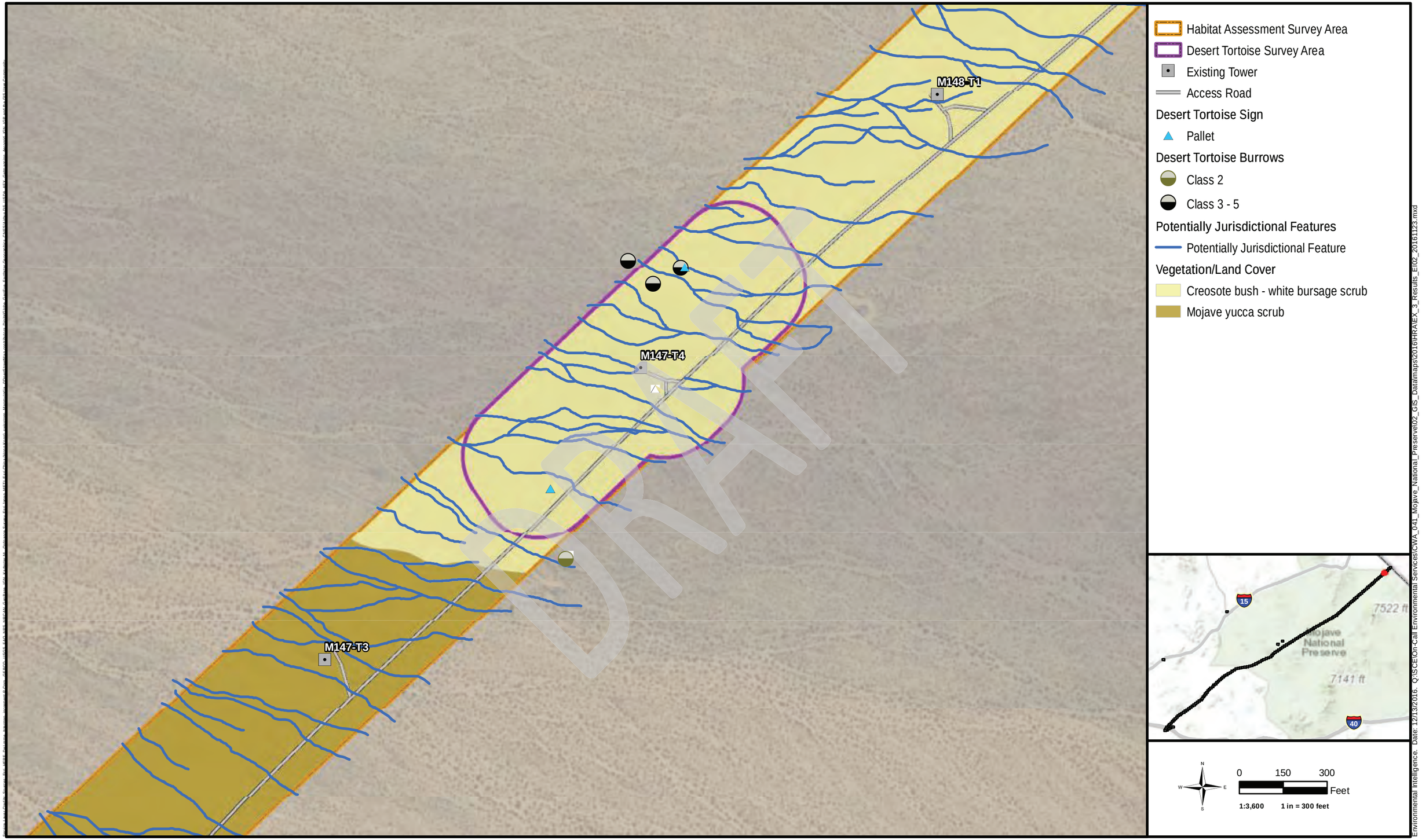


EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 133 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA


M148-T1
M147-T4
M147-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Mojave yucca scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

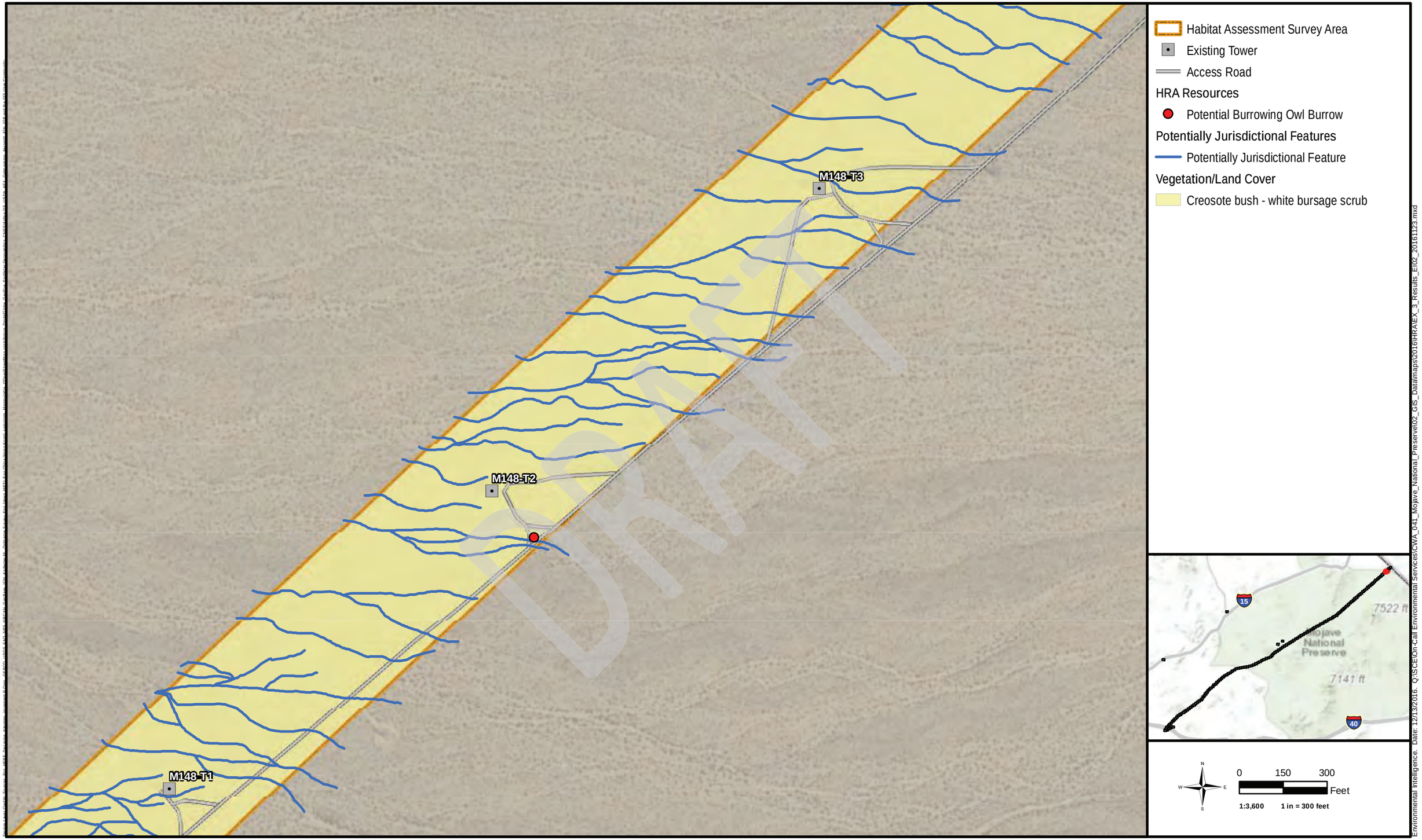
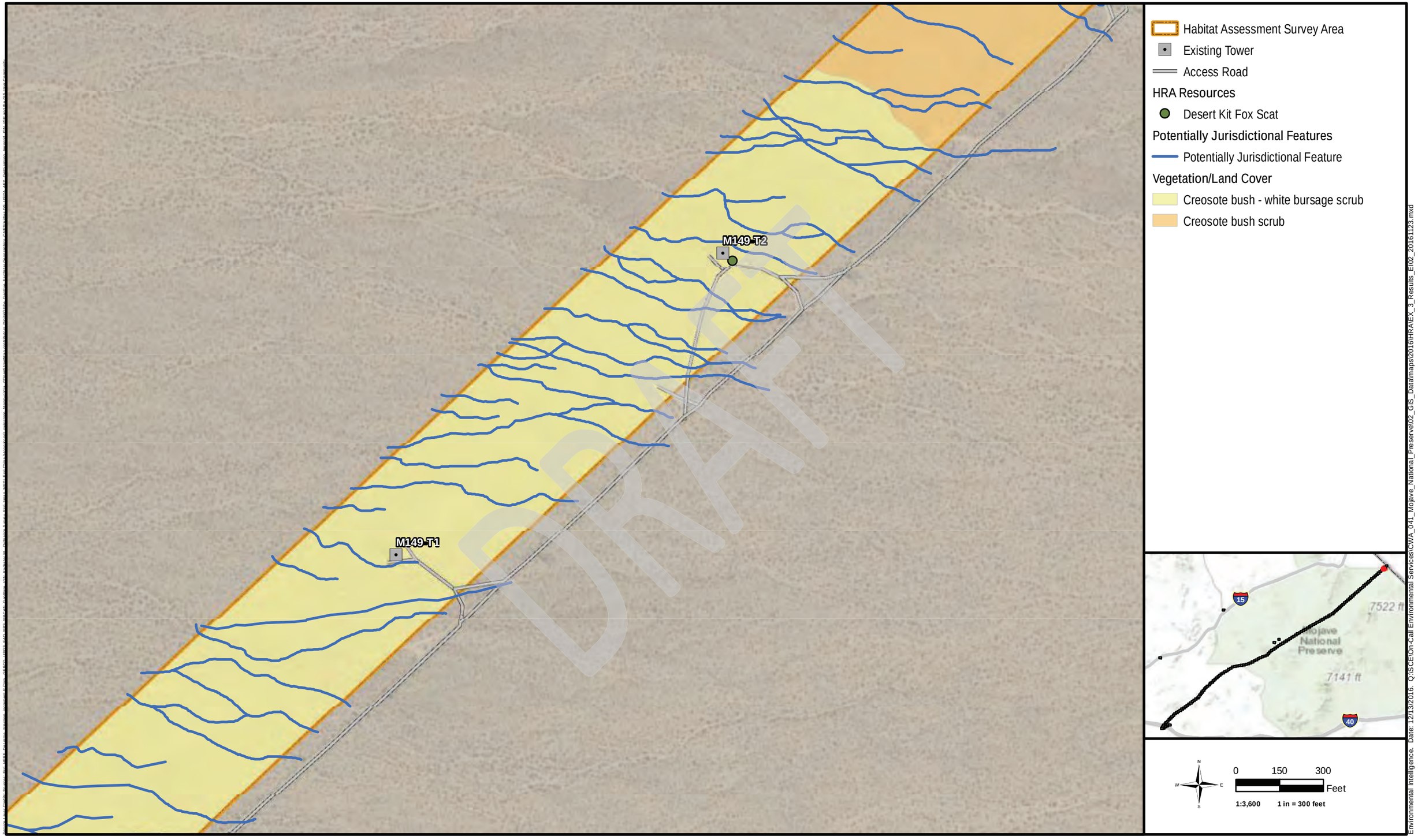
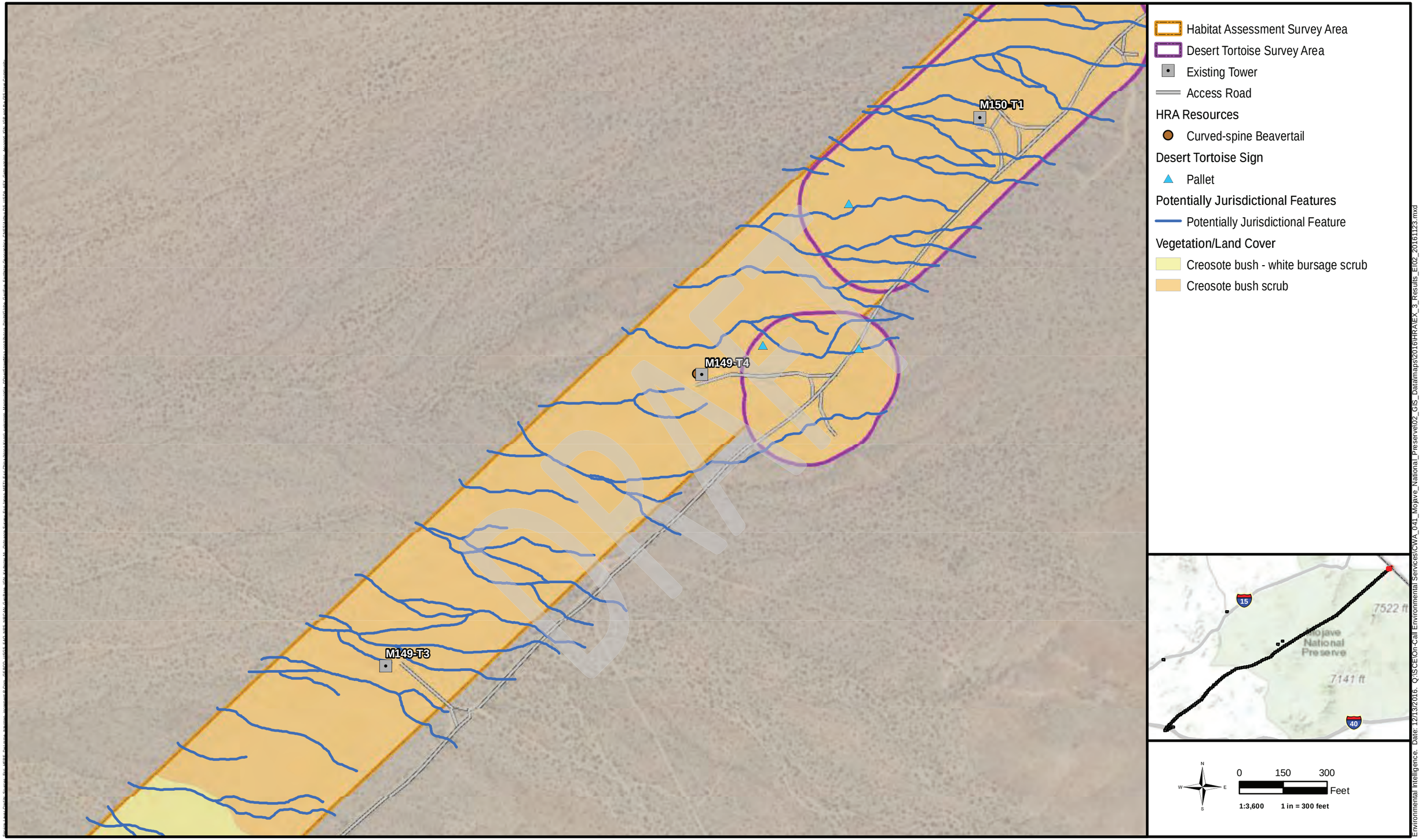


Exhibit 3. Survey Areas and Results (Page 135 of 140)

LVRAS Project | San Bernardino County, CA


M149-T2
M149-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Desert Kit Fox Scat
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M150-T1
M149-T4
M149-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Curved-spine Beavertail
Desert Tortoise Sign
Pallet
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
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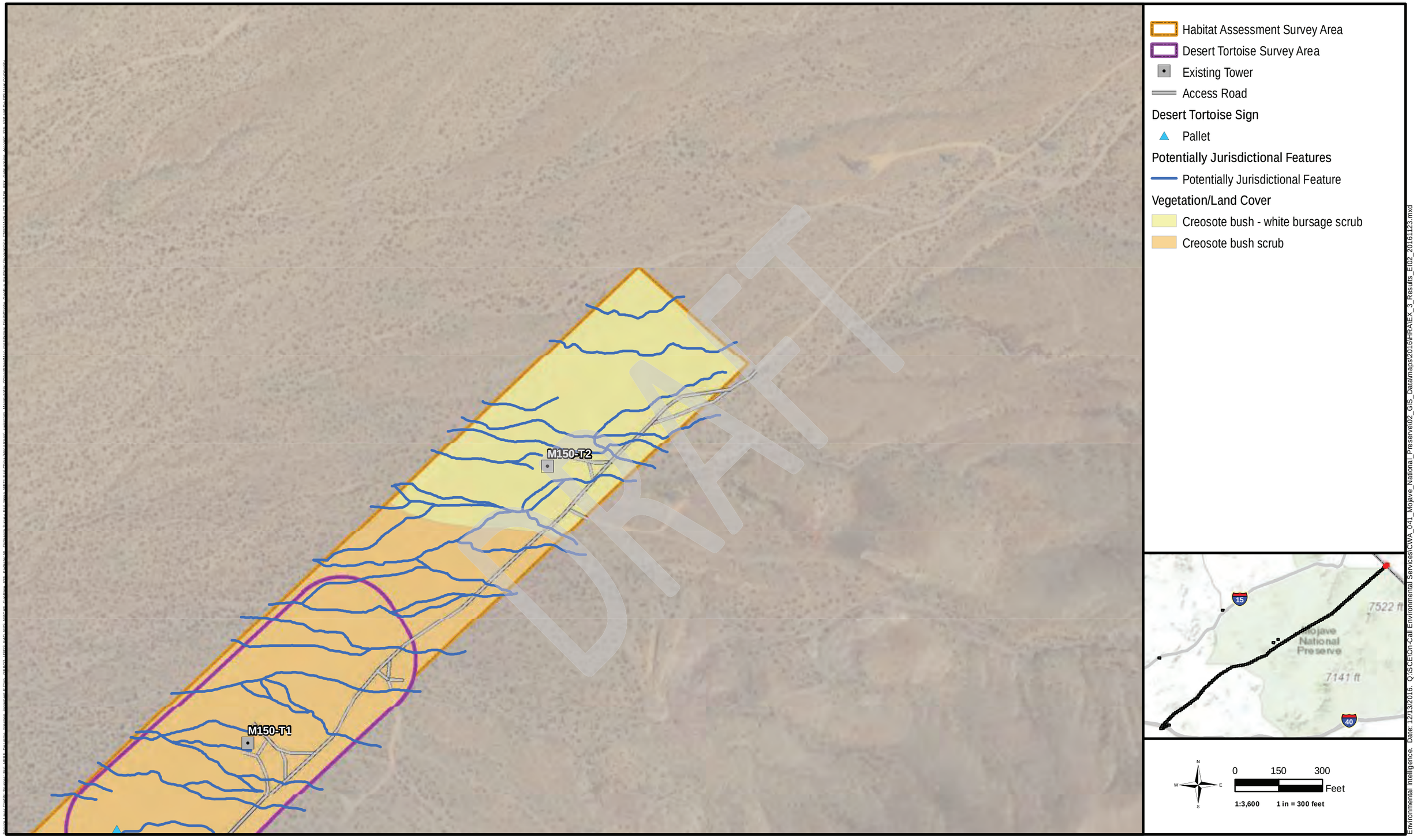
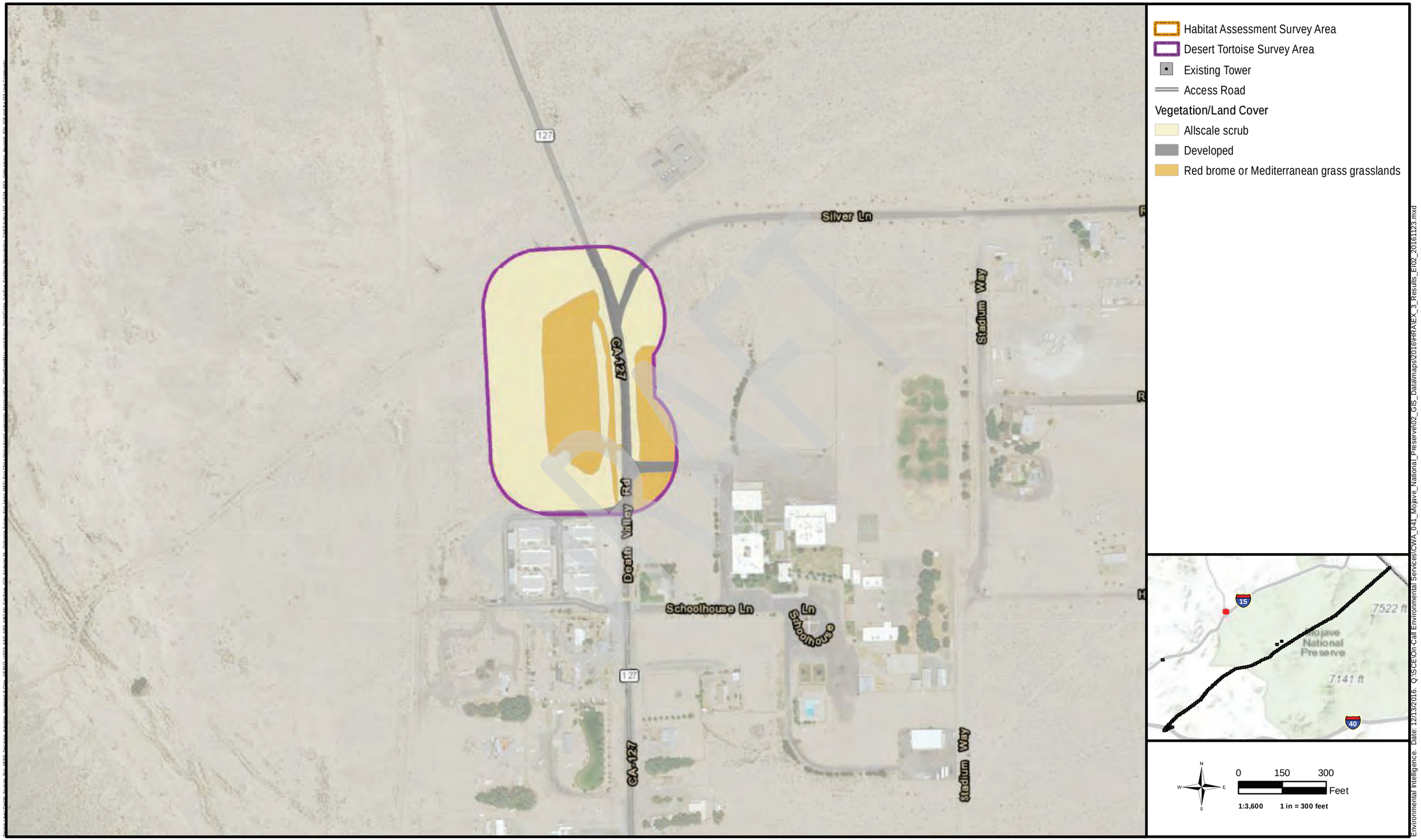
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


M150-T2
M150-T1
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Creosote bush scrub
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd


Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Vegetation/Land Cover
Allscale scrub
Developed
Red brome or Mediterranean grass grasslands
127
Silver Ln
Stadium Way
CA-127
Death Valley Rd
Schoolhouse Ln
Schoolhouse Ln
CA-127
Stadium Way
15
40
7522 ft
7141 ft
Mojave National Preserve
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 12/13/2016. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\HRA\EX_3_Results_E\02_20161123.mxd

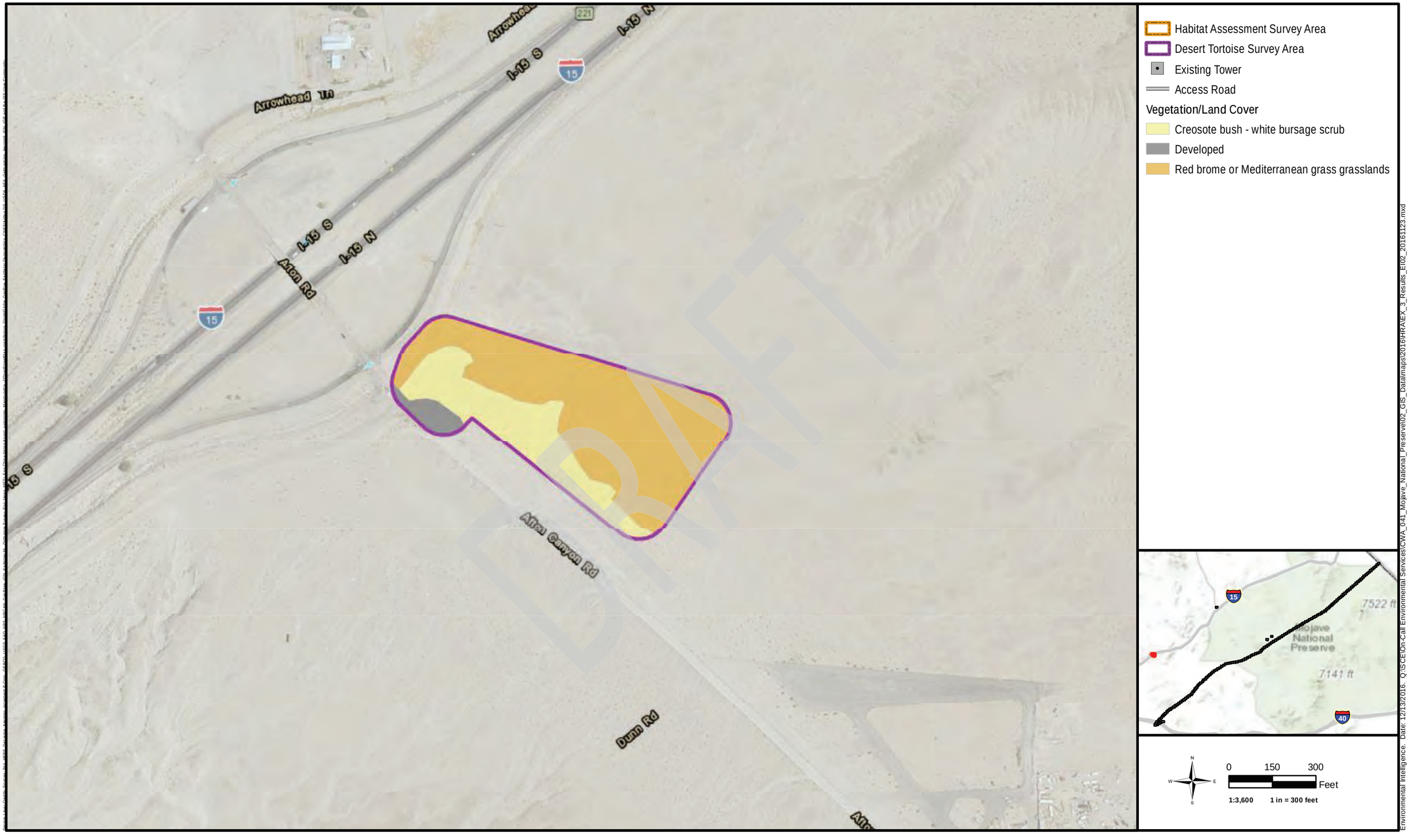


Exhibit 3. Survey Areas and Results (Page 140 of 140)

LVRAS Project | San Bernardino County, CA

Appendix B:

SITE PHOTOGRAPHS

Photo 1:
Chilopsis linearis (Desert willow woodland) Alliance

Photo 2:
Ericameria paniculata (Black-stem rabbitbrush scrub) Alliance

Photo 3:
Panicum urvilleanum (Desert panic grass patches) Alliance

Photo 4:
Pleuraphis rigida (Big galleta shrub-steppe) Alliance

Photo 5:
Prunus fasciculata (Desert almond scrub) Alliance

Photo 6:
Psorothamnus spinosus (Smoke tree woodland) Alliance

Photo 7:
Rhus trilobata (Basket bush thickets) Provisional Alliance

Photo 8:
Yucca brevifolia (Joshua tree woodland) Alliance

Photo 9:
Acacia greggii (Catclaw acacia thorn scrub) Alliance

Photo 10:
Ambrosia dumosa (White bursage scrub) Alliance

Photo 11:
Ambrosia salsola (Cheesebush scrub) Alliance

Photo 12:
Atriplex hymenelytra (Desert holly scrub) Alliance

Photo 13:
Atriplex polycarpa (Allscale scrub) Alliance

Photo 14:
Bromus (*diandrus*, *hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands

Photo 15:
Bromus rubens - Schismus (arabicus, barbatus) (Red brome or Mediterranean grass grasslands) Semi-natural Stands

Photo 16:
Encelia farinosa (Brittle bush scrub) Alliance

Photo 17:
Ephedra nevadensis (Nevada jointfir scrub) Alliance

Photo 18:
Larrea tridentata (Creosote bush scrub) Alliance

Photo 19:
Larrea tridentata - Ambrosia dumosa (Creosote bush - white bursage scrub) Alliance

Photo 20:
Salazaria mexicana (Bladder sage scrub) Alliance

Photo 21:
Yucca schidigera (Mojave yucca scrub) Alliance

Appendix C:

FLORAL AND FAUNAL COMPENDIA

PLANTS (*introduced/non-native)

AGAVE FAMILY	**AGAVACEAE**
Banana yucca	*Yucca baccata*
Joshua tree	*Yucca brevifolia*
Mojave yucca	*Yucca schidigera*
AMARANTH FAMILY	**AMARANTHACEAE**
Fringed amaranth	*Amaranthus fimbriatus*
DOGBANE FAMILY	**APOCYNACEAE**
Desert milkweed	*Asclepias erosa*
Rush milkweed	*Asclepias subulata*
Hairy milkweed	*Funastrum hirtellum*
SUNFLOWER FAMILY	**ASTERACEAE**
Rayless goldenhead	*Acamptopappus sphaerocephalus*
Annual bur-sage	*Ambrosia acanthicarpa*
Burrobush	*Ambrosia dumosa*
Woolly fruit bur ragweed	*Ambrosia eriocentra*
Burrobrush	*Ambrosia salsola*
Big sagebrush	*Artemisia tridentata*
Desert marigold	*Baileya multiradiata*
Sweetbush	*Bebbia juncea*
California brickellbush	*Brickellia californica*
Woolly brickellbush	*Brickellia incana*
Esteve's pincushion	*Chaenactis* cf. *stevioides*
New Mexico thistle	*Cirsium* cf. *neomexicanum*
Desert twinbugs	*Dicoria canescens*
Brittlebush	*Encelia farinosa*
Button brittlebush	*Encelia frutescens*
Virgin River brittlebush	*Encelia virginensis*
Cooper's goldenbush	*Ericameria cooperi*
Turpentine bush	*Ericameria laricifolia*
Narrowleaf goldenbush	*Ericameria linearifolia*
Mojave rabbitbrush	*Ericameria paniculata*
Green rabbitbrush	*Ericameria teretifolia*
Hairy desertsunflower	*Geraea canescens*
Threadleaf snakeweed	*Gutierrezia microcephala*
Common sunflower	*Helianthus annuus*
Golden aster	*Heterotheca sessiliflora*
Whiteflower tansyaster	*Machaeranthera canescens* var. *leucanthemifolia*
Manybristle chinchweed	*Pectis papposa*
Slender poreleaf	*Porophyllum gracile*
Threadleaf ragwort	*Senecio flaccidus*
Small wirelettuce	*Stephanomeria* cf. *exigua*
Brownplume wirelettuce	*Stephanomeria pauciflora*
Mojave cottonthorn	*Tetradymia stenolepis*
Mojave woodyaster	*Xylorhiza tortifolia*

CATALPA FAMILY	**BIGNONIACEAE**
Desert willow	*Chilopsis linearis*
BORAGE FAMILY	**BORAGINACEAE**
Panamint cryptantha	*Cryptantha angustifolia*
Moth combseed	*Pectocarya setosa*
Combseed	*Pectocarya* sp.
Purplestem phacelia	*Phacelia crenulata* var. *ambigua*
Distant phacelia	*Phacelia distans*
Honeysweet	*Tidestromia suffruticosa* var. *oblongifolia*
MUSTARD FAMILY	**BRASSICACEAE**
*Short podded mustard	**Hirschfeldia incana*
Pepper grass	*Lepidium* sp.
*London rocket	**Sisymbrium irio*
Long beaked twist flower	*Streptanthella longirostris*
CACTUS FAMILY	**CACTACEAE**
Wiggins' cholla	*Cylindropuntia echinocarpa*
Branched pencil cholla	*Cylindropuntia ramosissima*
Cottontop cactus	*Echinocactus polycephalus*
Engelmann's hedgehog cactus	*Echinocereus engelmannii*
Barrel cactus	*Ferocactus cylindraceus*
Matted cholla	*Grusonia parishii*
Common fish hook cactus	*Mammillaria tetrancistra*
Beavertail cactus	*Opuntia basilaris* var. *basilaris*
Dollarjoint pricklypear	*Opuntia chlorotica*
Mojave prickly pear	*Opuntia phaeacantha*
Grizzlybear pricklypear	*Opuntia polyacantha* var. *erinacea*
GOOSEFOOT FAMILY	**CHENOPODIACEAE**
Fourwing saltbush	*Atriplex canescens*
Shadscale	*Atriplex confertifolia*
Desert holly	*Atriplex hymenelytra*
Allscale saltbush	*Atriplex polycarpa*
Winterfat	*Krascheninnikovia lanata*
*Russian thistle	**Salsola tragus*
CUCUMBER FAMILY	**CUCURBITACEAE**
Coyote melon	*Cucurbita palmata*
CYPRESS FAMILY	**CUPRESSACEAE**
Utah juniper	*Juniperus osteosperma*
DODDER FAMILY	**CUSCUTACEAE**
Desert dodder	*Cuscuta* cf. *denticulata*
JOINTFIR FAMILY	**EPHEDRACEAE**
California jointfir	*Ephedra californica*
Nevada jointfir	*Ephedra nevadensis*

SPURGE FAMILY	**EUPHORBIACEAE**
Turkey-mullein	*Croton setigerus*
Rattlesnake sandmat	*Euphorbia albomarginata*
Spurge	*Euphorbia* sp.
Annual stillingia	*Stillingia spinulosa*
PEA FAMILY	**FABACEAE (LEGUMINOSAE)**
Downy dalea	*Dalea mollissima*
Annual lupine	*Lupinus bicolor*
Honey mesquite	*Prosopis glandulosa*
Mojave indigo bush	*Psorothamnus arborescens*
Smoketree	*Psorothamnus spinosus*
Catclaw	*Senegalia greggii*
Desert senna	*Senna armata*
GERANIUM FAMILY	**GERANIACEAE**
*Red-stem Filaree	**Erodium cicutarium*
RHATANY FAMILY	**KRAMERIACEAE**
White rhatany	*Krameria bicolor*
Littleleaf ratany	*Krameria erecta*
MINT FAMILY	**LAMIACEAE (LABIATAE)**
Mexican bladdersage	*Salazaria mexicana*
Chia sage	*Salvia columbariae*
Desert sage	*Salvia dorrii*
LOASA FAMILY	**LOASACEAE**
Desert bush nettle	*Eucnide urens*
Many flowered mentzelia	*Mentzelia* cf. *longiloba*
Sandpaper plant	*Petalonyx thurberi*
MALLOW FAMILY	**MALVACEAE**
Mallow	*Sphaeralcea* sp.
FOUR O'CLOCK FAMILY	**NYCTAGINACEAE**
Wishbone bush	*Mirabilis laevis* var. *retrorsa*
Desert four o'clock	*Mirabilis multiflora* var. *pubescens*
OLIVE FAMILY	**OLEACEAE**
Spiny menodora	*Menodora spinescens*
EVENING PRIMROSE FAMILY	**ONAGRACEAE**
Primrose	*Camissonia* sp.
Dune primrose	*Oenothera deltoides*
POPPY FAMILY	**PAPAVERACEAE**
Mohave prickly poppy	*Argemone corymbosa*
PLANTAGO FAMILY	**PLANTAGINACEAE**
Penstemon	*Penstemon* sp.

Desert plantain	*Plantago ovata*
Woolly plantain	*Plantago patagonica*
GRASS FAMILY	**POACEAE (GRAMINEAE)**
Sixweeks threeawn	*Aristida adscensionis*
Purple threeawn	*Aristida purpurea*
*Foxtail brome	**Bromus madritensis* ssp. *rubens*
*Bermuda grass	**Cynodon dactylon*
Bottlebrush squirreltail	*Elymus elymoides*
Low woollygrass	*Erioneuron pulchellum*
Big galleta	*Hilaria rigida*
*Farmer's foxtail	**Hordeum murinum*
Bush muhly	*Muhlenbergia porteri*
Desert panicgrass	*Panicum urvilleanum*
*Common Mediterranean grass	**Schismus barbatus*
Indian rice grass	*Stipa hymenoides*
Desert needle grass	*Stipa speciosa*
PHLOX FAMILY	**POLEMONIACEAE**
Eriastrum	*Eriastrum* sp.
Gilia	*Gilia* sp.
BUCKWHEAT FAMILY	**POLYGONACEAE**
Devil's spineflower	*Chorizanthe rigida*
Flat topped buckwheat	*Eriogonum deflexum*
California buckwheat	*Eriogonum fasciculatum* var. *polifolium*
Desert trumpet	*Eriogonum inflatum*
Birdnest buckwheat	*Eriogonum nidularium*
Yucca buckwheat	*Eriogonum plumatella*
Wright's buckwheat	*Eriogonum wrightii* var. *wrightii*
Roundleaf oxytheca	*Oxytheca perfoliata*
BUTTERCUP FAMILY	**RANUNCULACEAE**
Desert larkspur	*Delphinium* cf. *parishii*
ROSE FAMILY	**ROSACEAE**
Blackbrush	*Coleogyne ramosissima*
Apache plume	*Fallugia paradoxa*
Desert almond	*Prunus fasciculata*
RUE FAMILY	**RUTACEAE**
Turpentine broom	*Thamnosma montana*
QUASSIA FAMILY	**SIMAROUBACEA**
Emory's crucifixion thorn	*Castela emoryi*
NIGHTSHADE FAMILY	**SOLANACEAE**
Wright's datura	*Datura wrightii*
Anderson thornbush	*Lycium andersonii*
Cooper's box thorn	*Lycium cooperi*
Thick leaved ground cherry	*Physalis crassifolia*

TAMARISK FAMILY	**TAMARICACEAE**
*Tamarisk	**Tamarix aphylla*
MISTLETOE FAMILY	**VISCACEAE**
Desert mistletoe	*Phoradendron californicum*
CALTROP FAMILY	**ZYGOPHYLLACEAE**
Creosote bush	*Larrea tridentata*

WILDLIFE

REPTILES	**REPTILIA**
SCALED REPTILES (SNAKES)	**SQUAMATA**
Harmless Egg-laying Snakes	**Colubridae**
Mohave Patch-nosed Snake	*Salvadora hexalepis mojavensis*
SCALED REPTILES (LIZARDS)	**SQUAMATA**
Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards	**Phrynosomatidae**
Southern Desert Horned Lizard	*Phrynosoma platyrhinos calidiarum*
Mohave Fringe-toed Lizard	*Uma scoparia*
TURTLES	**TESTUDINES**
Tortoises	**Testudinidae**
Desert Tortoise	*Gopherus agassizii*
BIRDS	**AVES**
GALLINACEOUS BIRDS	**GALLIFORMES**
New World Quail	**Odontophoridae**
Gambel's Quail	*Callipepla gambelii*
PIGEONS AND DOVES	**COLUMBIFORMES**
Pigeons and Doves	**Columbidae**
Mourning Dove	*Zenaida macroura*
CUCKOOS AND ALLIES	**CUCULIFORMES**
Cuckoos, Roadrunners, and Anis	**Cuculidae**
Greater Roadrunner	*Geococcyx californianus*
NIGHTJARS	**CAPRIMULGIFORMES**
Nightjars	**Caprimulgidae**
Lesser Nighthawk	*Chordeiles acutipennis*
Common Poorwill	*Phalaenoptilus nuttallii*
NEW WORLD VULTURES	**CATHARTIFORMES**
New World Vultures	**Cathartidae**
Turkey Vulture	*Cathartes aura*
HAWKS, KITES, EAGLES, AND ALLIES	**ACCIPITRIFORMES**
Hawks, Kites, Eagles, and Allies	**Accipitridae**
Red-tailed Hawk	*Buteo jamaicensis*
PUFFBIRDS, JACAMARS, TOUCANS, WOODPECKERS, AND ALLIES	**PICIFORMES**
Woodpeckers and Allies	**Picidae**
Northern Flicker	*Colaptes auratus*
PASSERINE BIRDS	**PASSERIFORMES**
Tyrant Flycatchers	**Tyrannidae**
Say's Phoebe	*Sayornis saya*
Shrikes	**Laniidae**
Loggerhead Shrike	*Lanius ludovicianus*
Crows and Jays	**Corvidae**
Common Raven	*Corvus corax*

Larks	**Alaudidae**
Horned Lark	*Eremophila alpestris*
Penduline Tits and Verdins	**Remizidae**
Verdin	*Auriparus flaviceps*
Wrens	**Troglodytidae**
Rock Wren	*Salpinctes obsoletus*
Cactus Wren	*Campylorhynchus brunneicapillus*
Gnatcatchers and Gnatwrens	**Polioptilidae**
Blue-gray Gnatcatcher	*Polioptila caerulea*
Black-tailed Gnatcatcher	*Polioptila melanura*
Fringilline and Cardueline Finches and Allies	**Fringillidae**
House Finch	*Haemorhous mexicanus*
Wood-Warblers	**Parulidae**
Yellow-rumped Warbler	*Setophaga coronata*
Emberizids	**Emberizidae**
Bell's Sparrow	*Artemisiospiza belli*
White-crowned Sparrow	*Zonotrichia leucophrys*
MAMMALS	**MAMMALIA**
RODENTS	**RODENTIA**
Pocket Mice and Kangaroo Rats	**Heteromyidae**
Desert Kangaroo Rat	*Dipodomys deserti*
Merriam's Kangaroo Rat	*Dipodomys merriami*
Rats And Mice	**Muridae**
Desert Woodrat (middens)	*Neotoma lepida*
CARNIVORES	**CARNIVORA**
Wolves, Foxes, and the Coyote	**Canidae**
Coyote	*Canis latrans*
Desert Kit Fox (den)	*Vulpes macrotis arsipus*
Weasels, Skunks, and their Kin	**Mustelidae**
American Badger (den)	*Taxidea taxus*
Cats	**Felidae**
Mountain Lion (scat)	*Puma concolor*
EVEN-TOED HOOFED MAMMALS	**ARTIODACTYLA**
Deer and their Kin	**Cervidae**
Mule Deer	*Odocoileus hemionus*

APPENDIX D:

SPECIAL-STATUS BIOLOGICAL RESOURCES OCCURRING OR POTENTIALLY OCCURRING ON OR IN THE VICINITY (WITHIN 3 MILES) OF THE LVRAS PROJECT

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
SENSITIVE VEGETATION COMMUNITIES					
Chilopsis linearis (Desert willow woodland) Alliance	–	S3	–	Desert willow is dominant or co-dominant in the tree or tall shrub canopy, with desert ironwood (*Olneya tesota*), honey mesquite (*Prosopis glandulosa*), smoke tree (*Psorothamnus spinosus*) and Joshua tree (*Yucca brevifolia*). Shrubs may include cheese bush (*Ambrosia salsola*), cattle saltbush (*Atriplex polycarpa*), sweetbush (*Bebbia juncea*), buck horn cholla (*Cylindropuntia acanthocarpa*), encelia (*Encelia virginensis*), California jointfir (*Ephedra californica*), and California buckwheat (*Eriogonum fasciculatum*). Habitats include washes, intermittent channels, canyon bottoms, arroyos, along floodplains, and wash terraces, where flooding is infrequent. Soils are typically well-drained sands and gravels that are moderately acidic to slightly alkaline. Elevation ranges from 100-1,200m. **Occurs**. See Table 1 for locations.	May-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Ericameria paniculata (Black-stem rabbitbrush scrub) Alliance	–	S3	–	Black-stem rabbitbrush is dominant or co-dominant in the shrub canopy with woolly bursage (*Ambrosia eriocentra*), cheesebush, woolly brickellbush (*Brickellia incana*), coyote melon (*Cucurbita palmata*), brittlebush (*Encelia farinosa*), encelia, and California buckwheat. Emergent trees or tall shrubs may be present at low cover, including catclaw (*Acacia greggii*) or desert willow. Habitats include intermittently flooded arroyos, channels, and washes. Soils are typically coarse to fine sands, usually well drained and moderately acidic to slightly saline. Elevation ranges from 100-1,100m. **Occurs**. See Table 1 for locations.	Jun-Dec
Panicum urvilleanum (Desert panic grass patches) Alliance	–	S1	–	Desert panic grass is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass (*Stipa hymenoides*), desert dicoria (*Dicoria canescens*), sunflower (*Helianthus annuus*), dune primrose (*Oenothera deltoides*) and Thurber's sandpaper plant (*Petalonyx thurberi*). Habitats include active to partially stabilized dunes and sand fields. Elevations range from 10-1,200m. **Occurs**. See Table 1 for locations.	Mar-May

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Pleuraphis rigida (Big galleta shrub-steppe) Alliance	–	S2	–	Big galleta is dominant or co-dominant in the herbaceous and sub-shrub layers with Indian rice grass, black grama (*Bouteloua eriopoda*), foxtail brome (*Bromus madritensis* spp. *rubens*), downy dalea (*Dalea mollissima*), and matchweed (*Gutierrezia sarothrae*). Emergent trees and shrubs may be present at low cover, including catclaw, white bursage (*Ambrosia dumosa*), cheese bush, shadescale (*Atriplex canescens*), and creosote bush (*Larrea tridentata*). Habitats include flat ridges, lower bajadas, slopes, dune aprons, and stabilized dunes. Soils are typically clayey, sandy, or rocky. Elevation ranges from 500-1,400m. **Occurs**. See Table 1 for locations.	Year-round
Prunus fasciculata (Desert almond scrub) Alliance	–	S3	–	Desert range almond (*Prunus fasciculata*) is dominant or co-dominant in the shrub canopy with catclaw, white bursage, cheesebush, golden cholla (*Cylindropuntia echinocarpa*), Nevada jointfir (*Ephedra nevadensis*), California buchwheat, and spiny hopsage (*Grayia spinosa*). Emergent trees may be present at low cover, including California juniper (*Juniperus californica*), Utah juniper (*Juniperus osteosperma*), and Joshua tree. Habitats include arroyos, canyons, washes, and disturbed upland sites on calcareous and granitic substrates. Soils are typically loams and gravels. Elevation ranges from 15-1,880m. **Occurs**. See Table 1 for locations.	Feb-Mar

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Psorothamnus spinosus (Smoke tree woodland) Alliance	–	S3	–	Smoke tree is dominant or co-dominant in the tree or tall shrub canopy with desert willow, desert ironwood, and blue palo verde (*Parkinsonia florida*). Shrubs may include catclaw, cheesebush, Emory's baccharis (*Baccharis emoryi*), sweetbush, brittlebush, California jointfir, desert lavender (*Hyptis emoryi*), creosote bush, and Parish's wire lettuce (*Stephanomeria pauciflora*). Habitats include arroyos, intermittently flooded channels and washes. Soils are typically sandy and well drained, moderately acidic or slightly saline. Elevation ranges from sea level-1,000m. **Occurs**. See Table 1 for locations.	Jun-Jul
Rhus trilobata (Basket bush thickets) Provisional Alliance	–	S3	–	Basket bush is dominant in the shrub canopy with pinebush (*Ericameria pinifolia*), Wright's buckwheat (*Eriogonum wrightii*), hollyleaf redberry (*Rhamnus ilicifolia*), chaparral currant (*Ribes malvaceum*), Sierra gooseberry (*Ribes roezlii*), black elderberry (*Sambucus nigra*) and poison oak (*Toxicodendron diversilobum*). Emergent trees may be present at low cover. Habitats include stream terraces, swales, shallow valleys, and upland topography. Elevation ranges from 385-2,200m. **Occurs**. See Table 1 for locations.	Mar-May

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Yucca brevifolia (Joshua tree woodland) Alliance	–	S3	–	Dominant plant species in this alluvial vegetation community include white bursage, cheese bush, big sagebush (*Artemisia tridentata*), yellow rabbitbush (*Chrysothamnus viscidiflorus*), blackbrush (*Coleogyne ramosissima*), buck-horn cholla (*Cylindropuntia acanthocarpa*), Nevada ephedra, and California Buckwheat. The canopy may be open to intermittent, and the herbaceous layer is open to intermittent with perennial grasses and seasonal annuals. Stands occur on alluvial fans and ridges with gentle to moderate slopes. Soils are often coarse sands, very fine silts, gravel, or sandy loams. Elevation ranges from 750-1,800m. **Occurs**. See Table 1 for locations.	May-Jun
PLANTS					
Aloysia wrightii Wright's beebrush	–	–	4.3	A perennial evergreen shrub that occurs in rocky, often carbonate, areas of Joshua tree woodland and pinyon and juniper woodland. 900-1,600m. **Likely**. Collected on the alignment in 2010 (André 14918) just south of Nipton Rd.	Apr-Oct

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Androstephium breviflorum Small-Flowered Androstephium	–	–	2B.2	Occurs in the vicinity of Pisgah Crater, Cronese Valley, Rice Valley, and at scattered sites along the California/Nevada border. A perennial herb found in desert dunes and creosote bush scrub, with sandy to rocky soil. 100-1,600m. **Likely**. Several recent collections were made from within the Project buffer, from the vicinity of the Pisgah Substation, and northeastward along Powerline Rd. towards the Cady Mountains. Collected in 2008 at Dunn, 2 miles southwest of the proposed material yard along Highway 15 on Afton Rd. (Honer 2813).	Mar-Apr
Astragalus bernardinus San Bernardino Milk-Vetch	–	–	1B.2	Occurs on the desert slope of the San Bernardino Mountains, the Little San Bernardino Mountains, and in the eastern Mojave National Preserve, especially in the vicinity of Cima. A perennial herb found in stony areas among desert shrubs in Joshua tree and pinyon-juniper woodlands. 900-2,300. **Does not occur**. Suitable habitat occurs outside project alignment in the hills south of Cima. No recent collections in the area and exact location of historical records are unknown.	Apr-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Astragalus cimae var. *cimae* Cima Milk-Vetch	–	–	1B.2	Occurs in Mid Hills and the New York Mountains in the eastern Mojave National Preserve. Perennial herb in Great Basin scrub, Joshua tree woodland, and pinyon-juniper woodlands. 1,250-1,850m. **Does not occur**. Species restricted to higher elevations and habitat not found along project alignment. The type locality, given as "Cima," is likely an imprecise attribution. The species is probably absent from Joshua tree woodland within the project boundaries near Cima, as numerous records suggest the species is locally restricted to the desert mountain ranges south of the Project boundary.	Apr-May
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	–	–	4.3	An annual herb that occurs in sandy areas of Mojavean and Sonoran desert scrub. 30-895m. **Unlikely**. Suitable habitat in Devil's Playground in vicinity of Old Dad Mountain; Cima Dome.	Feb-May
Berberis fremontii Fremont Barberry	–	–	2B.3	Occurs in the New York Mountains, Mid Hills, and Granite Mountains, and the desert slope of the San Bernardino Mountains. A perennial evergreen shrub found in rocky and sometimes granitic habitats in chaparral, pinyon-juniper woodlands, and Joshua tree woodlands. 900-1,850m. **Does not occur**. Suitable habitat not present.	Apr-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Bouteloua trifida Three-Awned Grama	–	–	2B.3	Occurs in mountain ranges of the eastern Mojave Desert. A perennial grass found in dry, rocky areas, on calcareous soils. 200-1,600m. **Does not occur**. Suitable habitat not present.	May-Sep
Castela emoryi Emory's Crucifixion-Thorn	–	–	2B.2	Occurs throughout much of the Mojave Desert, although apparently not documented within the Mojave National Preserve. A perennial deciduous shrub found in dry, gravelly washes, low-grade alluvial slopes, and on playas in Mojavean and Sonoran creosote bush scrub. 30-1350m. **Occurs**. Twelve (12) plants observed within the survey area during surveys, including two within 80 feet north of the transmission lines, on low-grade alluvial slopes in the valley just northeast of the Cady Mountains. Additional population may occur in creosote bush scrub in the western portion of the project.	Jun-Jul
Chamaesyce parryi Parry's Spurge	–	–	2B.3	An annual herb that occurs in sandy areas of desert dunes and Mojavean desert scrub. 395-730m. **Unlikely**. Collected in Devil's Playground (La Cass 186) in 1980, 2 miles SE of alignment.	May-Nov

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Coryphantha vivipara var. *rosea* Viviparous Foxtail Cactus	–	–	2B.2	Occurs in desert mountain ranges of the Mohave National Preserve and adjacent valleys. A perennial stem succulent found on limestone slopes, on hills, and on low-grade granitic slopes, in creosote bush scrub, Joshua tree woodland, and pinyon-juniper woodland. 1,400-2,700m. **Unlikely**. Collected adjacent to SCE powerlines 1.5 mi. SSE of Wildcat Butte in 1998 (Sanders et al. 21962). Habitat in this region is essentially unchanged, and the lack of more recent collections in this region is doubtless an artifact of restrictions on collecting within the Preserve.	May-Jun
Cryptantha costata Ribbed Cryptantha	–	–	4.3	An annual herb found in sandy habitats in desert dunes, Mojavean desert scrub, and Sonoran desert scrub. 60-500m. **Unlikely**. Collected on sandy alkali east of Crucero, about 2 miles northwest of the project boundary, in 2011 (André and Fulton 16304). Similar habitat associated with Kelso Wash occurs along the alignment just north of the railroad tracks.	Feb-May

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Cryptantha holoptera Winged Cryptantha	–	–	4.3	Occurs widely in within the Desert Floristic Province of California. An annual herb found in Mojavean desert scrub and Sonoran desert scrub. 100-1,690m. **Unlikely**. Collected in the vicinity of Old Dad Mountain very near the Project boundary in 1993 and 1980. Several recent collections near Baker. Habitat in the region is virtually unchanged. The species is doubtless under-collected, widely distributed, and has some potential to occur throughout the Project.	Mar-Apr
Cymopterus multinervatus Purple-Nerve Cymopterus	–	–	2B.2	Occurs in mountain ranges of Eastern Mojave Desert, and on the desert slope of the San Bernardino Mountains. A perennial herb found on rocky, gravelly and sandy slopes in Joshua tree woodland and pinyon-juniper woodland. 630-1,800m. **Unlikely**. Collected in Joshua tree woodland along Cima Rd., about 1 mile north of the Project boundary in 2009 (André 11773).	Mar-Apr
Cynanchum utahense Utah Vine Milkweed	–	–	4.2	A perennial herb found in sandy or gravelly habitats of Mojavean desert scrub and Sonoran desert scrub. 100-1,435m. **Likely**. Recent collections have been made within and near the Project boundaries in the vicinity of Pisgah, the Cady Mountains, and in Ivanpah Valley.	Mar-Oct

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Eremothera boothii ssp. *boothii* Booth's Evening-Primrose	–	–	2B.3	Occurrences scattered throughout the Mojave Desert. An annual herb found on sandy flats, steep loose slopes, and low volcanic slopes in Joshua tree and pinyon-juniper woodlands. 900-2,400m. **Does not occur**. Collected recently several times in the Cima Cinder Cone Lava Beds less than 4 miles northwest of the project boundary. Volcanic soils are located south of and outside the project areas within the Marl Mountains.	Jun-Aug
Eriastrum harwoodii Harwood's Eriastrum	–	–	1B.2	Occurs widely in the Eastern Mojave Desert. An annual found on sandy desert dunes and in creosote bush scrub. <1,000m. **Unlikely**. Collected at Crucero Hill about 4 miles northwest of the Project boundary in 2008 (Gowen 813). Annual Eriastrum indeterminable to species were encountered throughout the Project during recent surveys.	Mar-Jun
Erioneuron pilosum Hairy Erioneuron	–	–	2B.3	Occurs in the desert mountain ranges of the Eastern Mojave. A perennial grass found on rocky and sometimes carbonate slopes and ridges in pinyon-juniper woodlands. 1,280-2,000m. **Does not occur**. Suitable habitat not present. Recorded only from desert mountain ranges of the Eastern Mojave.	May-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Grusonia parishii Matted Cholla	–	–	2B.2	Occurs in the Hackberry, Clark, Castle, Little San Bernardino and Ivanpah Mountains, Landfair Valley and Joshua Tree National Park. A perennial stem succulent found on sandy, gravelly flats, generally in creosote bush/bur scrub and Joshua tree woodlands. 300-1,200m. **Occurs**. Ten (10) scattered clumps observed along the alignment during surveys, about 3.6 miles southwest of Cima Rd.	May-Jun
Menodora scabra var. *scabra* Rough Menodora	–	–	2B.3	Occurs in the Castle, Mid Hills, and New York Mountain Ranges, and on Cerro Pinon. Found in rocky or sandy soils in Joshua tree woodland, Mojavean desert scrub and pinyon-juniper woodlands. 1,000-1,800m. **Does not occur**. Based on known distributions, material of *Menodora scabra* within the Project boundaries would be expected to be attributable to var. *glabrescens*.	May-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Mentzelia puberula Darlington's Blazing Star	–	–	2B.2	Widely distributed in the Eastern Mojave Desert. A perennial herb found in sandy crevices of cliffs or on rocky slopes in Mojavean and Sonoran desert scrub. 90-1,280m. **Unlikely**. One historic (1980) collection from Old Dad Mountain. Suitable habitat observed in Jackass Canyon near Old Dad Mountain during surveys. Fruiting specimens of *Mentzelia* attributable to the same species group (otherwise indeterminable) were observed along the alignment just south of Jackass Canyon.	Mar-May
Mirabilis coccinea Red Four O'clock	–	–	2B.3	Distributed throughout Fourth of July Canyon, Keystone Canyon and Bathtub Spring in New York Mountains. Occurs also in Castle Peak, Mid Hills, and Ivanpah Mountain Ranges. A perennial herb found on dry, rocky slopes and in washes in Joshua tree woodland and pinyon-juniper woodland. 1,300-1,800m. **Does not occur**. Typically observed in mountainous Joshua tree woodland The project is located too distant from the Ivanpah/New York Mountains where habitat is present.	May-Jul

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Muilla coronata Crowned Muilla	–	–	4.2	Widespread in the Mojave Desert. A perennial bulbiferous herb found in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland. 670-1,960m. **Unlikely**. Appropriate habitat is intermittent throughout within the Project. Collected along highway 15 at Dunn, two miles southeast of the proposed material yard on Afton Rd.	Mar-May
Munroa squarrosa False Buffalo-Grass	–	–	2B.2	Occurs on toe slopes of desert ranges in the Eastern Mojave Desert. An annual grass found on open, silty or gravelly flats, and sandy, gravelly or rocky areas in Joshua tree woodland, and sometimes in pinyon-juniper woodland. 1,300-1,700m. **Does not occur**. Suitable habitat may occur near Cima and near the California/Nevada border. However, the nearest collection is from seven miles north of the Project boundary in the Ivanpah Mountains.	Oct
Nemacaulis denudata var. *gracilis* Slender Cottonheads	–	–	2B.2	Occurs in coastal Southern California, Colorado Desert, and at scattered sites in the Eastern Mojave Desert. An annual herb in sandy habitats, including dunes and coastal strand. 10-500m. **Does not occur**. Suitable habitat occurs in the Devil's Playground, but the nearest known occurrence is at Kelso, about 15 miles southeast of the project.	Apr-May

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Opuntia curvispina Curved-Spine Beavertail	–	–	2B.2	Occurs near the California/Nevada state line between Nipton, CA and Searchlight, NV. Reported for the vicinity of Cima in Mojave National Preserve. A perennial stem succulent found in chaparral, Mojavean desert scrub and pinyon-juniper woodlands. 1,000-1,400m. Species is a taxonomically recognized tetraploid hybrid resulting from *Opuntia chlorotica* and *Opuntia phaecantha*. **Does not occur**. Presumably known in California from only historic collections.	Apr-Jun
Pellaea truncata Spiny Cliff-Brake	–	–	2B.3	Occurs in the New York Mountains, Mid Hills Range and the Providence Mountains. A rhizomatous perennial occurring in crevices of granite or igneous rock in pinyon-juniper woodlands. 1,200-1,900m. **Does not occur**. Suitable habitat not present.	Apr-Jun
Penstemon albomarginatus White-Margined Beardtongue	–	–	1B.1	Distributed mainly throughout the Lavic Lake volcanic field, Cady, Sleeping Beauty and Bullion Mountain Ranges. A perennial herb found in loose desert sand, generally on stabilized dunes with creosote bush scrub. 700-900m. **Likely**. Collected numerous times, including along the alignment, in the vicinity of Pisgah.	Mar-May

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Penstemon pseudospectabilis var. *pseudospectabilis* Desert Beardtongue	–	–	2B.2	Occurs at scattered localities in the Eastern Mojave Desert. A perennial herb often found in sandy washes, and sometimes rocky areas in Mojavean and Sonoran desert scrub. 80-1,935m. **Unlikely**. Collected in the 1998 and in 1980 in the vicinity of Old Dad Mountain, where suitable habitat still exists in the vicinity of Jackass Canyon.	Jan-May
Phacelia coerulea Sky-Blue Phacelia	–	–	2B.3	Occurs in mountain ranges of the Eastern Mojave Desert, and some adjacent valley. An annual herb found in open, sandy or rocky areas, generally in creosote bush scrub, sometimes also pinyon-juniper woodlands. 1,400-2,000m. **Unlikely**. Collected in creosote bush scrub one mile northwest of the project boundary along Nipton Rd. (André 10231).	Apr-May
Portulaca halimoides Desert portulaca	–	–	4.2	Occurs in the Eastern Mojave Desert. An annual herb found in sandy habitats within Joshua tree woodland. 1,000-1,200m. **Likely**. Collected in 2011 along the alignment in creosote bush scrub, one mile west of Ivanpah Rd. (André 22338). Suitable habitat is extensive in the eastern portion of the project.	Sep

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Sibara deserti Desert Winged-Rockcress	–	–	4.3	An annual herb found in Mojavean desert scrub. 345-1,300m. **Unlikely**. Collected within the wash adjacent to the proposed staging area on the north side of Rocky Ridge in 1993 (Hrusa 10662). Collected on a rocky canyon wall at Sheep Spring in the Marl Mountains in 1966, 0.4 miles south of the alignment (Hitchcock 24346).	Mar-Apr
Sphaeralcea rusbyi var. *eremicola* Rusby's Desert-Mallow	–	–	1B.2	Occurs in Panamint, Clark, Ivanpah and Providence Mountain Ranges, Cima Dome in Mojave National Preserve, Lost Horse Valley in Joshua Tree National Park, and Mineral Hills near I-15. A perennial herb found in creosote bush scrub and Joshua tree woodlands. 1,000-1,500m. **Likely**. Collected along the alignment at two locations south of Wildcat Butte and Cima Dome in 1998 (Sanders 21967 and 21963). This taxon is sometimes associated with roadside disturbances.	Mar-Jun

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Wislizenia refracta var. *refracta* Jackass-Clover	–	–	2B.2	Occurs between Barstow and Baker, Cima Cinder Cones, Joshua Tree National Park, and throughout the Twentynine Palms region. An annual herb found in sandy washes, along roadsides on alkaline flats, on dunes, and in creosote bush scrub. Occasionally found in wetlands. 90-1,160m. **Unlikely**. Nearest recent collection is from just southwest of Midway on the north side of Hwy 15, about six miles southeast of the proposed staging yard on Afton Rd. Suitable habitat is present throughout the Project area.	Apr-Nov

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
FISH					
Siphateles bicolor mohavensis Mohave Tui Chub	FE	SE FP	–	Historically, the Mohave tui chub occurred throughout the Mojave River drainage. A small population persisted in isolated ponds near the terminus of the Mojave River at Soda Springs.. Historically, within the Mojave River, the Mohave tui chub was associated with deep pools and sloughs of the river and was not found very far into small tributaries. Currently occupies habitats with water depth of four feet with some freshwater flow for a mineralized and alkaline environment, with some aquatic plants. **Does not occur**. Historically introduced into Mojave River south of western laydown yard at I-15. Presumed extirpated due to competition and hydrology alteration. Laydown yard not year Mojave River. Not aquatic habitat present.	Year-round

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
REPTILES					
Actinemys marmorata Northern Western Pond Turtle	–	SSC	–	Found in ponds, lakes, rivers, streams and irrigation ditches with abundant vegetation and logs, rocks and exposed banks for basking. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Usually found in woodland, forest and grasslands. **Does not occur**. Records from Mojave River in Afton Canyon, approximately 2.5 miles south of western laydown yard at I-15. Laydown yard not year Mojave River. Suitable habitat not present along Project.	Feb-Nov
Gopherus agassizii Desert tortoise	FT	ST	–	Throughout the Mojave Desert south along the Colorado river and along the east side of the Salton Basin. A desert species that needs firm ground to dig burrows, or rocks to shelter among. Found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides. **Occurs**. Numerous live tortoises and sign observed during focused surveys throughout the Project alignment.	Mar-Oct

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Uma scoparia Mohave Fringe-toed Lizard	–	SSC	–	Inhabits areas of fine windblown sand in the Mojave Desert from the southern end of Death Valley south to the Colorado River around Blythe, and into extreme western Arizona. Found in sparsely-vegetated arid areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. Needs fine, loose sand for burrowing. **Occurs**. Four individuals observed during surveys throughout the Devil's Playground. Historic records from near I-40.	Feb-Nov
BIRDS					
Athene cunicularia Burrowing Owl	–	SSC	–	Inhabits relatively flat and open areas such as grasslands, coastal dunes, and agricultural areas; requires the presence of burrows for nesting and roosting activities. An uncommon to locally common resident in California. **Likely**. Historic records from south and central portions of alignment. Suitable habitat and burrows identified throughout the alignment.	Year-round Breeding: Mar-Sep

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Colaptes chrysoides Gilded Flicker	–	SE	–	Native to desert areas surrounding the Gulf of California, including southeast California, and both northern and southern Baja California. Its range largely coincides with the regional distribution of giant cacti throughout the US, but in California, they have been primarily found in the lower Colorado River valley in desert riparian, desert wash, and Joshua tree habitats. Nest site is cavity in giant cactus, tree, or post. **Likely**. Known to nest in the Mojave National Preserve.	Year-round Breeding: May-July
Lanius ludovicianus Loggerhead Shrike (nesting)	–	SSC	–	Found throughout North America, a year-round resident that prefers open country with short vegetation: pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. **Occurs**. Observed during surveys. Suitable habitat present throughout alignment.	Year-round Breeding: Mar-Jul
MAMMALS					
Antrozous pallidus Pallid Bat	–	SSC	–	Occurs throughout most of California. Occupies a wide variety of habitats, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. **Likely**. Suitable habitat present along alignment on rocky mountains.	Year-round

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Ovis canadensis nelsoni Desert Bighorn Sheep	–	FP	–	In California, the desert bighorn sheep is found in the dry, desert mountains of southeastern California. Desert bighorn live throughout the inter-mountain west in a large number of desert mountain ranges in eastern California, much of Nevada, northwestern Arizona, New Mexico, southern Utah, southern Colorado, and Mexico. **Likely**. Range includes N. Bristol Mtns and Kelso Peaks/Marl/Old Dad Mtns, which Project passes through, as well as other adjacent mountain ranges.	Year-round
Taxidea taxus American Badger	–	SSC	–	Found throughout the entirety of California. Occur primarily in drier open stages of most shrub, forest and herbaceous habitats with dry, friable soils. Burrows are dug daily in friable soil for cover during the summer, but frequently reuse old burrows. **Likely**. Suitable habitat is present along alignment.	Year-round Breeding: Mar-Apr

Species Name Potential Sites (based on range)	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		

[1]Status

Federal

FE: Federally Endangered

FT: Federally Threatened

DL: Delisted

State

SE: State Endangered

ST: State Threatened

SR: State Rare

CT: State Candidate Threatened

SSC: California Species of Special Concern

FP: Fully Protected

WL: Watch List

DL: Delisted

Vegetation Communities: Ranks are based on a one to five scale, ranging from critically imperiled (S1) to demonstrably secure (S5). S1-S3 communities considered rare.

CNPS

1A: Plants presumed extirpated in California and either rare or extinct elsewhere

1B: Plants rare, threatened, or endangered in California and elsewhere

2A: Plants presumed extirpated in California, but common elsewhere

2B: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants about which more information is needed - a review list

4: Plants of limited distribution - a watch list

0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2: Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3: Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

CBR: Considered But Rejected

[2]Occurrence Potential

Special-status species with the potential to occur within the Survey Area were evaluated based on SCE's Species Presence/Absence Determination flow-chart:

Occurs: the species and/or positive sign was observed on-site during site visit or field survey.

Absent: the species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).

Likely: all site features indicate this species is very likely present and should be expected. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Unlikely: species could occur, but records of the species are not locally known. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are more than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Does Not Occur: species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records.