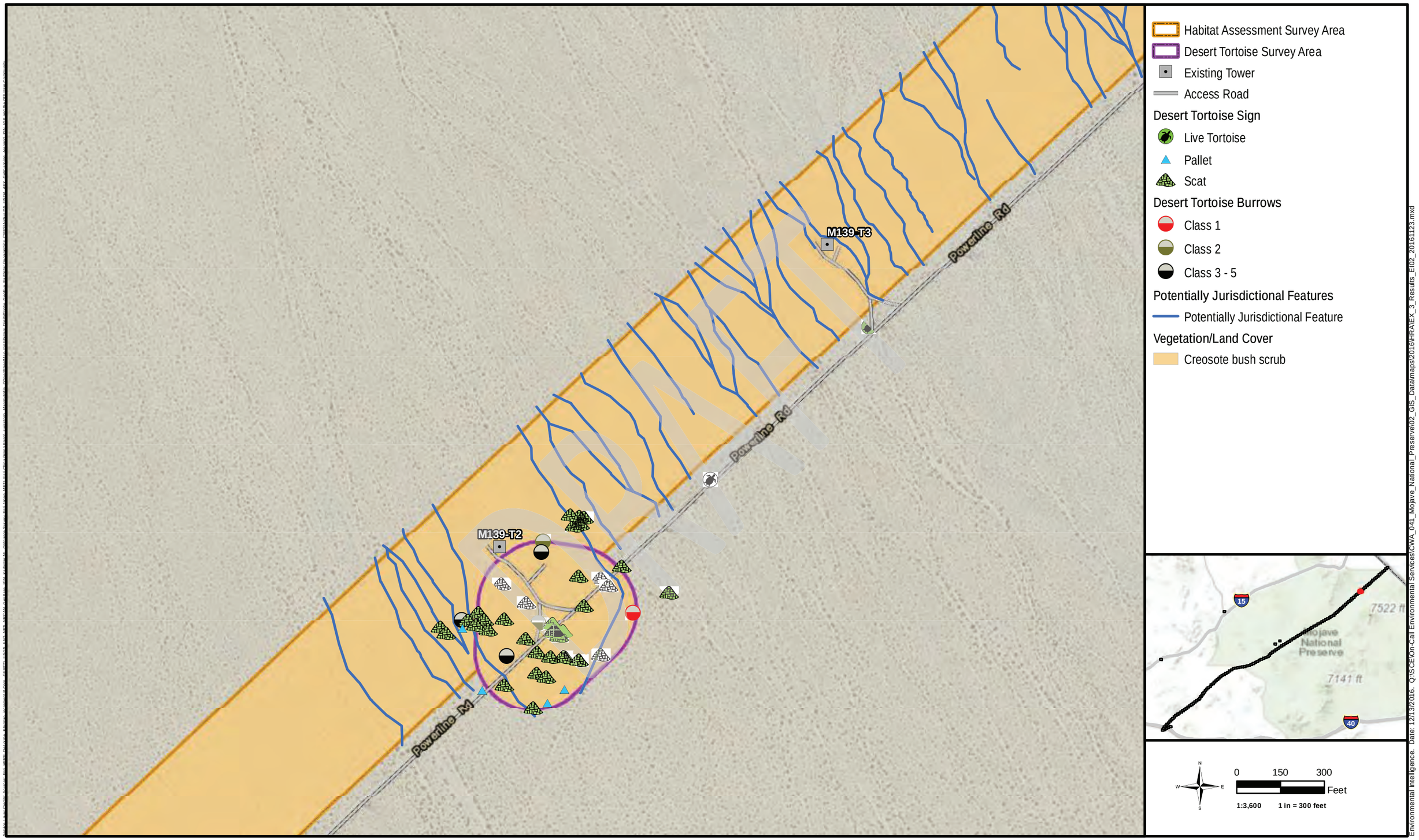

Exhibit 3. Survey Areas and Results (Page 121 of 140)

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

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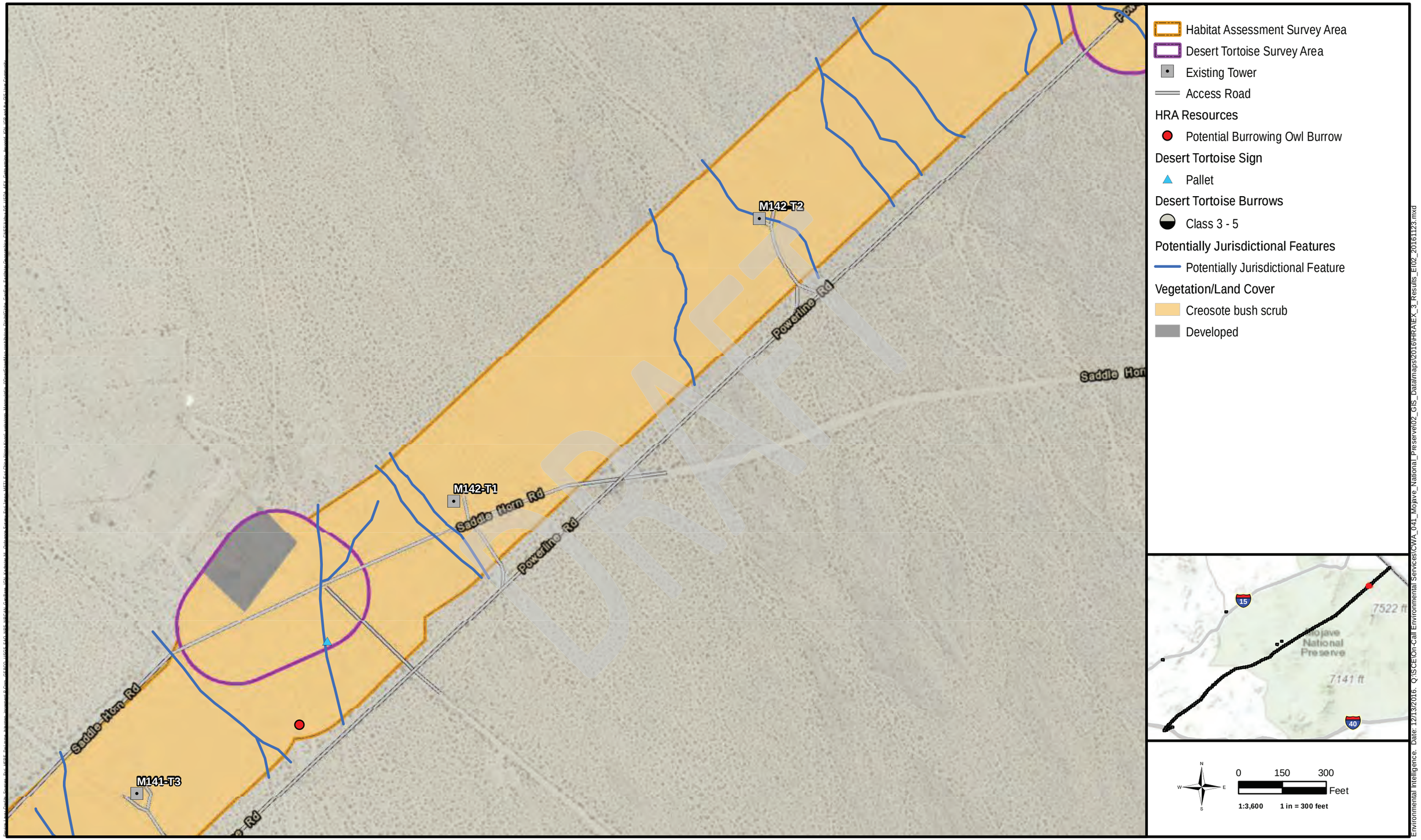

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 125 OF 140)
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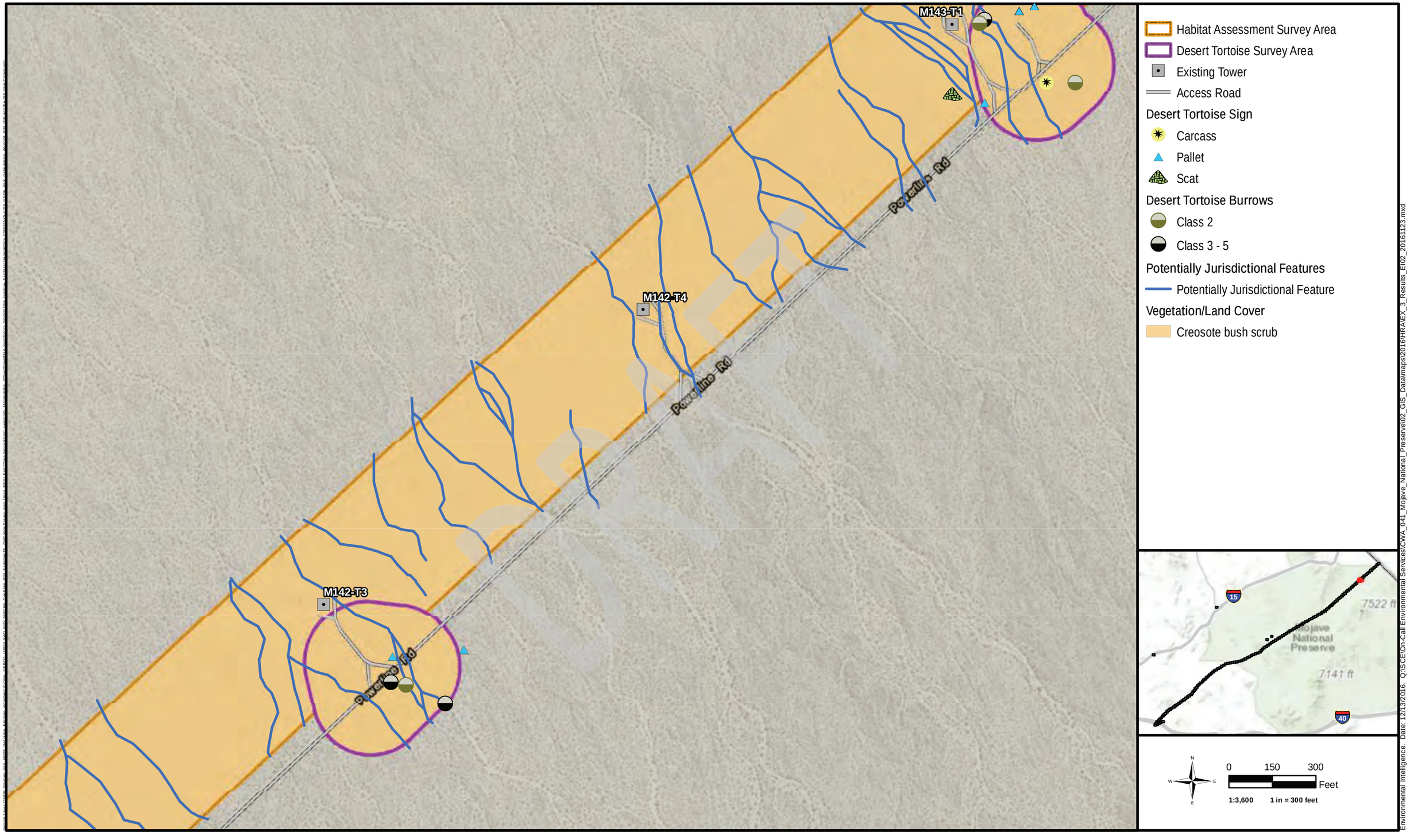

Exhibit 3. Survey Areas and Results (Page 126 of 140)
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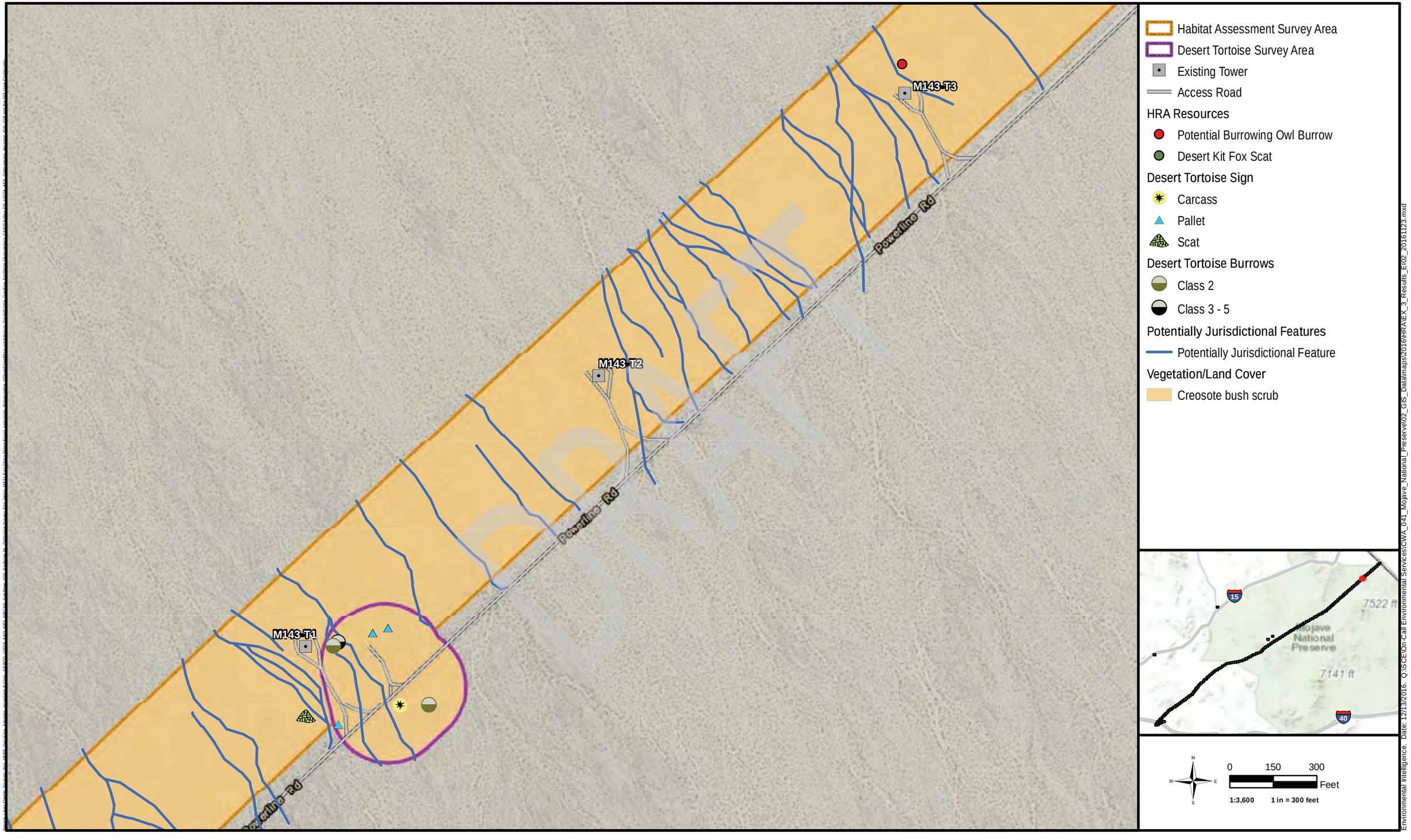

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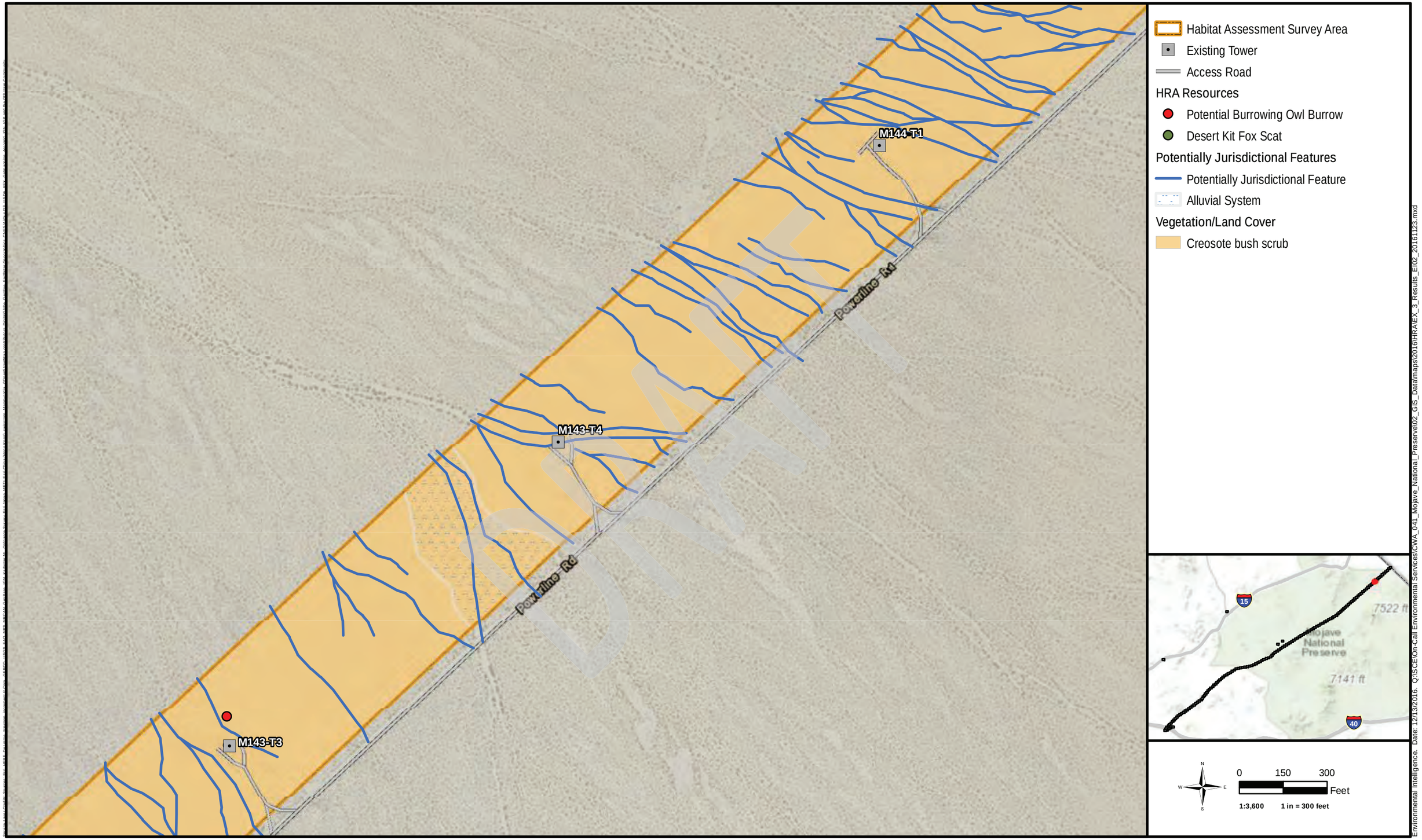

Exhibit 3. Survey Areas and Results (Page 128 of 140)

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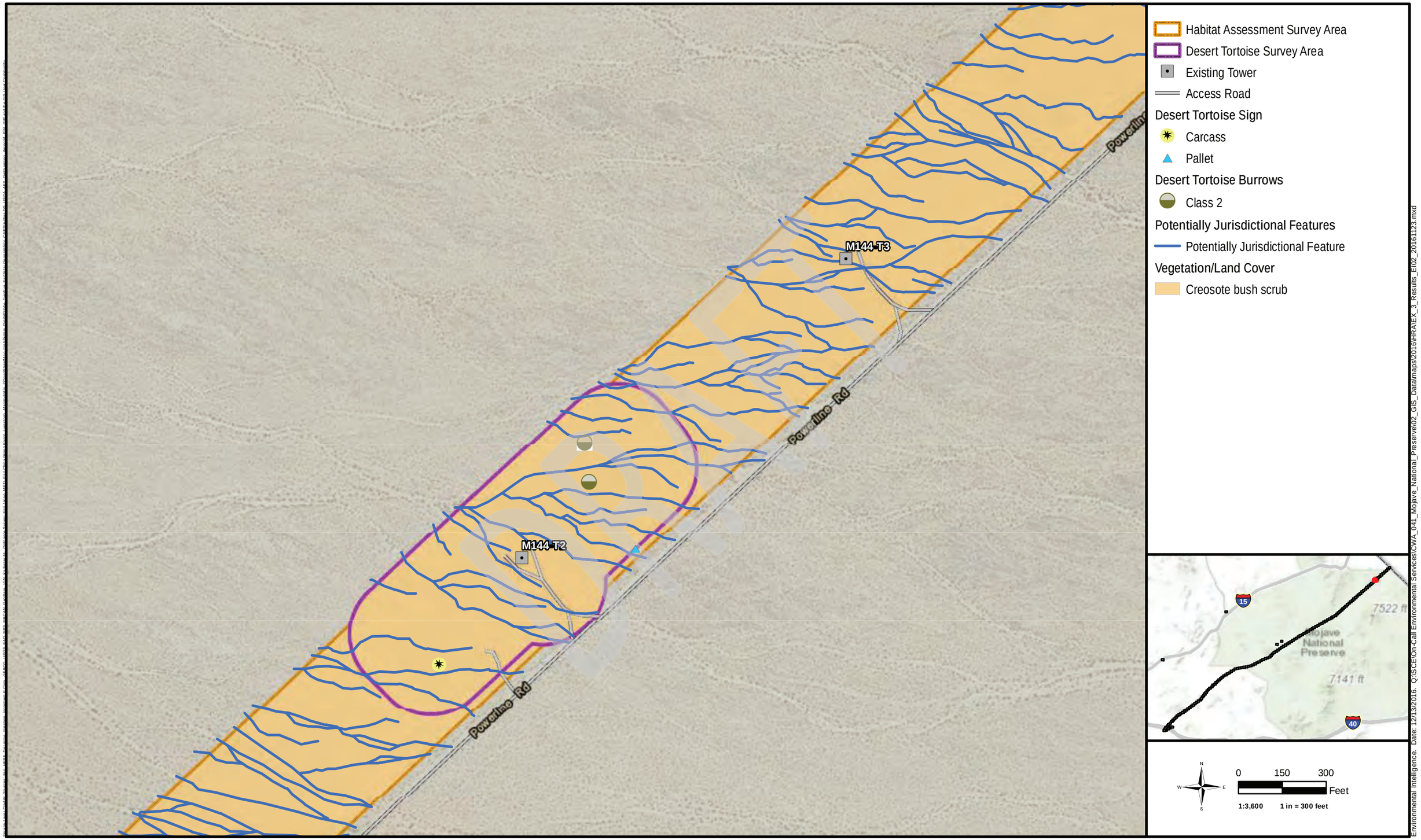

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 129 OF 140)
LVRAS PROJECT | SAN BERNARDINO COUNTY, CA

EXHIBIT 3. SURVEY AREAS AND RESULTS (PAGE 130 OF 140)
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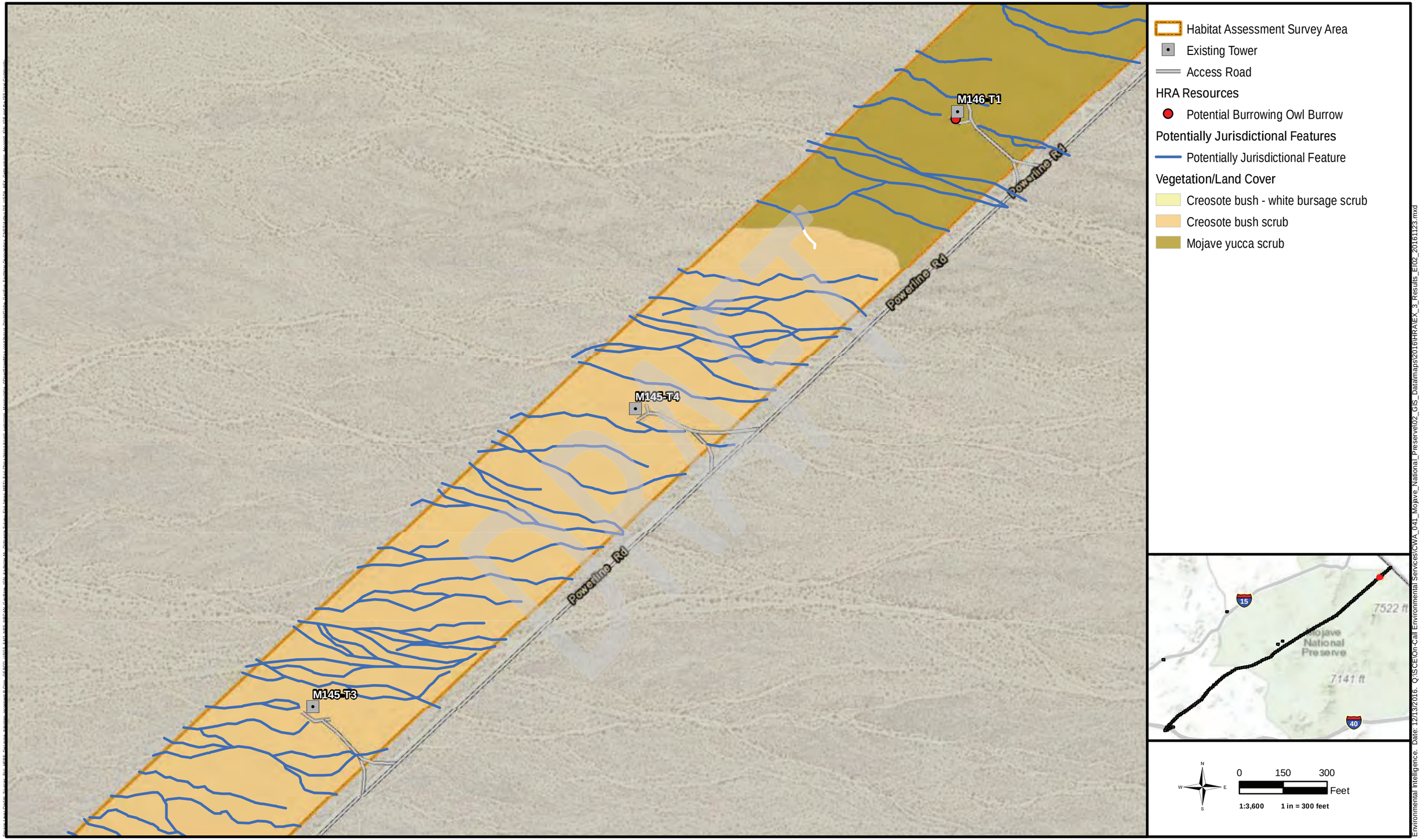

Exhibit 3. Survey Areas and Results (Page 131 of 140)
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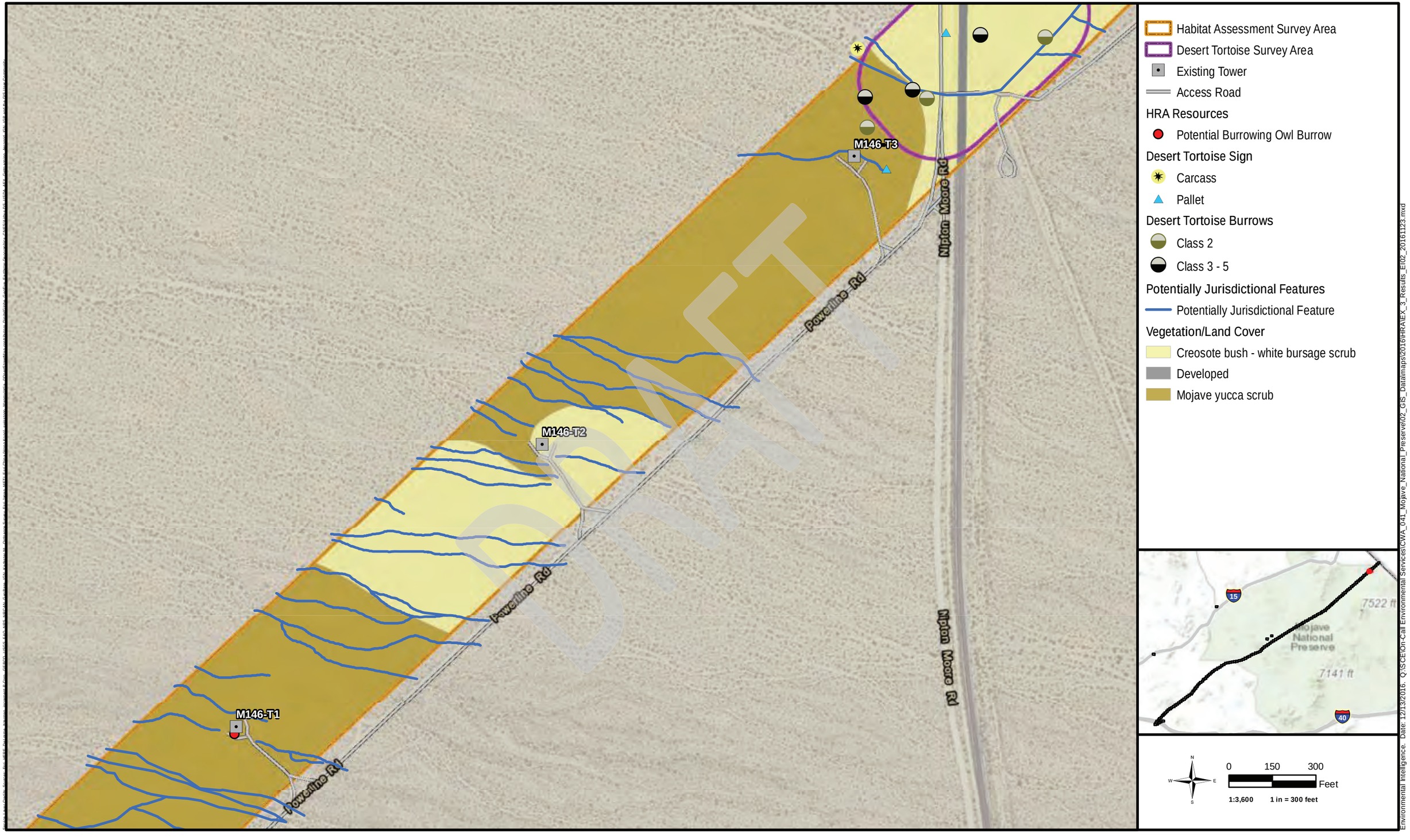
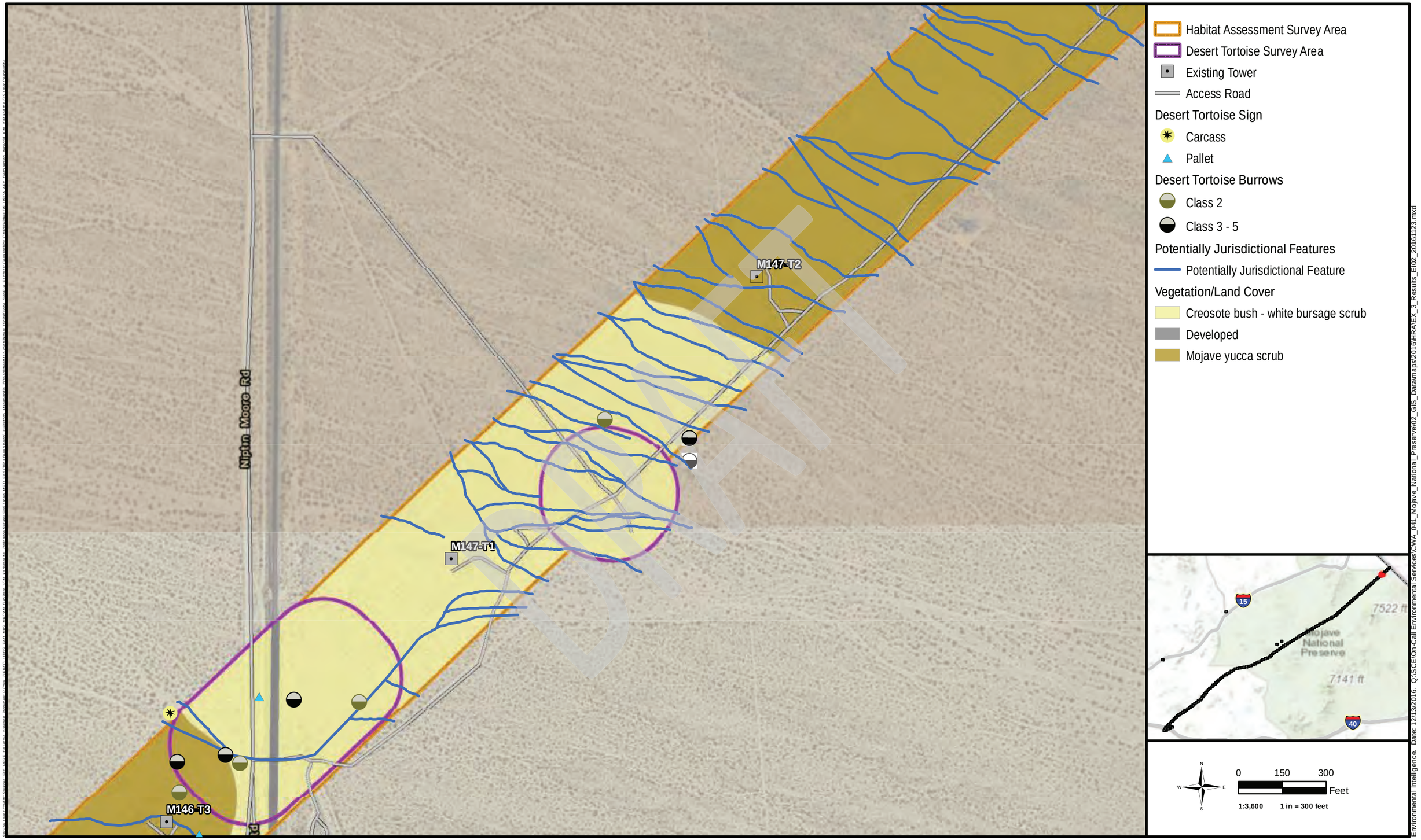
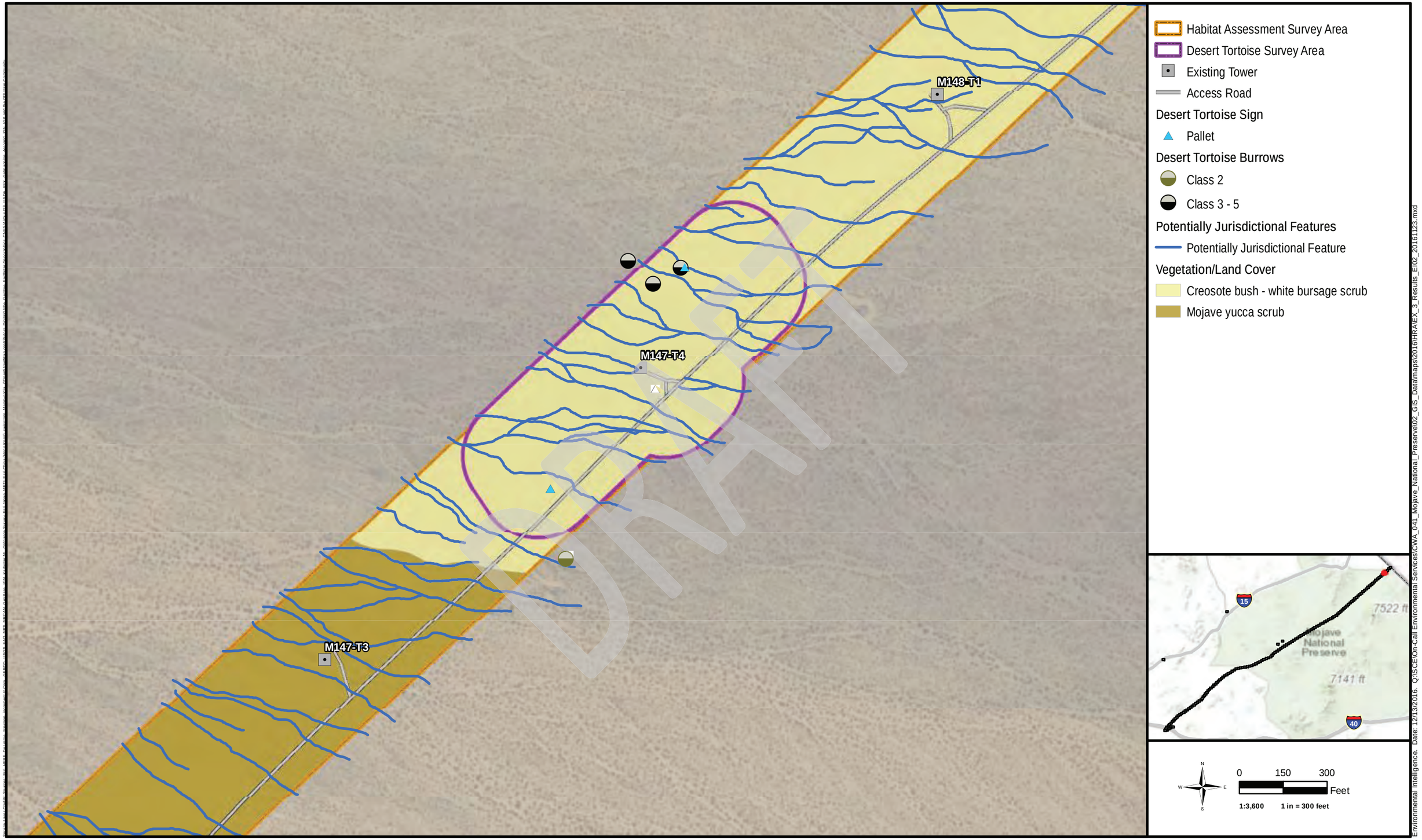
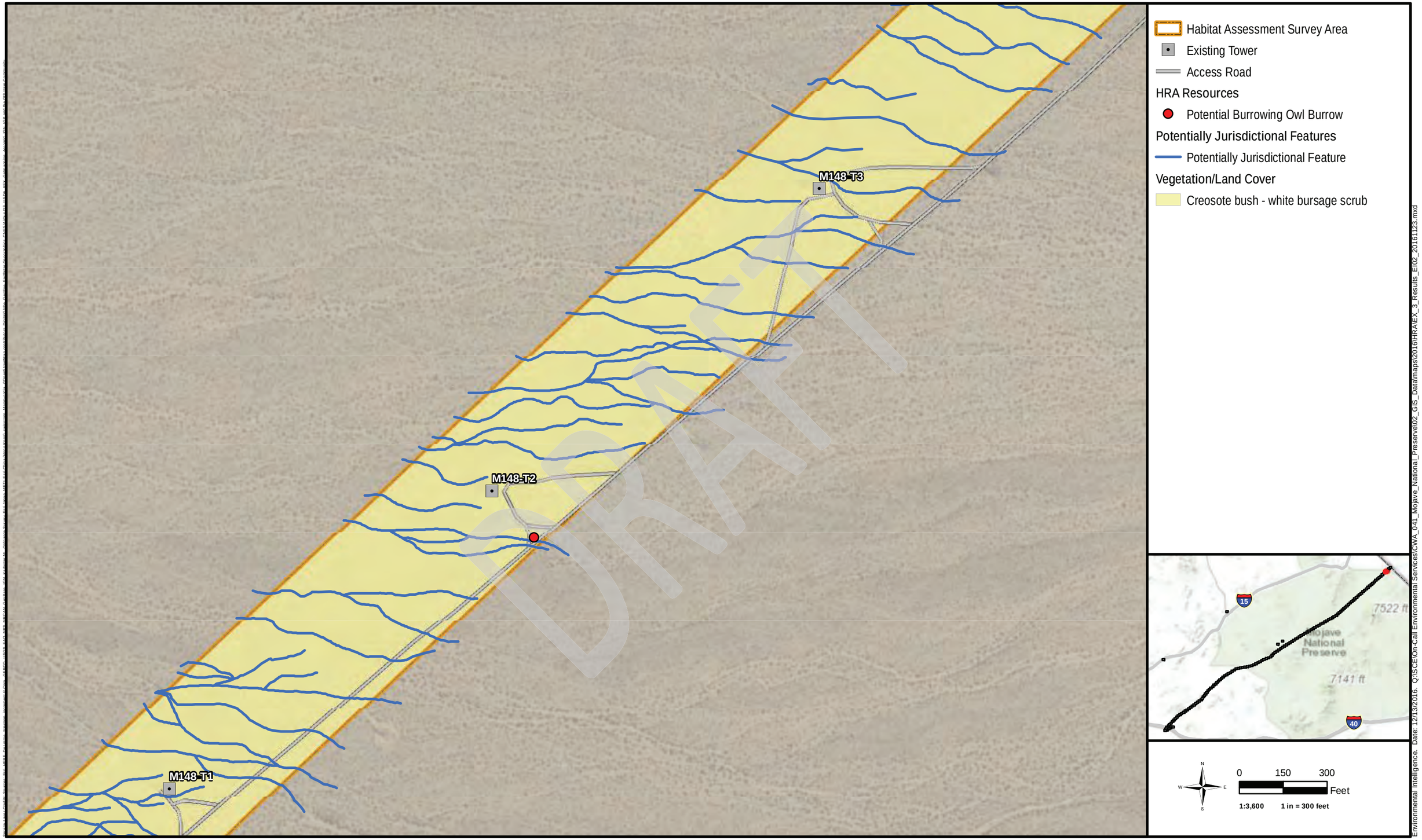
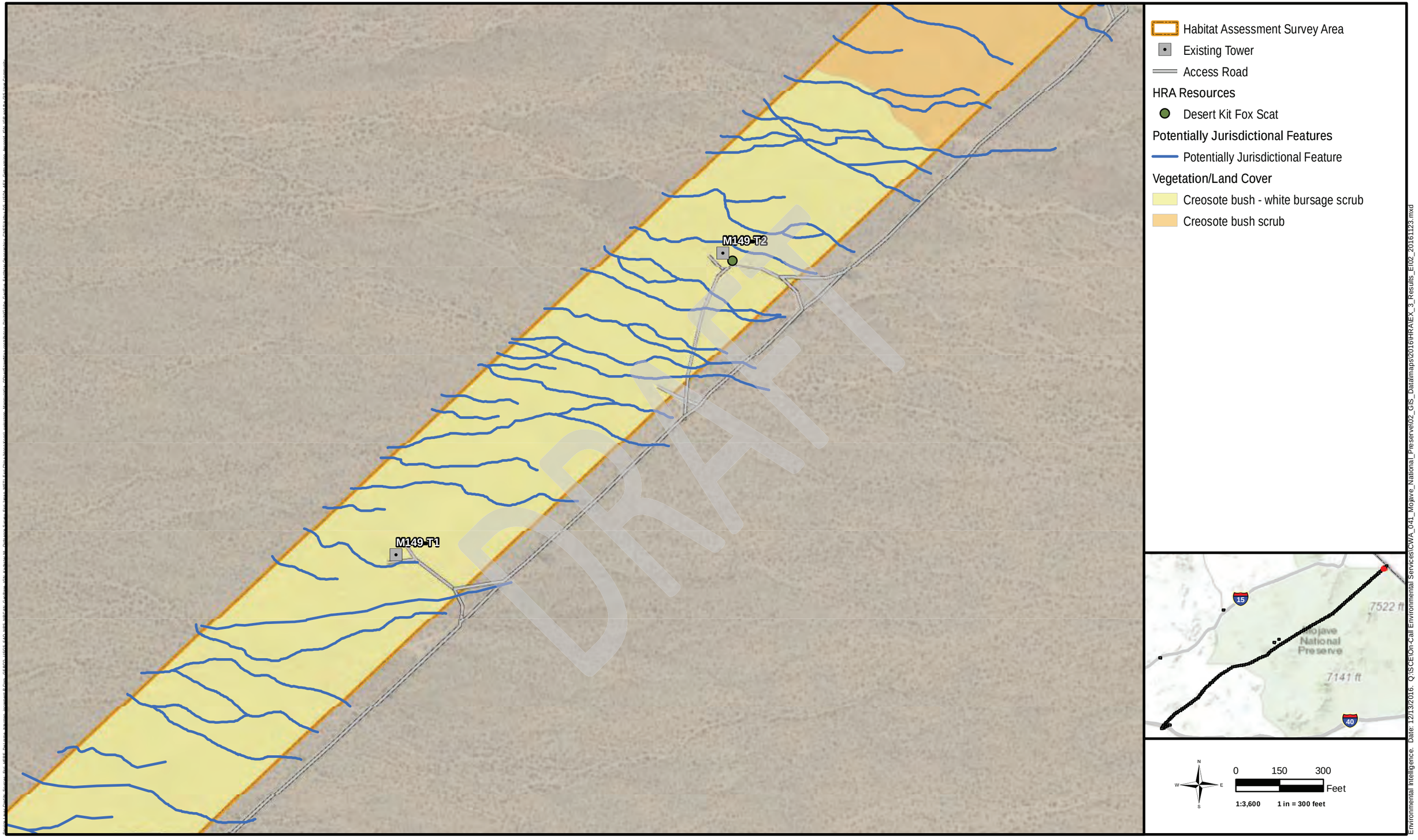
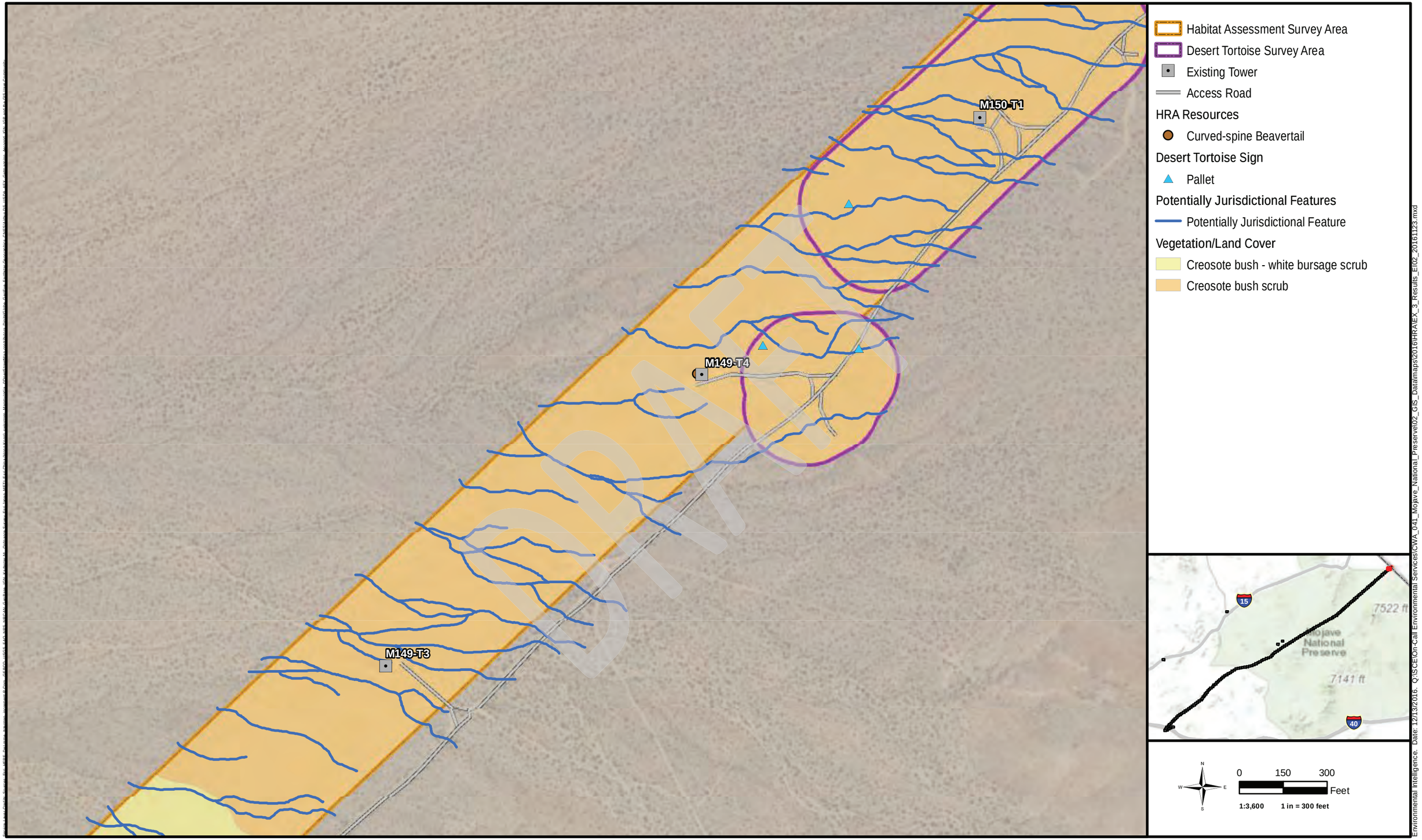

M146-T3
M146-T2
M146-T1
Powerline Rd
Powerline Rd
Powerline Rd
Nipton Moore Rd
Nipton Moore Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Desert Tortoise Sign
Carcass
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Developed
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_Datalmaps\2016\HRA\EX_3_Results_EI02_20161123.mxd

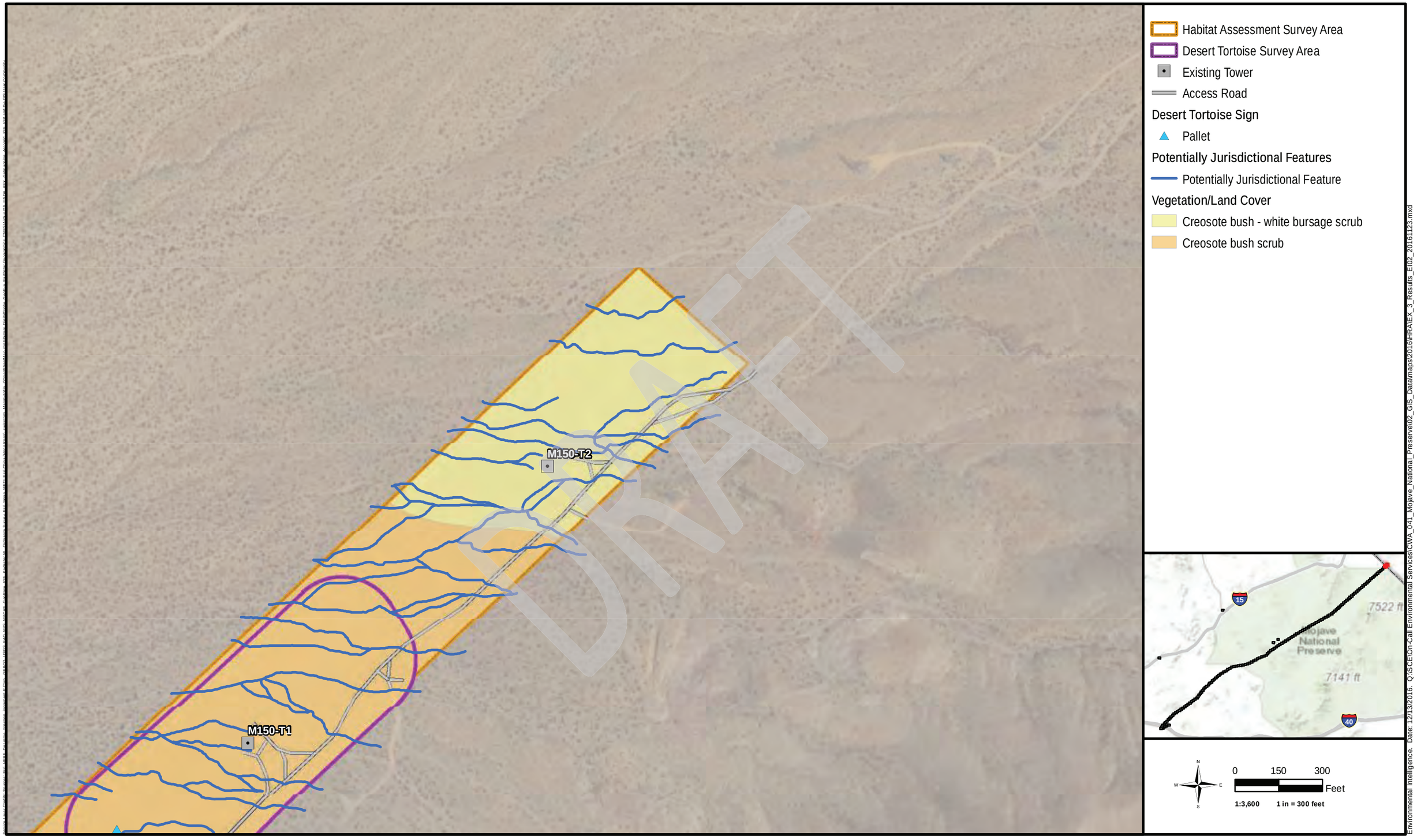

M147-T2
M147-T1
M146-T3
Nipton Moore Rd
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Carcass
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
Developed
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\mxds\2016\HRA\EX_3_Results_EI02_20161123.mxd

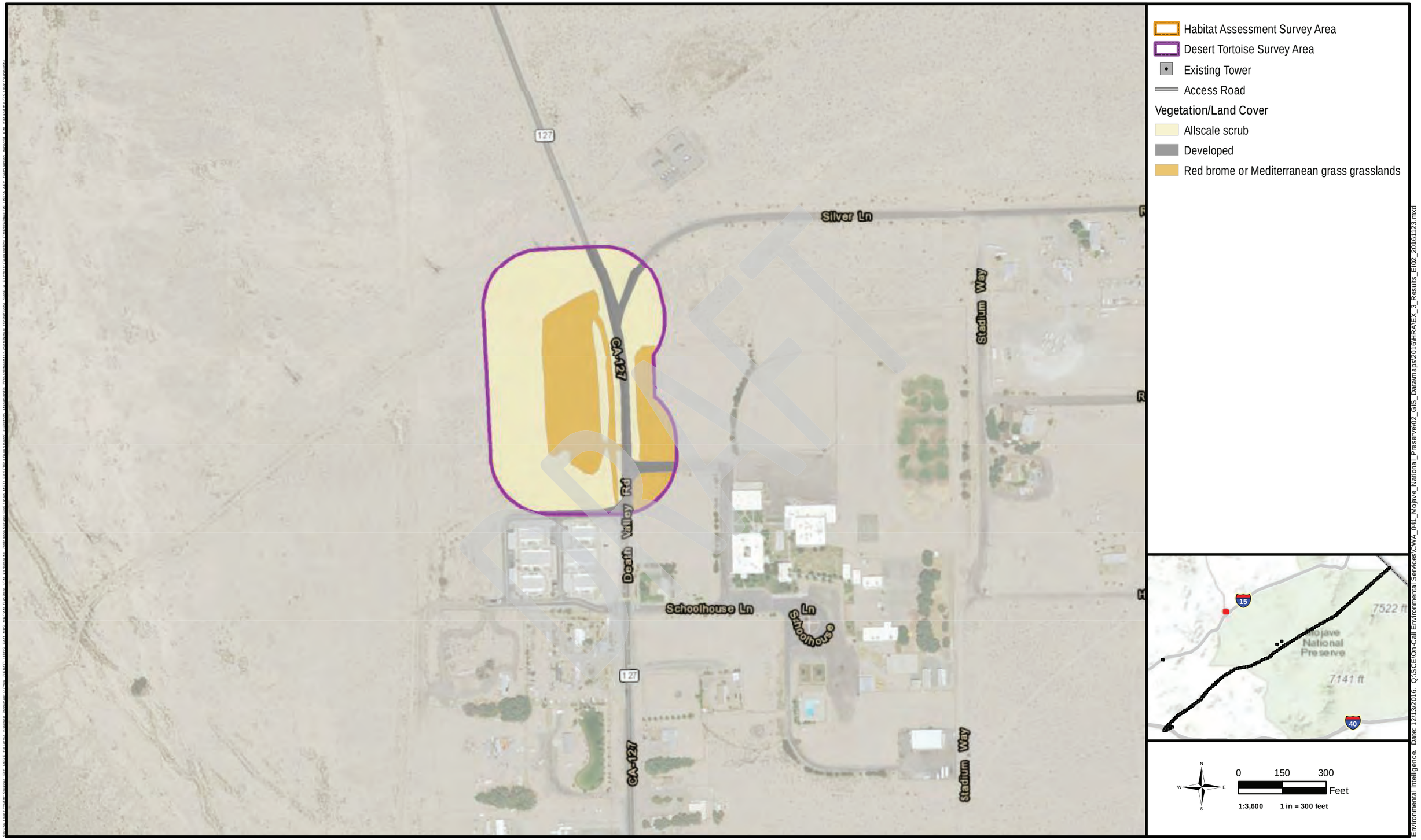

M148-T1
M147-T4
M147-T3
Habitat Assessment Survey Area
Desert Tortoise Survey Area
Existing Tower
Access Road
Desert Tortoise Sign
Pallet
Desert Tortoise Burrows
Class 2
Class 3 - 5
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage 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\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd

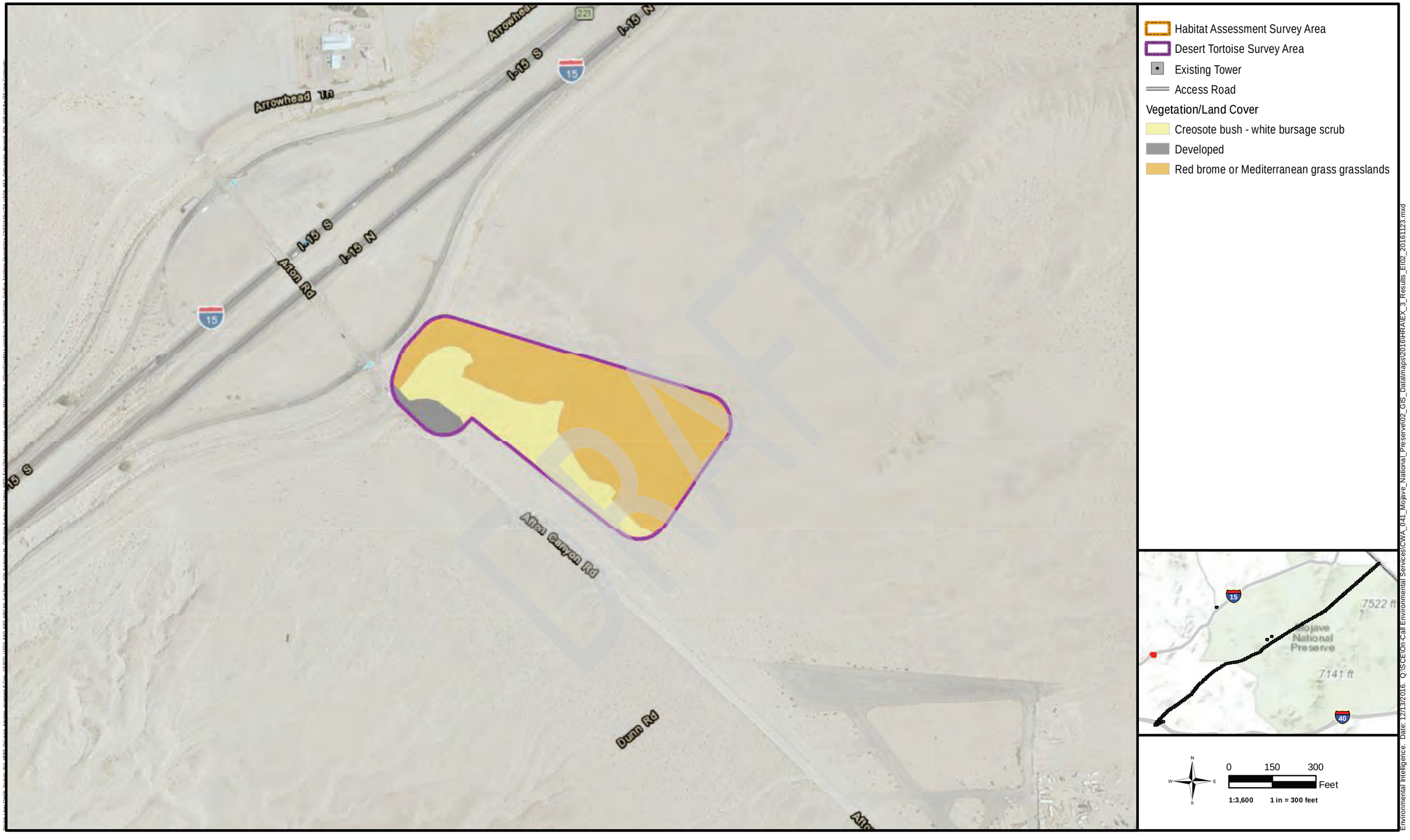

M148-T3
M148-T2
M148-T1
Habitat Assessment Survey Area
Existing Tower
Access Road
HRA Resources
Potential Burrowing Owl Burrow
Potentially Jurisdictional Features
Potentially Jurisdictional Feature
Vegetation/Land Cover
Creosote bush - white bursage scrub
DRAFT
15
40
7522 ft
7141 ft
Mojave National Preserve
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\maps\2016\HRA\EX_3_Results_EI02_20161123.mxd


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
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


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_Ei\02_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



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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.

Appendix D-3

Segment 1 Botanical Resources Survey Report

Environmental Intelligence, LLC

BOTANICAL SURVEY REPORT

GALE TO PISGAH PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared For:

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Date: August 1, 2017

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1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct surveys for special-status plant species on the Gale to Pisgah Project (Proposed Project). The Proposed Project would require installation of new telecommunication lines to connect the Gale Substation to the Pisgah Substation. This report presents the findings of focused surveys for rare plants in suitable habitat within the Proposed Project area.

1.1 Project Location and Description

The Proposed Project is located in San Bernardino County, California, extending east-southeast from Gale Substation (approximately 1 mile ESE of Daggett and 9 miles ESE of Barstow) for approximately 29 miles to Pisgah Substation (Exhibit 1). The Proposed Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Minneola, Newberry Springs, Troy Lake, and Hector. Land surrounding the Proposed Project includes agricultural areas, off-highway vehicle recreation areas, and undisturbed desert scrub habitats. The Proposed Project alignment crosses lands owned by BLM and private landowners (Exhibit 1).

The Proposed Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way. The Gale to Pisgah fiber optic interconnection will support the SCE communication system for the addition of renewable energy generation. This communication system is part of the larger SCE system that provides safe and reliable electrical service consistent with the North American Electric Reliability Corporation, Federal Energy Regulatory Commission, the California Independent System Operators, and SCE's planning design guidelines and criteria. The ADSS is necessary to ensure adequate communication facilities are in place for the Calcite Substation Project, Eldorado-Lugo-Mojave Project, and Lugo-Victorville 500kV Transmission Line Special Protection Scheme (SPS, also referred to herein as Remedial Action Scheme or "RAS") Project.

Overhead ADSS stringing includes all activities associated with the installation of cables onto cross arms on existing wood pole structures. This activity includes the installation of vibration dampeners and suspension and dead-end hardware assemblies. If the existing pole does not meet wind load or ground clearance requirements with the addition of the fiber cable, distribution line poles will be modified or interset poles will be installed.

Existing access roads will be used to the extent feasible for construction of the Proposed Project; where needed, these roads will be improved within the existing road prism. Existing access roads will be maintained to allow the use of construction equipment. Some road modifications to existing access roads may be required to allow safe use of heavy equipment. At the conclusion of Project construction, all roads utilized for construction purposes will be left in a condition similar to the condition that existed prior to the start of construction. Loose rock and slide material will be removed, if possible, from existing roads and used to construct road dikes, fill washouts, or flatten fill slopes. All washouts, ruts, and irregularities within the construction area will be filled or removed.

The Proposed Project Survey Area includes 488 existing distribution pole sites, two material laydown yards, and two existing substations (Exhibit 2).

2.0 METHODS

2.1 Literature Review

Prior to the initiation of the field surveys described in this report, several sources of available data were used to identify known and potential biological resources within the Project region, including published literature, field guides, previous site surveys, and public data sets. The information presented in this analysis was obtained from the following sources:

- The California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Wildlife (CDFW), quad-level species occurrence information (CDFW 2017);
- The California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2017);
- Consortium of California Herbaria (CCH 2017);
- U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) data (Natural Resources Conservation Service [NRCS] 2017);
- U.S. Fish and Wildlife Service (USFWS 2017) county-level species occurrence information;
- USGS topographic maps;
- USFWS Critical Habitat designations;
- BRC Equals 3, Inc. 2016 Habitat Assessment: Calcite Substation Project (BRC 2016a); and
- BRC Equals 3, Inc. 2016 Botanical Report: Calcite Substation Project (BRC 2016b).

All plant species, as described by the CNDDB, within eight USGS 7.5-minute quadrangles and centered on the Proposed Project location (i.e., Nebo, Yermo, Daggett, Minneola, Newberry Springs, Troy Lake, Hector, and Sleeping Beauty Quadrangles) were selected as potential focal survey species (Exhibit 3). A list of the special-status plant species identified by the literature search is provided as Appendix A. Special-status plants include those with federal, state, or local designations or California Rare Plant Rank (CRPR). The botanical surveys were comprehensive and floristic in nature and were not restricted to, or focused only on, this list.

2.2 Regulated Species

The database search and literature review identified 10 special-status plant species occurring or having the potential to occur in the vicinity of the Proposed Project (Appendix A). Of these, none were federal and/or state-regulated species (i.e., Endangered or Threatened).

2.3 Taxonomy and Vegetation Classification

Plant taxonomy follows The Jepson Manual (Baldwin et al. 2012). Common plant names, where not available from Baldwin et al. 2012, are taken from Abrams (1923, 1944, 1951), Abrams and Ferris (1960), Beauchamp (1986), Munz (1974), CNPS (2017), or Simpson and Hasenstab (2009). Vegetation classification follows the system described in a Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). Scientific names are mentioned once in the text and common names are used thereafter.

This vegetation classification system is the preferred system of the California Native Plant Society and the California Department of Fish and Wildlife's Vegetation Classification and Mapping Program, and allows for direct comparisons with other classification systems (e.g., Holland 1986). For species unidentifiable in the field, biologists took reference specimens for later identification.

2.4 Existing Vegetation

Eleven vegetation communities/land cover types, including three sensitive vegetation communities, one sensitive land cover type, and seven non-sensitive vegetation communities/land cover types were previously documented and mapped during habitat assessment studies (BRC 2016a; Exhibit 2). Desert saltbush (*Atriplex polycarpa*) scrub is dense along the middle portion of the Proposed Project alignment, mesquite thicket (*Prosopis glandulosa*) woodland is scattered across desert riparian areas within the alignment, and bush seepweed (*Suaeda moquinii*) scrub is present along the eastern portion of the alignment. Alkali playa is a sensitive land cover type that occurs in dry lake beds along the eastern portion of the alignment. Descriptions of the communities can be found in the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). A description of the land cover types is provided below.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND RARITY

Vegetation Community / Land Cover Type and Rarity[1]
Sensitive Vegetation Communities
Atriplex polycarpa (Allscale scrub) Shrubland Alliance – Desert Saltbush Scrub (36.340.00) G2 S2
Prosopis glandulosa (Mesquite thicket) Woodland Alliance (61.512.00) G5 S3
Suaeda moquinii (Bush seepweed scrub) Shrubland Alliance (36.200.00) G5 S3
Non-sensitive Vegetation Communities
Atriplex canescens (Fourwing saltbush scrub) Shrubland Alliance (36.310.00) G5 S4
Atriplex confertifolia (Shadscale scrub) Shrubland Alliance (36.320.00) G5 S4
Larrea tridentata (Creosote bush scrub) Shrubland Alliance (33.010.00) G5 S5
Larrea tridentata-Ambrosia dumosa (Creosote bush-white bursage scrub) Shrubland Alliance (33.140.00) G5 S5
Tamarix ssp. (Tamarisk thicket) Shrubland Semi-Natural Alliance (63.810.00)
Land Cover Types
Agriculture
Alkali Playa Community G4 S3
Developed

[1]Rarity and Global/State Ranks: One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. Alliances with State ranks of S1-S3 are considered to be highly imperiled.

Agriculture

Agricultural lands are used primarily for production of food and fiber. Such areas include croplands, pastures, orchards, groves, vineyards, nurseries, ornamental horticultural areas, confined feeding operations, and other agricultural land.

Alkali Playa Community

Alkali playa is a rare community of habitats that are intermittently flooded or saturated. Examples include dry lake beds and margins, hummocks, lagoon bars, old lake beds perched above current drainages, and seeps (Holland 1986).

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.

2.5 Special-Status Plant Surveys

Timing of the surveys took into consideration documented phenology for the target species, reference populations, and weather data. The closest weather data center (Station #042257) was located approximately 0.5 miles north of the Proposed Project area at Daggett Airport, California. Weather data were obtained from the Western Regional Climate Center (WRCC) and the National Oceanic and Atmospheric Administration's (NOAA) National Climate Data Center (NCDC). Thirty-Year Climate Normals for Daggett Airport averaged 3.13 inches of precipitation during October through June (WRCC 1981-2010). For the 2016-2017 hydrological year, total precipitation was 58 percent above average (4.95 inches) in Mojave Valley from October through June (NCDC 2017). Due to increased precipitation levels during the current hydrological year, plant species were expected to be robust and have a longer than usual blooming period.

Prior to onsite surveys, botanists visited reference populations for target special-status species to ensure that these species: i) emerged (if annuals), ii) showed phenological traits (e.g., fruits, flowers, etc.) necessary for identification, and/or iii) were readily identifiable with all botanists who may have less familiarity with a given species. A list of all reference population locations and results is provided below in Table 2.

TABLE 2: REFERENCE POPULATIONS SUMMARY TABLE

Species	General Location	Date Visited	Status
Small-flowered androstephium (*Androstephium breviflorum*)	Ivanpah Dry Lake Playa, 2 miles SW Primm, NV	4/17/2017	Blooming, readily identifiable
Clokey's cryptantha (*Cryptantha clokeyi*)	Powerline Road, Lucerne Valley, CA	4/26/2017	Blooming, fruiting, readily identifiable
Mojave menodora (*Menodora spinescens* var. *mohavensis*)	North of Ord Mt. along Camp Rock Rd.	4/26/2017	Blooming, readily identifiable
Mojave monkeyflower (*Mimulus mohavensis*)	Ord Mountain Road/Daggett Wash, Barstow, CA	4/26/2017	None identified
White margined beardtongue (*Penstemon albomarginatus*)	Needles Fwy, Pisgah, CA	4/26/2017	None identified

Following verification at these reference populations, pedestrian surveys for special-status plant species were conducted from April 25 to May 1 and May 30 to June 1, 2017 by qualified botanists Doug Gordon-Blackwood, Ron Clark, Kevin Thomas, Nicole Nesball, Ben Madden, Kristofer Robison and Renee Robison. This botanical survey was conducted following the CDFW Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFW 2009) and the CNPS Botanical Survey Guidelines (CNPS 2001). The survey area was defined by a 20-foot buffer around the Proposed Project pole sites and on either side of the centerline for underground work (Exhibit 2). Surveys were conducted by walking transects over the survey areas to ensure thorough coverage, noting all observed plant taxa. Focused attention, including the use of denser transect lines, was given to areas with higher potential habitat for special-status plant species. Care was taken to thoroughly search all unique features, soils (Exhibit 4), and habitats encountered that could have a higher probability for occurrence of sensitive species. Within private property along the survey area where no access was available, surveyors used binoculars to visually assess the area for rare plants. Plants were counted individually whenever possible. When the population size, density, or other factors rendered a census impractical, counting plants in one or more representative square meter areas, and multiplying by the estimated area of the population was used to estimate the number of individuals. Photographs of special-status taxa and habitat conditions are included in Appendix C. The locations of all special-status species were mapped in the field using a Garmin recreational Global Positioning System (GPS) hand-held unit and on aerial photograph field maps.

3.0 RESULTS

Early and late growing season botanical surveys were conducted within the Proposed Project survey area on multiple days. Performing multiple surveys over the course of the growing season is critical for the detection of special-status plants. Reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, however there is always a potential for a false negative survey result as species may be present on-site but not be detectable, or populations may be limited in extent due to climate conditions. New occurrences were documented for special-status plant species during each survey visit. Survey dates and times are summarized below in Table 3.

TABLE 3: SURVEY DATES AND TIME

Date (2017)	Survey (Survey Type)	Survey Hours	Biologist[1]
April 25	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 26	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 27	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 28	Early Growing Season	07:00-17:00	DGB, BM, KT, NN
May 1	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
May 30	Late Growing Season	07:00-17:00	KR, RR
May 31	Late Growing Season	07:00-17:00	KR, RR
June 1	Late Growing Season	07:00-17:00	KR, RR

[1] DGB – Doug Gordon Blackwood, RC – Ron Clark, BM – Ben Madden, KT – Kevin Thomas, NN-Nicole Nesball KR – Kristofer Robison, RR – Renee Robison

The botanical surveys resulted in the detection of 94 plant species, of which 11 are non-native (Appendix B). Two special-status plant species, Crucifixion thorn (*Castela emoryi*, CRPR 2B.2) and Utah vine milkweed (*Funastrum utahense*, CRPR 4.2), were incidentally observed outside the survey area. Descriptions of the observed special-status plant species are provided below.

3.1 Crucifixion Thorn (*Castela emoryi,* CRPR 2B.2)

Crucifixion thorn is a perennial shrub that typically blooms between June and July. This species is typically associated with gravelly soils in creosote bush scrub at elevations between 295 to 2495 feet. One individual was documented on Halloran sandy loam soil 100 feet outside the Proposed Project survey area north of U.S. Route 66 (Exhibit 5, Page 1). Associated plant species included creosote bush.

3.2 Utah Vine Milkweed (*Funastrum utahense,* CRPR 4.2)

Utah vine milkweed is a perennial herb that typically blooms between April and June. This species is typically associated with creosote bush scrub at elevations between 490 to 4,365 feet. Twenty-five individuals were documented on desert sand-dune soil at one discrete location approximately 50 feet outside the survey area north of U.S. Route 66 and Interstate 40 (Exhibit 5, Page 2; Appendix C, Photo 4). Associated plant species included native creosote bush and white bursage, and non-native Saharan mustard (*Brassica tournefortii*).

3.3 White-Margined Beardtongue (*Penstemon albomarginatus,* CRPR 1B.1)

White-margined beardtongue is a perennial herb that typically blooms between March and May. This species is typically associated with desert sand, generally on stabilized dunes with creosote bush scrub at elevations between 2300 – 3000 feet. CNDDB records for this species (2005-2010) occur within 500 feet of the southern Project survey area near I-40 and Pisgah. The species was not detected during the reference site visit at record locations. While surveys were conducted during the appropriate blooming season, the lack of observations at the reference population suggests that there is a possibility that the species may be present but not detectable at the time of survey.

4.0 SUMMARY

EI conducted systematic searches for special-status plant species within the survey area. No special-status plant species were identified within the survey area. One rare plant species (White-Margined Beardtongue) was absent from reference population locations and may not have been visible during surveys. Nevertheless, based on the phenological characteristics of other species with similar blooming periods and observed during surveys and the identification of new and expanded special-status plant populations, the targeted plant species were expected to be evident and observable during this year's survey periods.

ENVIRONMENTAL INTELLIGENCE

Travis Kegel – Project Manager

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Legend

- Project Alignment
- Material Laydown Yard

N
W E
S

0 1.5 3 Miles

1:200,000 1 in = 3 miles

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 6/28/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_1_Project_Vicinity_EI02_20170626.mxd

Exhibit 1. Project Vicinity

Gale To Pisgah Project | San Bernardino County, CA

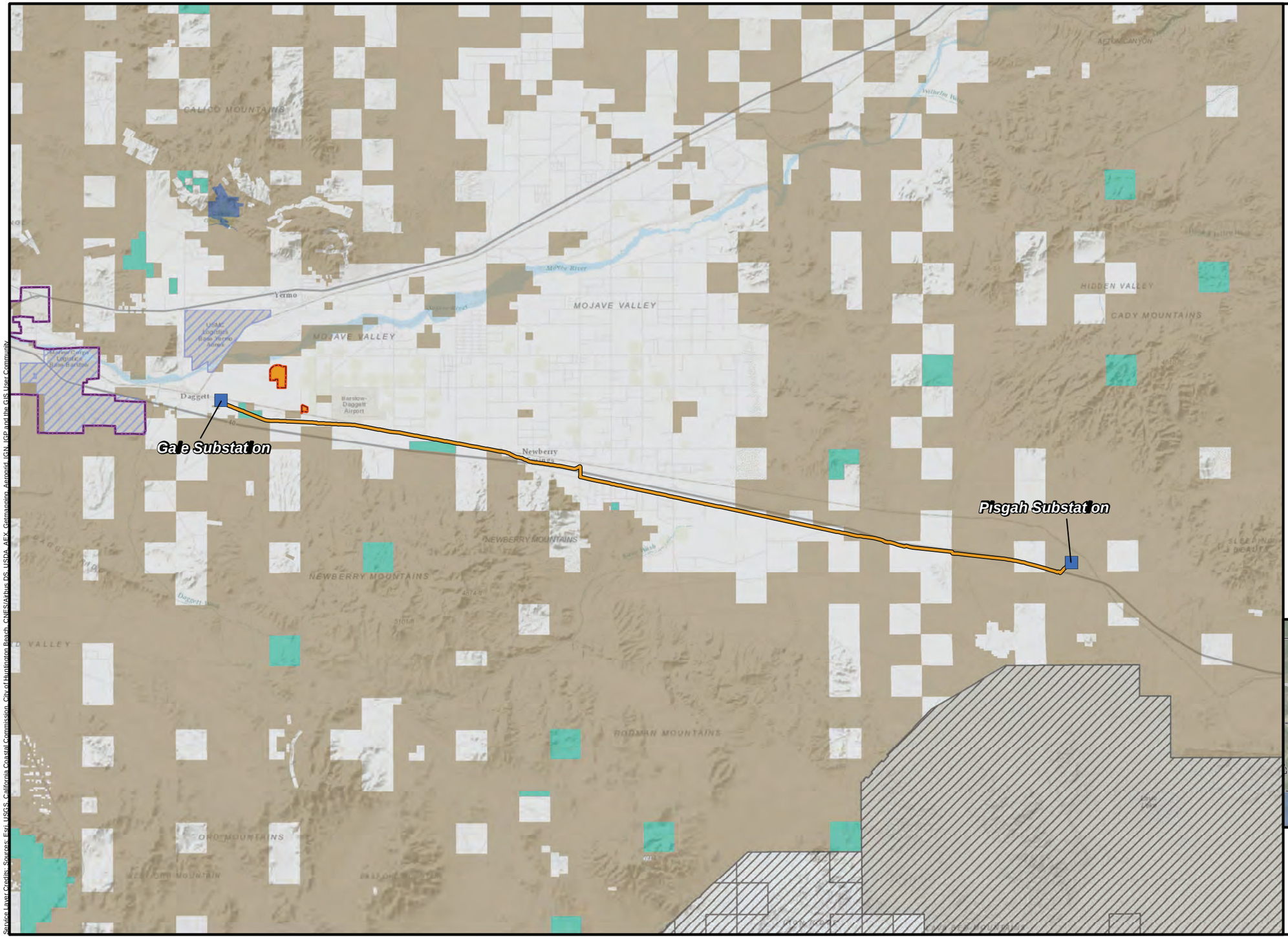

Exhibit 2. Land Use
Gale To Pisgah Project | San Bernardino County, CA


Santa Fe St
Santa Fe St
Santa Fe St
National Trails Hwy
National Trails Hwy
National Trails Hwy
National Trails Hwy
40
40
bing
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Underground Work Area
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

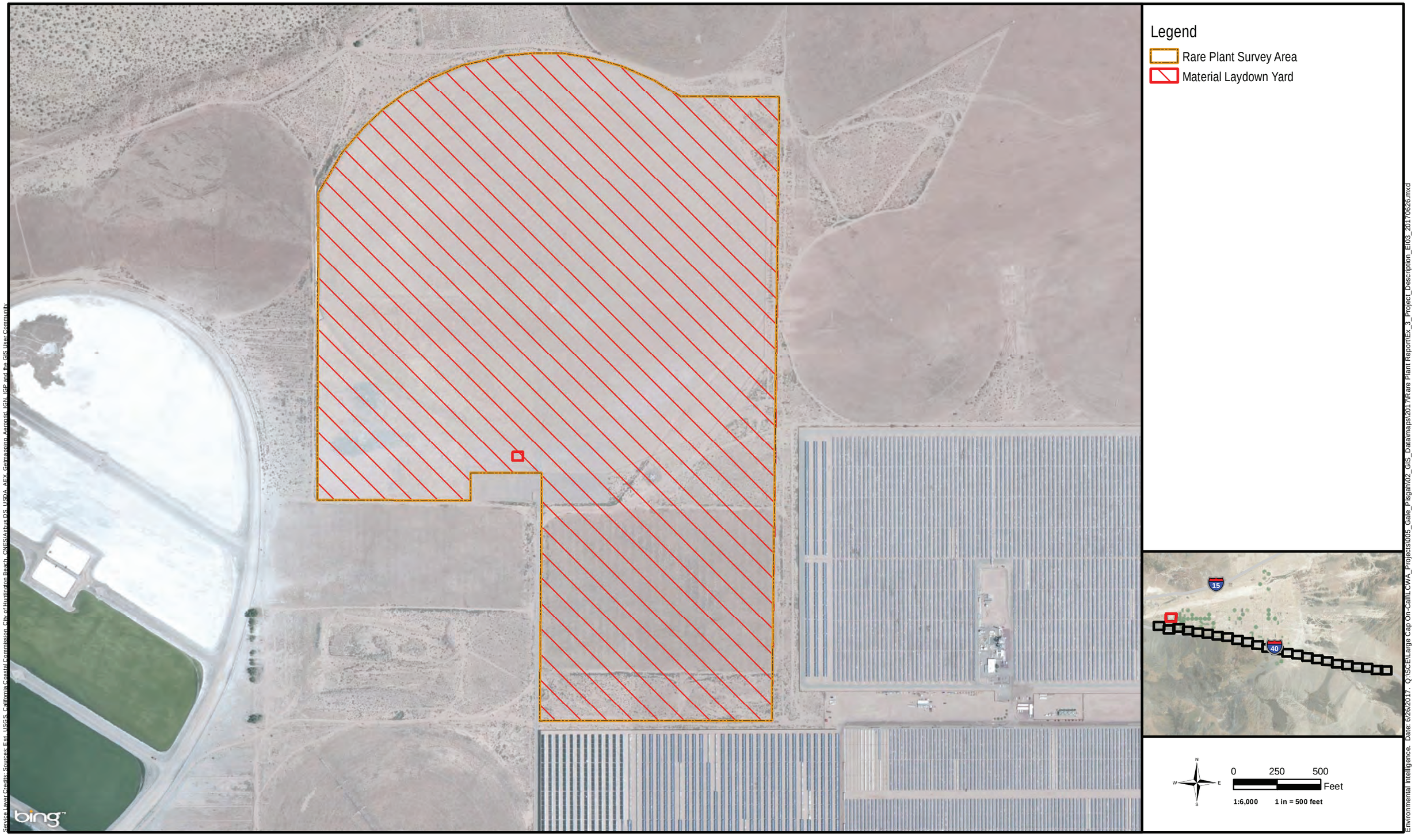
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Legend
Rare Plant Survey Area
Material Laydown Yard
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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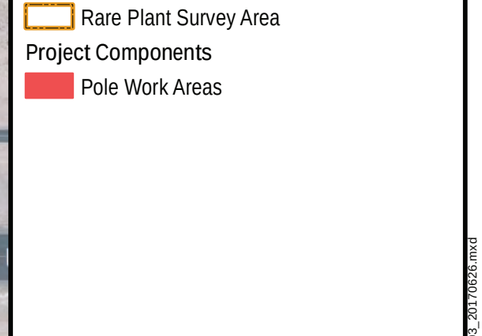
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



N
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0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\Ex_3_Project_Description_EI03_20170626.mxd


UNICOM123D
National Trails Hwy
Burlington Northern Santa Fe
National Trails Hwy
National Trails Hwy
Elkhorn St
Mimosa Rd
40
40
40
bing
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

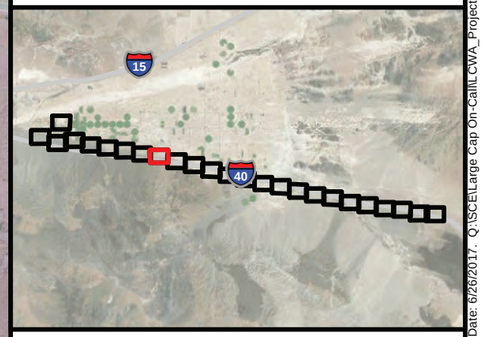
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



N
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E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNEST/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

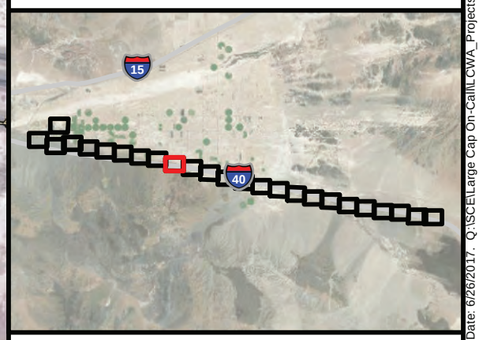
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\Ex_3_Project_Description_EI03_20170626.mxd

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNEIS/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Mountain View Rd
Pioneer Rd
I-40 W
I-40 E
National Trails Hwy
bing
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pull Sites

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

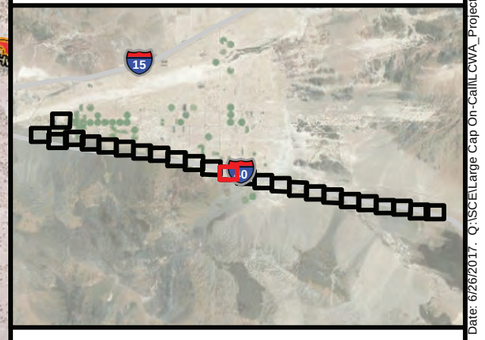
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
I-40 W
I-40 E
Lake Irene Dr
Fort Cady Rd
Memorial Dr
Calico St
Old St
Trails Hwy
National Trails Hwy
Horner St
Pisgah St
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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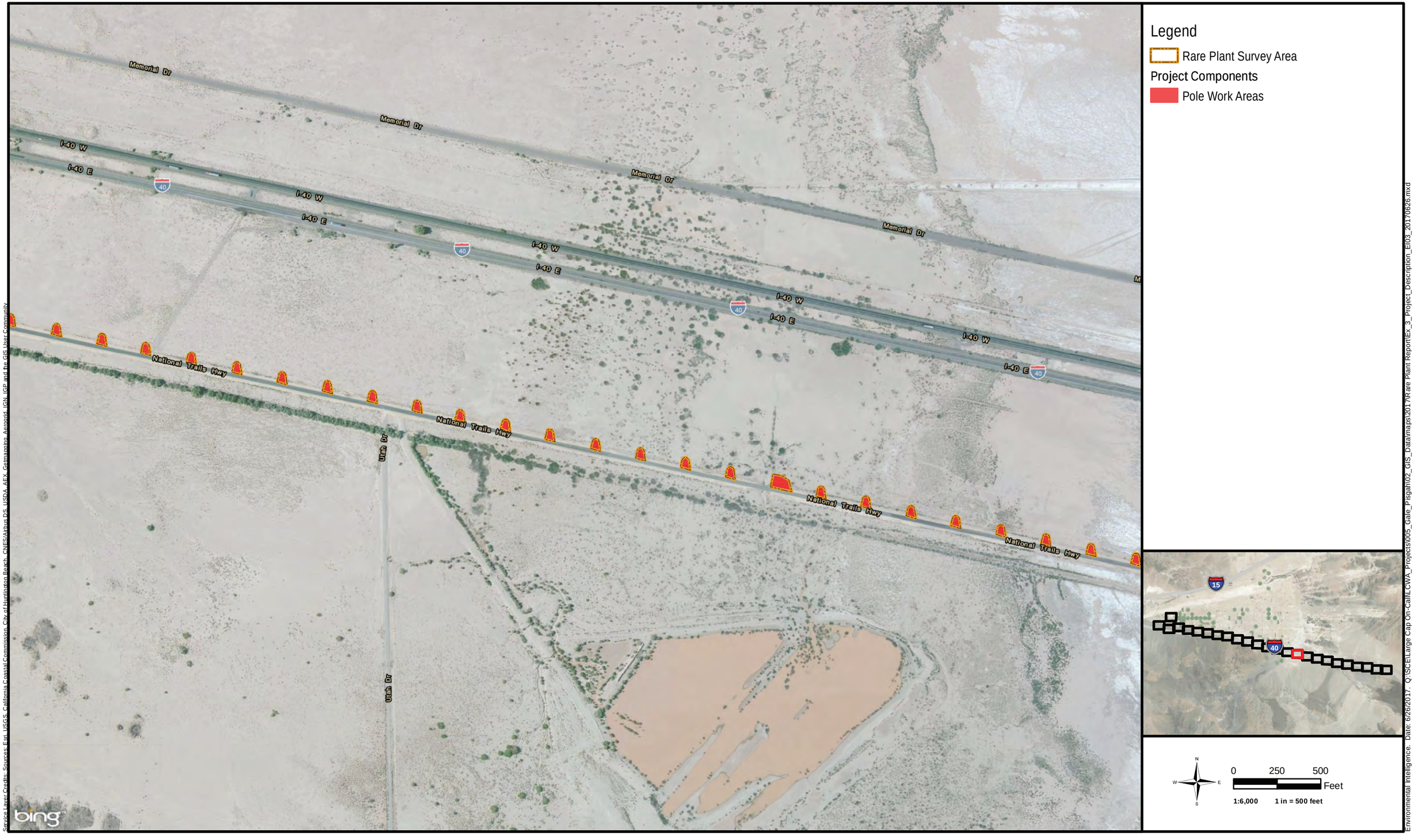
Memorial Dr
I-40 W
I-40 E
National Trails Hwy
Berry Rd
Janey Ln
bing
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Underground Work Area
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Memorial Dr
I-40 W
I-40 E
National Trails Hwy
Utah Dr
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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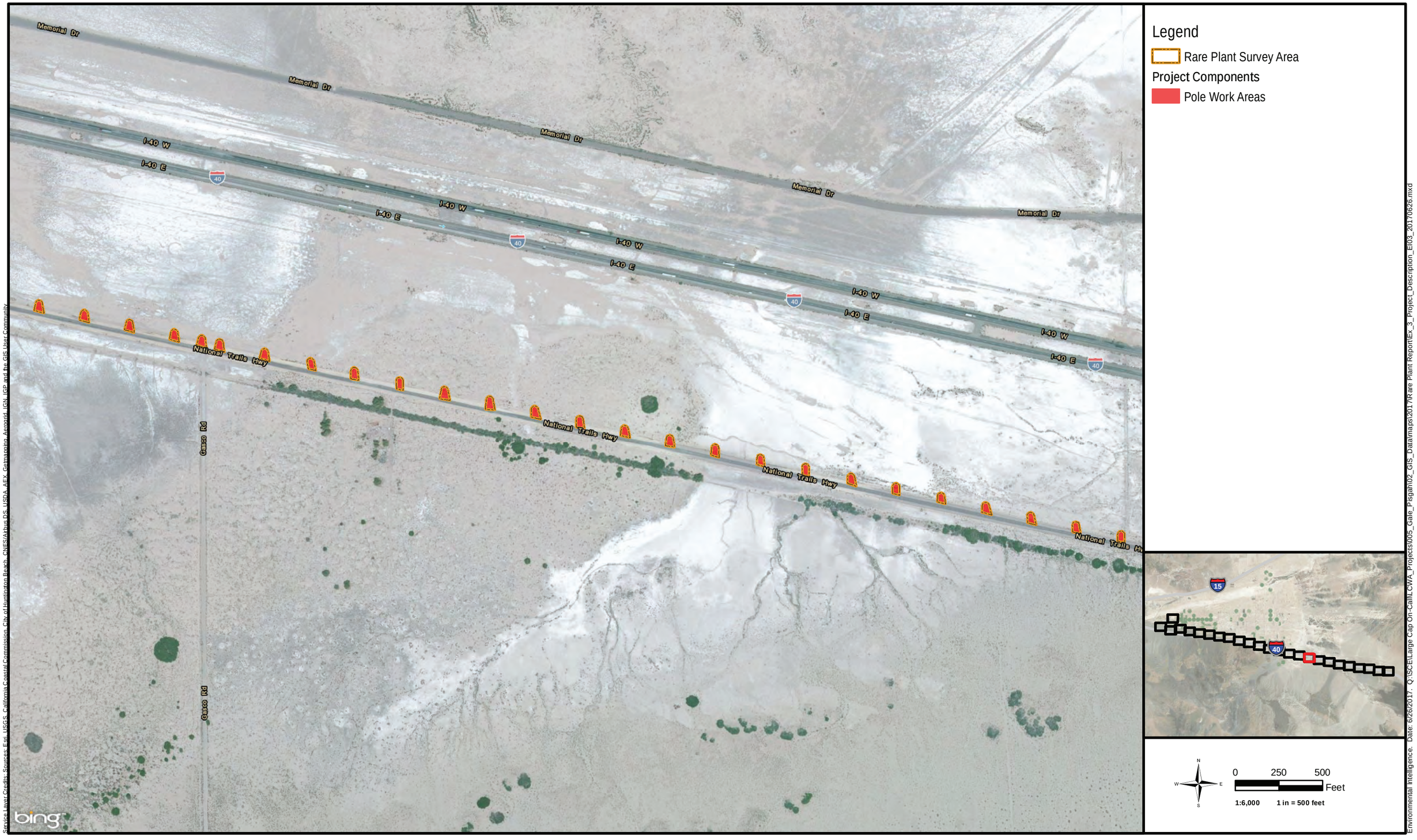
Memorial Dr
I-40 W
I-40 E
National Trails Hwy
Cisco Rd
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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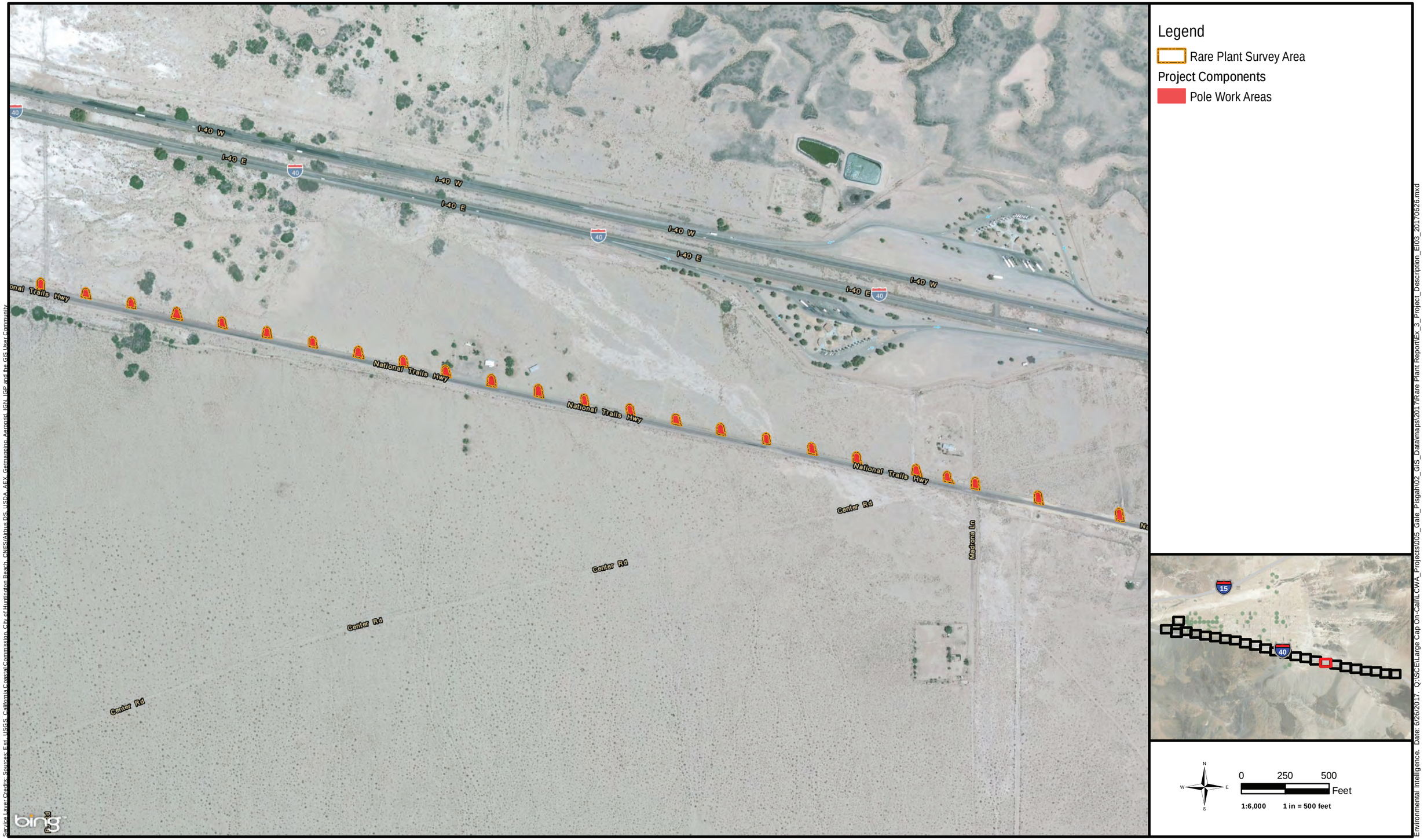
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
I-40 W
I-40 E
National Trails Hwy
Center Rd
Madrona Ln
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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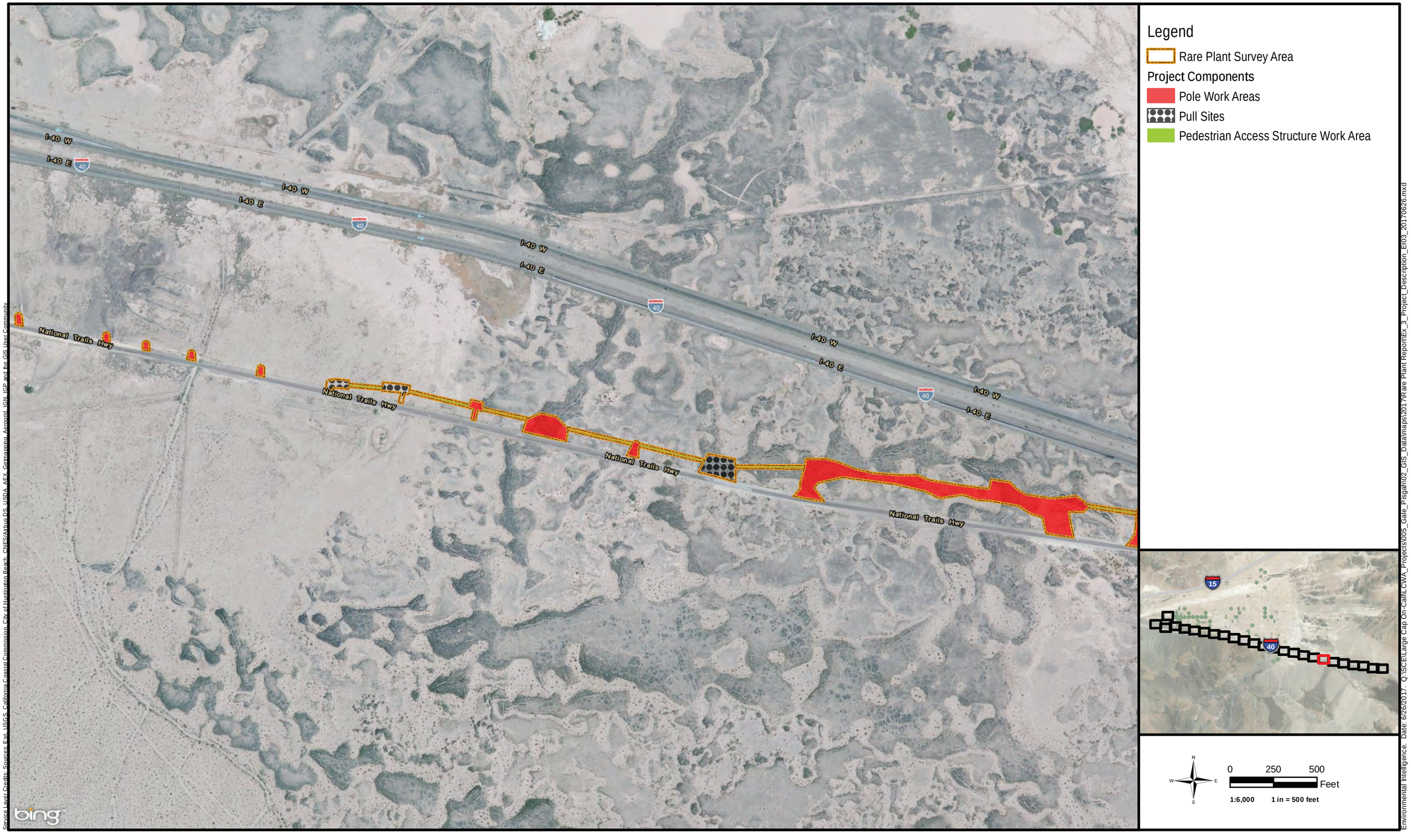
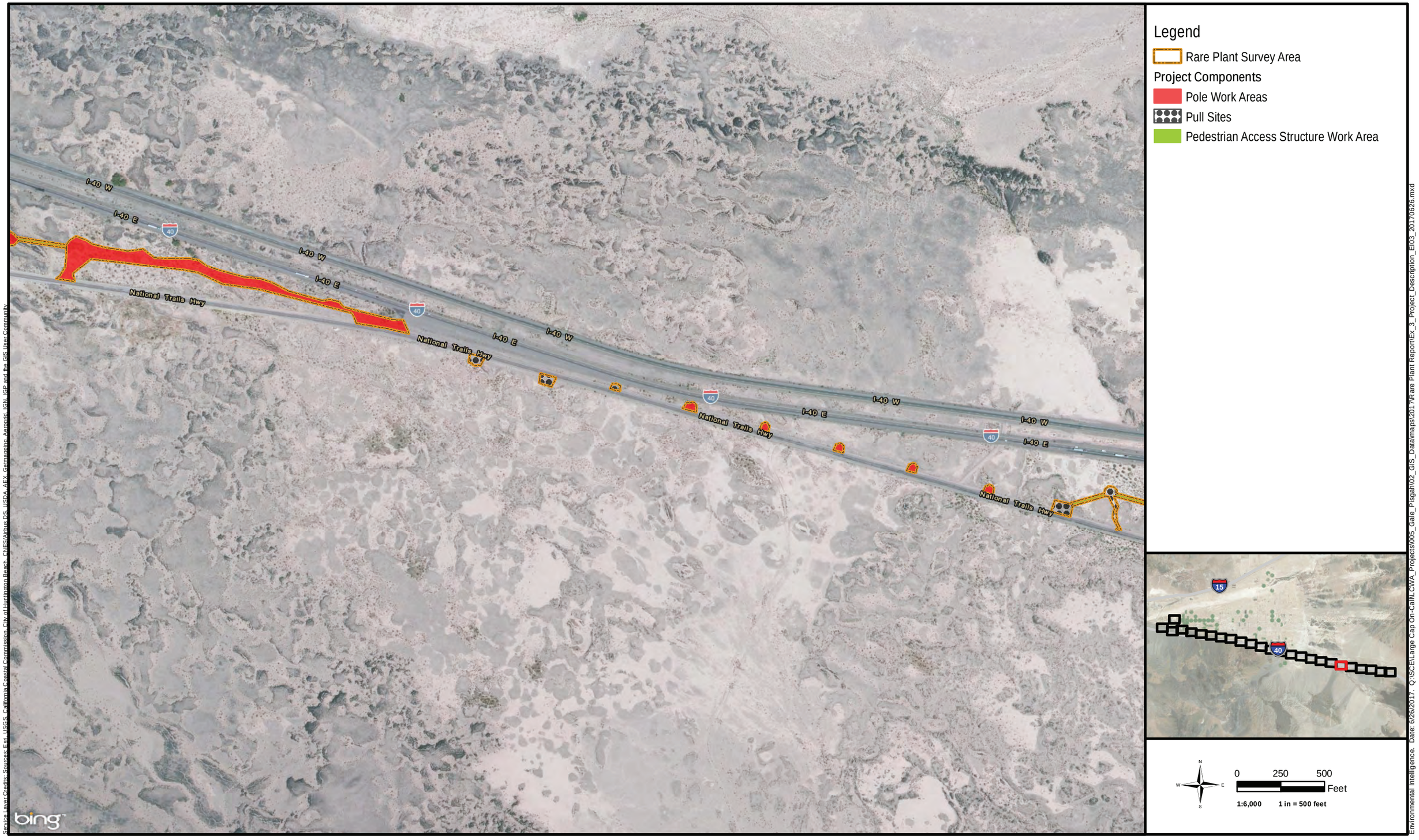

Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
I-40 W
I-40 E
National Trails Hwy
0
250
500
Feet
1:6,000
1 in = 500 feet
N
S
E
W
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


I-40 W
I-40 E
National Trails Hwy
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
15
40
N
W
E
S
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250
500
Feet
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1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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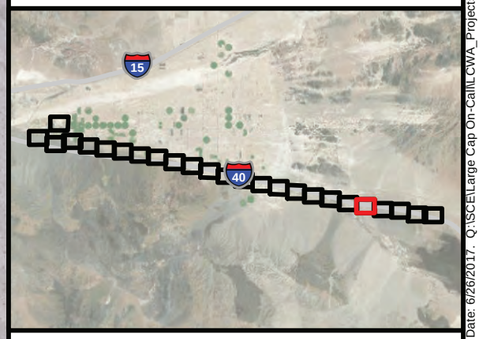
Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Pedestrian Access Structure Work Area



N
W E
S

0 250 500 Feet

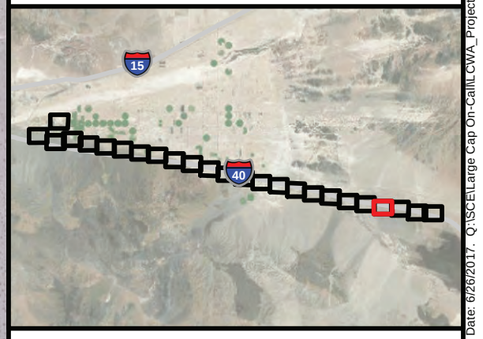
1:6,000 1 in = 500 feet

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Pedestrian Access Structure Work Area



N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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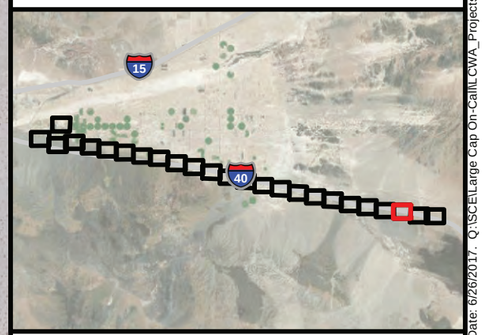
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\Ex_3_Project_Description_EI03_20170626.mxd

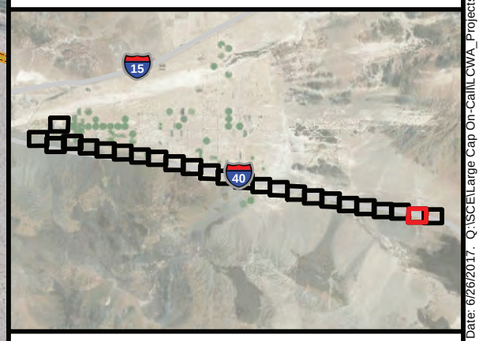
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area



N

W E

S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Legend

- Rare Plant Survey Area

Project Components

- Helicopter Landing Zone
- Pole Work Areas
- Pull Sites
- Underground Work Area
- Pedestrian Access Structure Work Area

N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

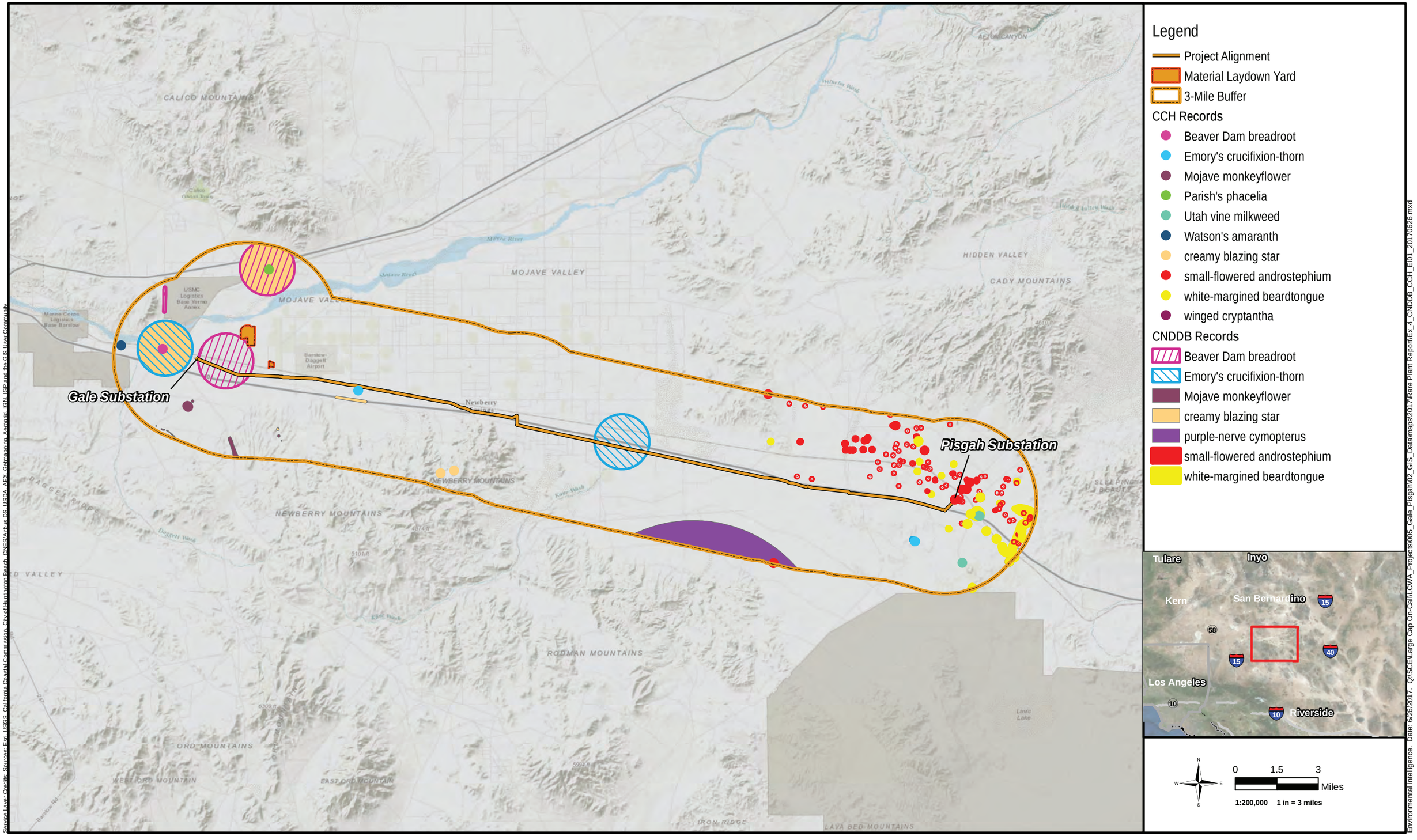
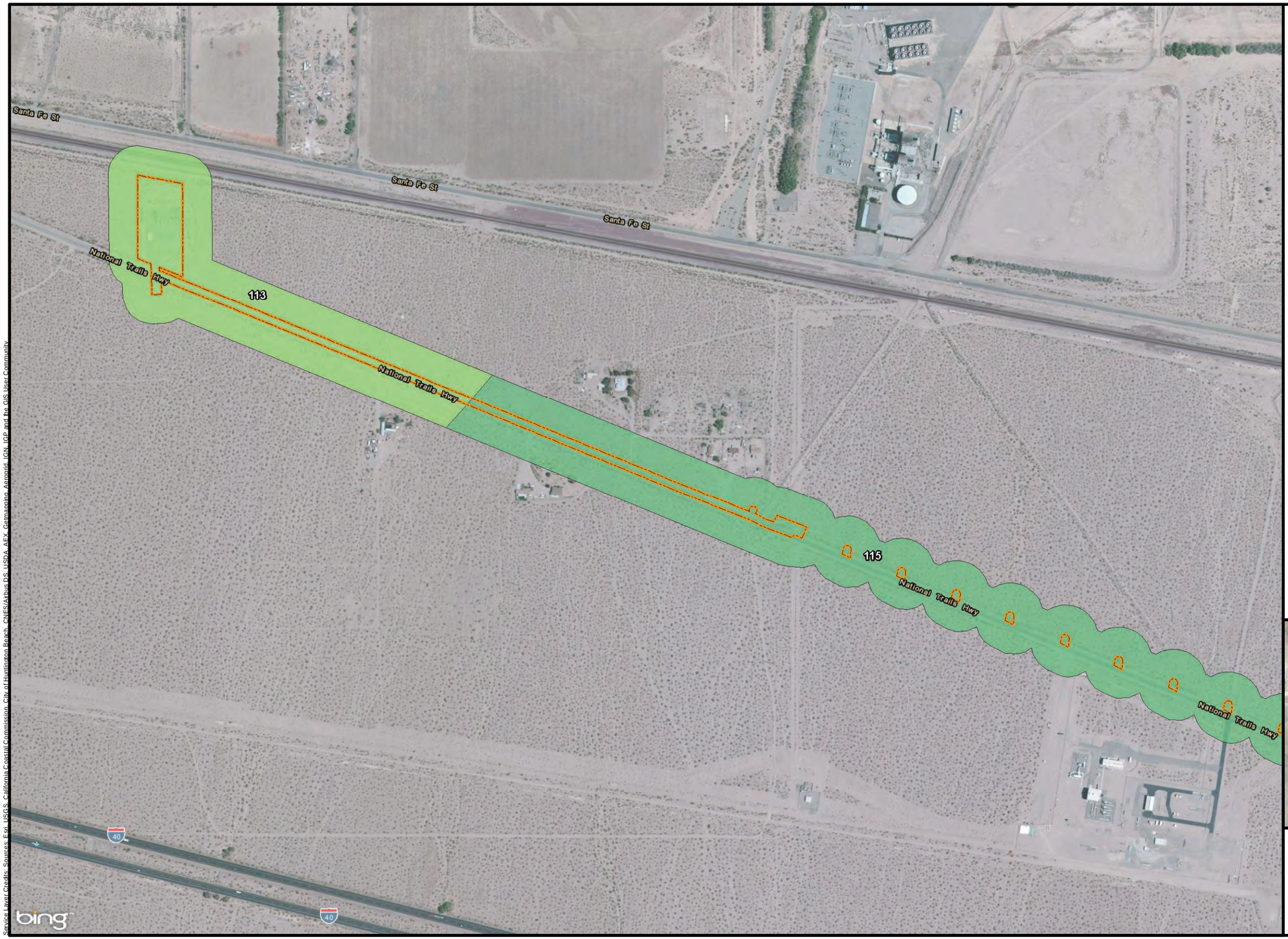


Exhibit 4. CNDDB And CCH Records
Gale To Pisgah Project | San Bernardino County, CA



Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

N
W
E
S

0 250 500 Feet

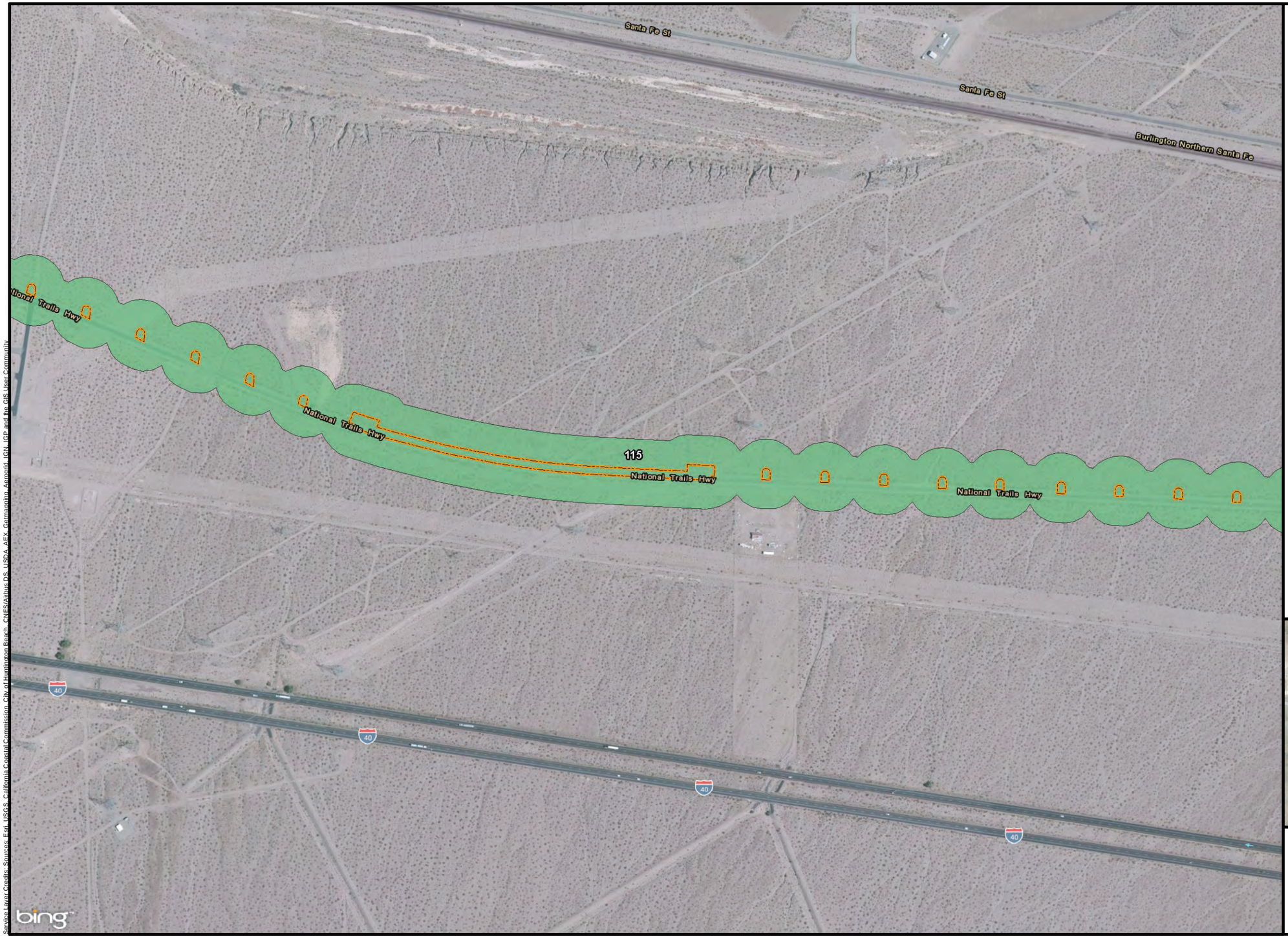
1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsi\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Exhibit 5. Soils (NRCS 2013) Page 1 of 25

Gale To Pisgah Project | San Bernardino County, CA



Legend

Rare Plant Survey Area

Soils (Label, Description)

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

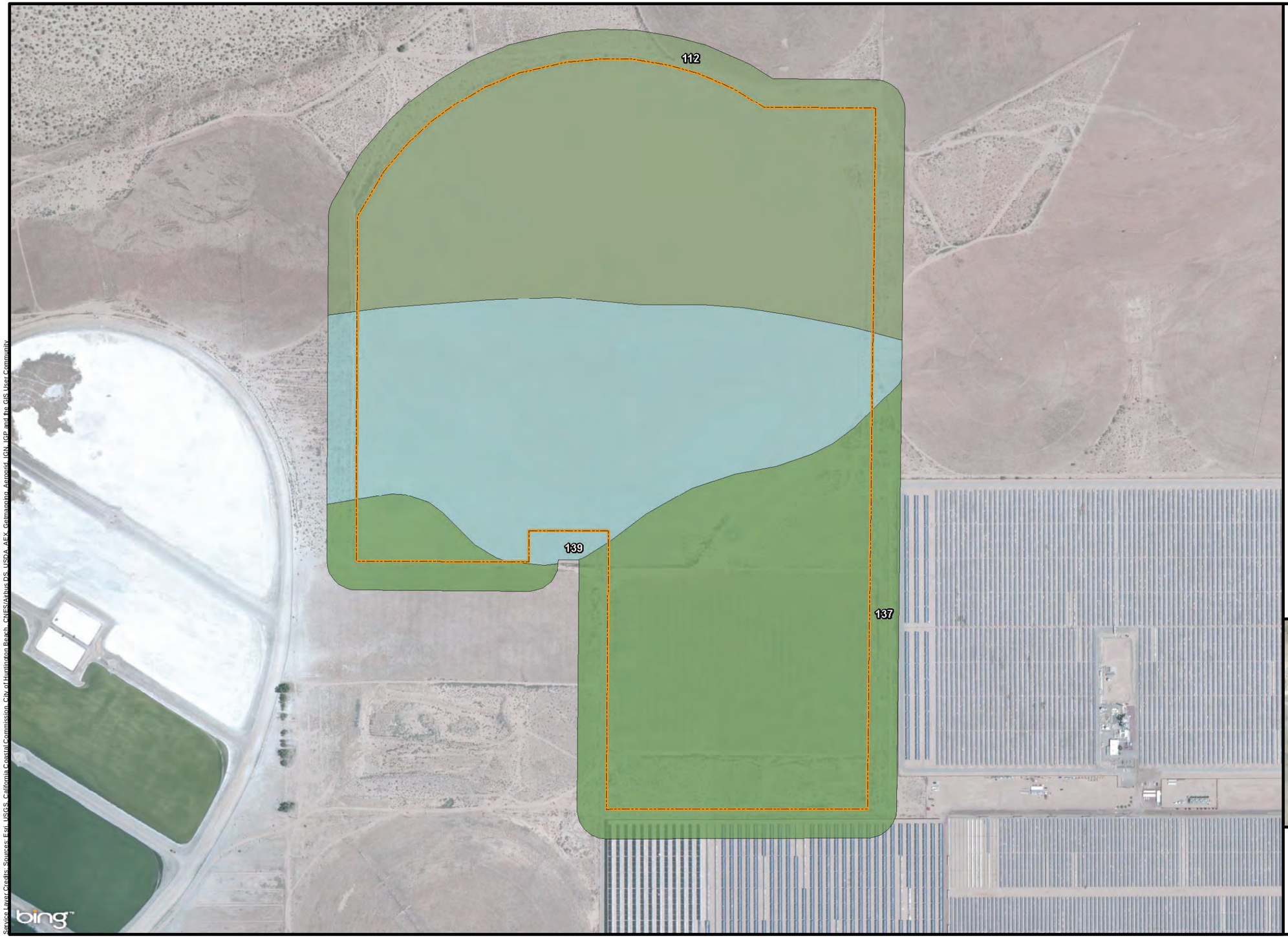
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd



Legend

- Rare Plant Survey Area

Soils (Label, Description)

- 112 ; CAJON SAND, 0 TO 2 PERCENT SLOPES
- 137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES
- 139 ; KIMBERLINA GRAVELLY SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES

N
W E
S

0 250 500
Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_El02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
112 ; CAJON SAND, 0 TO 2 PERCENT SLOPES
115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
112
115
Powerline Rd
Santa Fe St
National Trails Hwy
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mxds\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

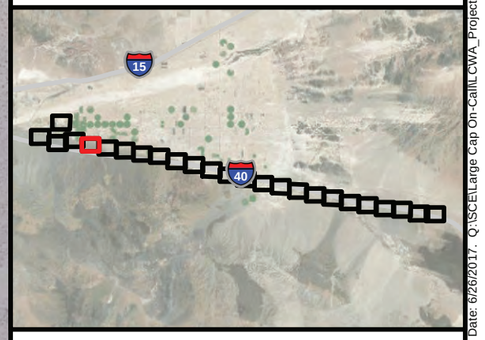
Legend

Rare Plant Survey Area

Soils (Label, Description)

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

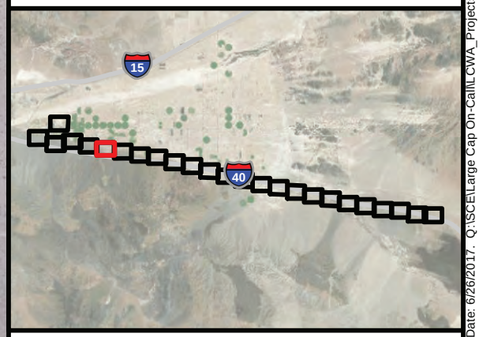
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_El02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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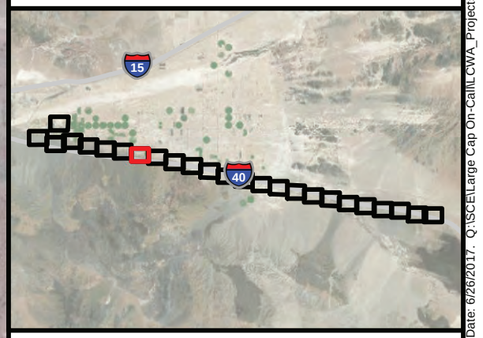
Legend
Rare Plant Survey Area
Soils (Label, Description)
113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES
Dogwood St
Elkhorn St
National Trails Hwy
137
113
Minneola Rd
Spyrock Ave
Wildhorse Rd
40
15
bing
0 250 500
Feet
1:6,000 1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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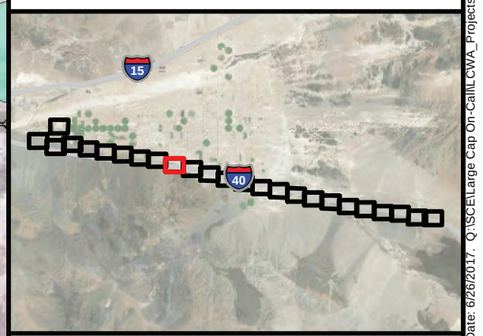
Legend
Rare Plant Survey Area
Soils (Label, Description)
113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
128 ; HALLORAN-DUNELAND COMPLEX, 0 TO 15 PERCENT SLOPES*
National Trails Hwy
113
128
115
Mariino Rd
I-40 W
I-40 E
Quarry Rd
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsi\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd



Legend

- Rare Plant Survey Area

Soils (Label, Description)

- 100 ; ARIZO GRAVELLY LOAMY SAND, 2 TO 9 PERCENT SLOPES
- 115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
- 128 ; HALLORAN-DUNELAND COMPLEX, 0 TO 15 PERCENT SLOPES*
- 137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES
- 160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI

N W E S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
127 ; HALLORAN SANDY LOAM
151 ; NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*
160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI
Mountain View Rd
I-40 W
I-40 E
Pioneer Rd
160
127
151
National Trails Hwy
bing
0 250 500 Feet
1:6,000 1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

Legend

- Rare Plant Survey Area

Soils (Label, Description)

- 113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
- 127 ; HALLORAN SANDY LOAM
- 151 ; NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*
- 160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI

N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

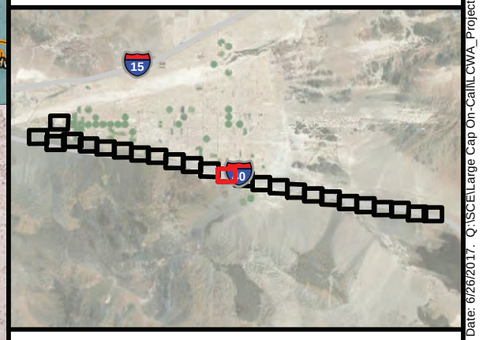
Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES

127 ; HALLORAN SANDY LOAM



N
W
E
S

0 250 500 Feet

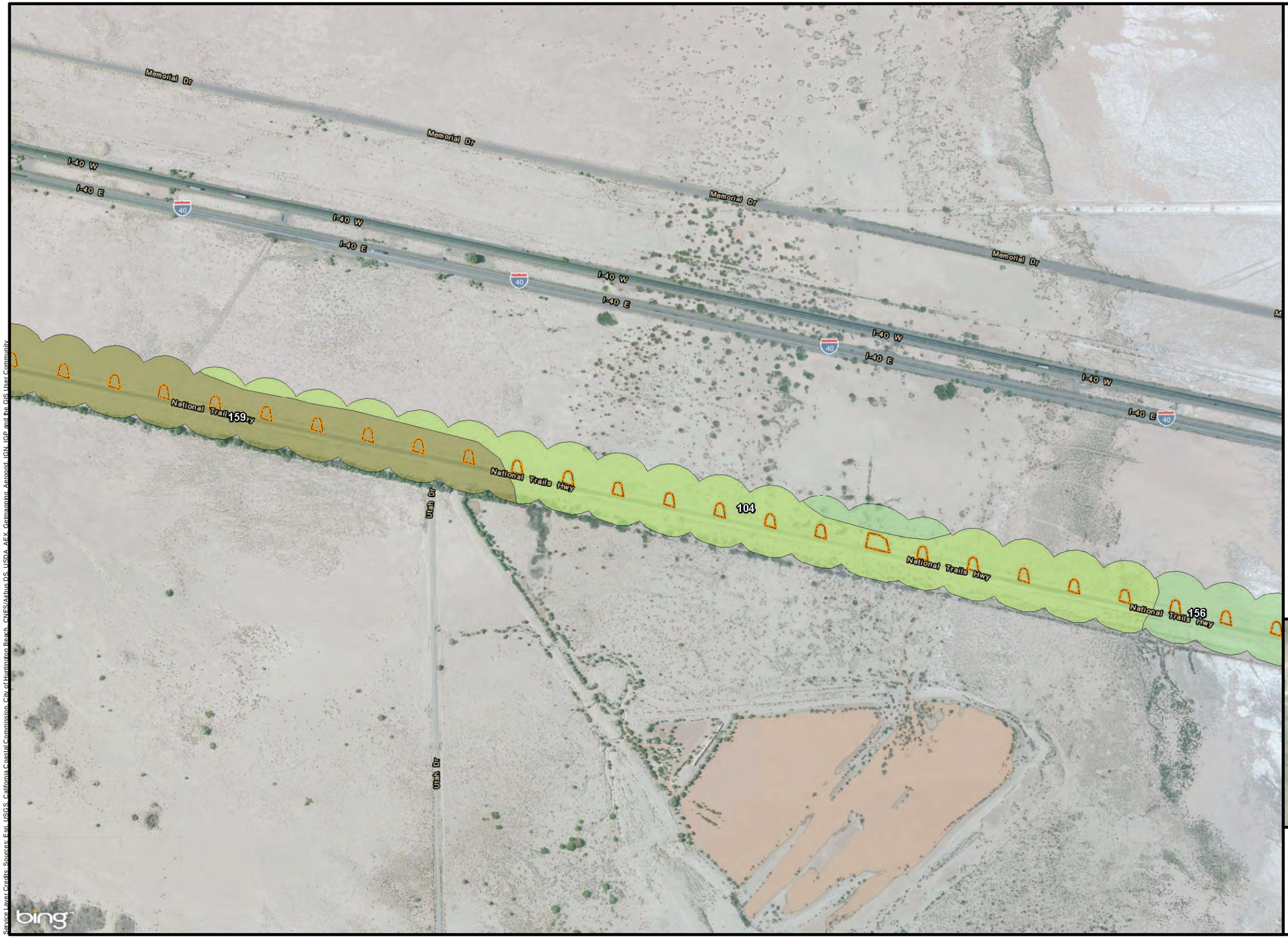
1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_El02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
127 ; HALLORAN SANDY LOAM
I-40 W
I-40 E
Lake Irene Dr
Fort Cady Rd
Memorial Dr
Calico St
Old Rd
Trails Hwy
National Trails Hwy
127
Old St
Horner St
Pisgah St
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd


Memorial Dr
I-40 W
I-40 E
National Trails Hwy
127
178
159
Berry Rd
Janey Ln
bing
Legend
Rare Plant Survey Area
Soils (Label, Description)
127 ; HALLORAN SANDY LOAM
159 ; ROSAMOND LOAM, SALINE-ALKALI
178 ; WATER
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datalmaps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd



Legend

Rare Plant Survey Area

Soils (Label, Description)

104 ; BOUSIC CLAY

156 ; PLAYAS

159 ; ROSAMOND LOAM, SALINE-ALKALI

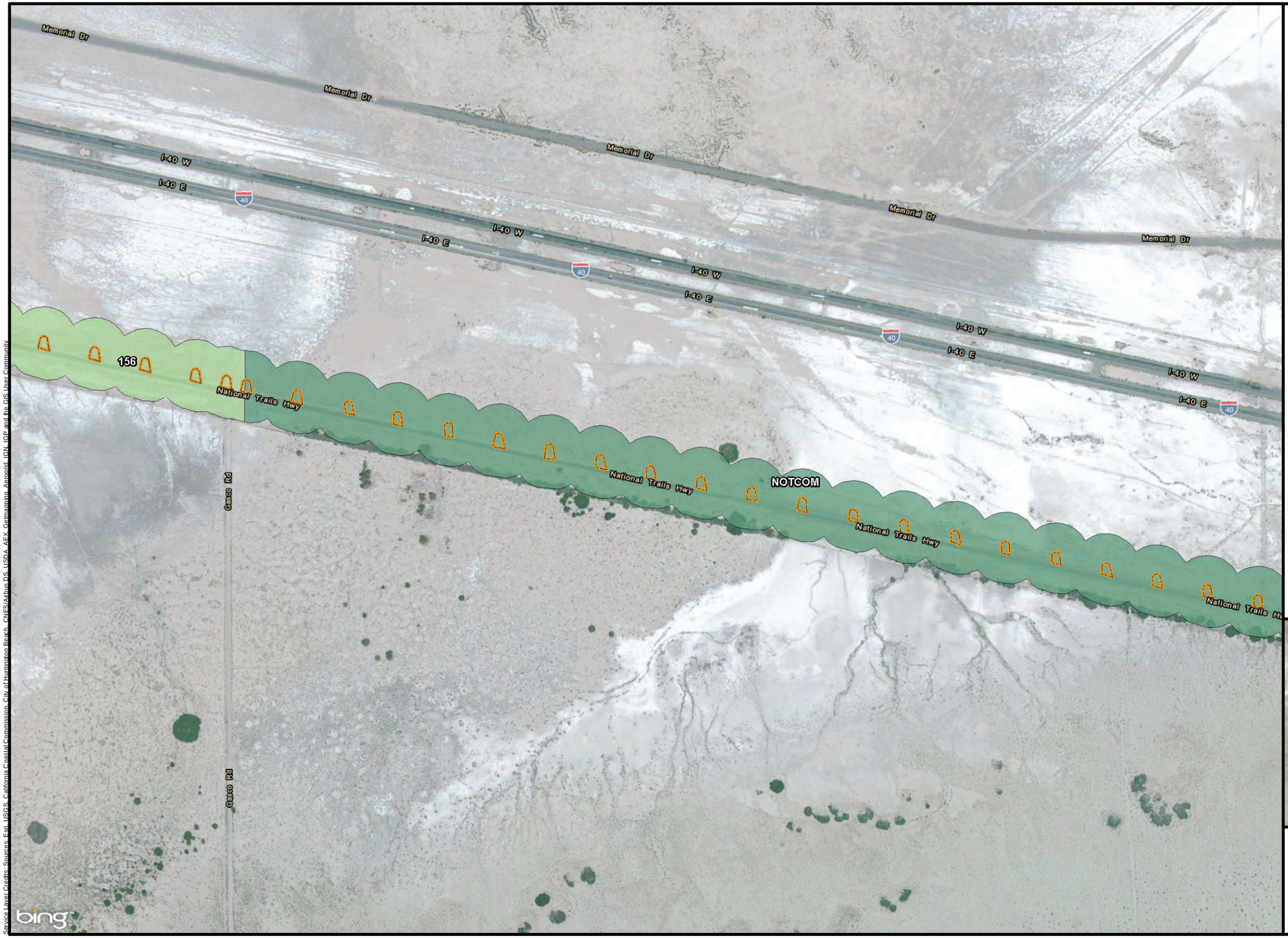
N W E S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd

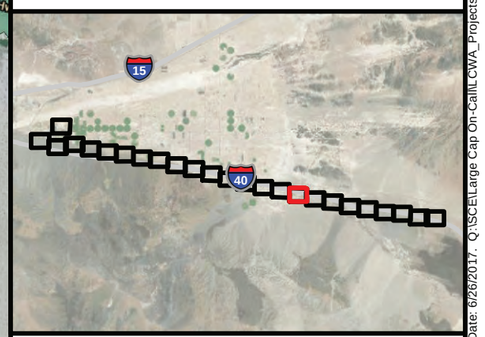


Legend

- Rare Plant Survey Area

Soils (Label, Description)

- 156 ; PLAYAS
- NOTCOM ; No Digital Data Available



N
W
E
S

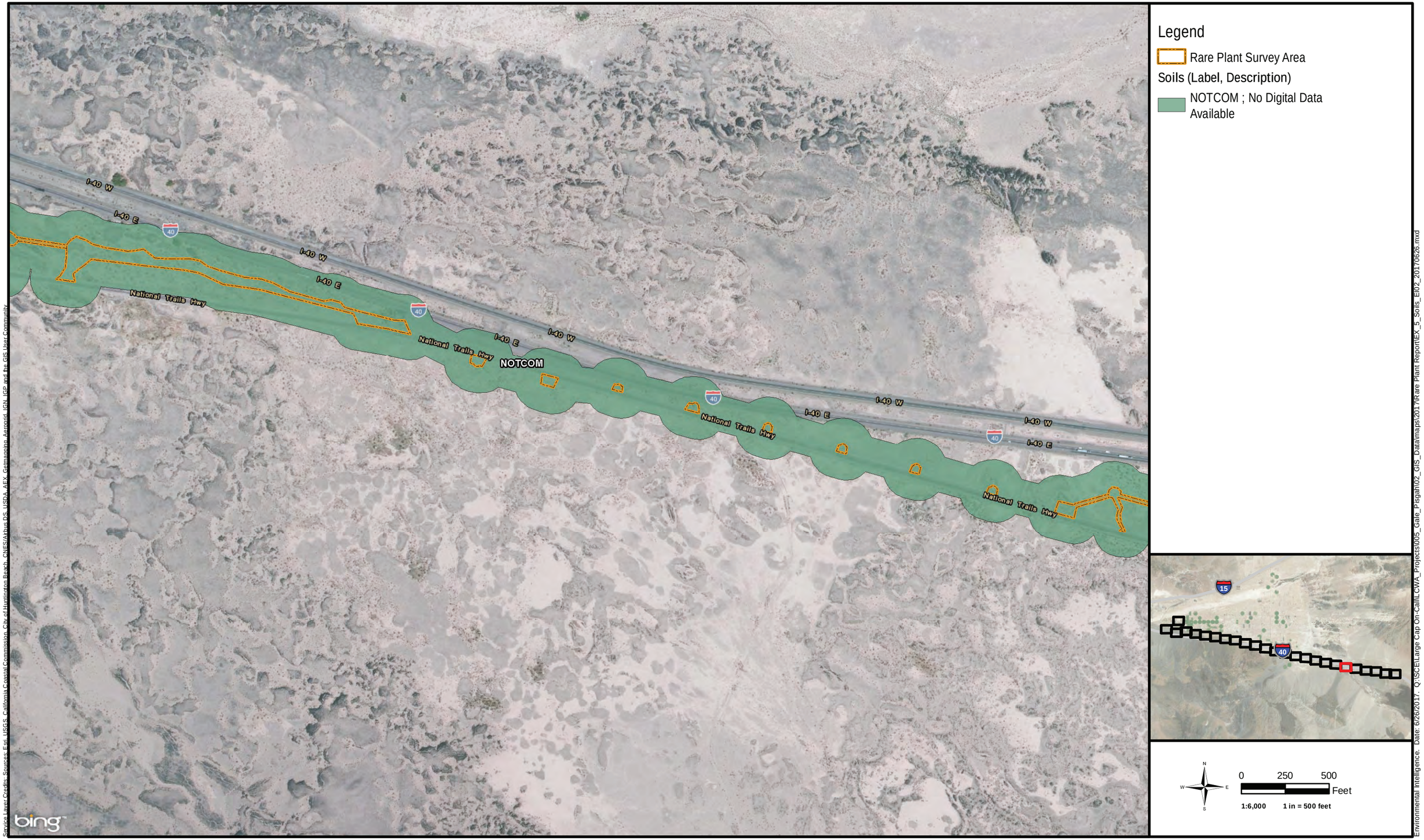
0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNEIS/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
I-40 W
I-40 E
National Trails Hwy
NOTCOM
Center Rd
Madrona Ln
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ei02_20170626.mxd



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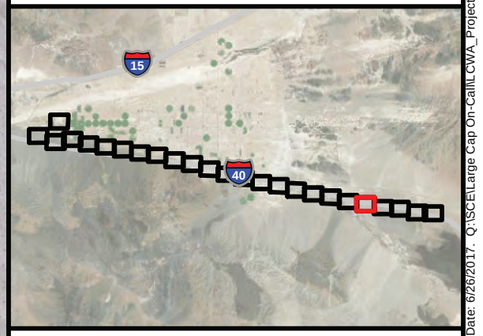
Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

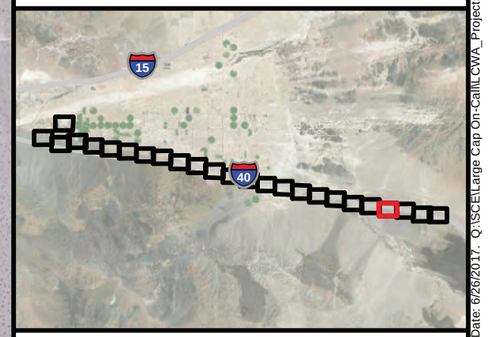
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

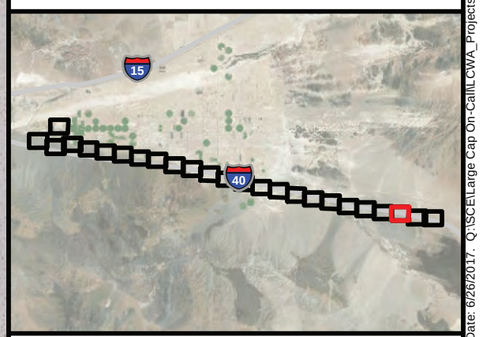
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd


I-40 W
National Trails Hwy
I-40 E
NOTCOM
Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_E\02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
NOTCOM
I-40 W
National Trails Hwy
I-40 E
Pisgah Crater Rd
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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Legend

Rare Plant Survey Area

Rare Plants

Crucifixion thorn

Project Components

Pole Work Areas

Distribution Poles

N
W
E
S

0 50 100 Feet

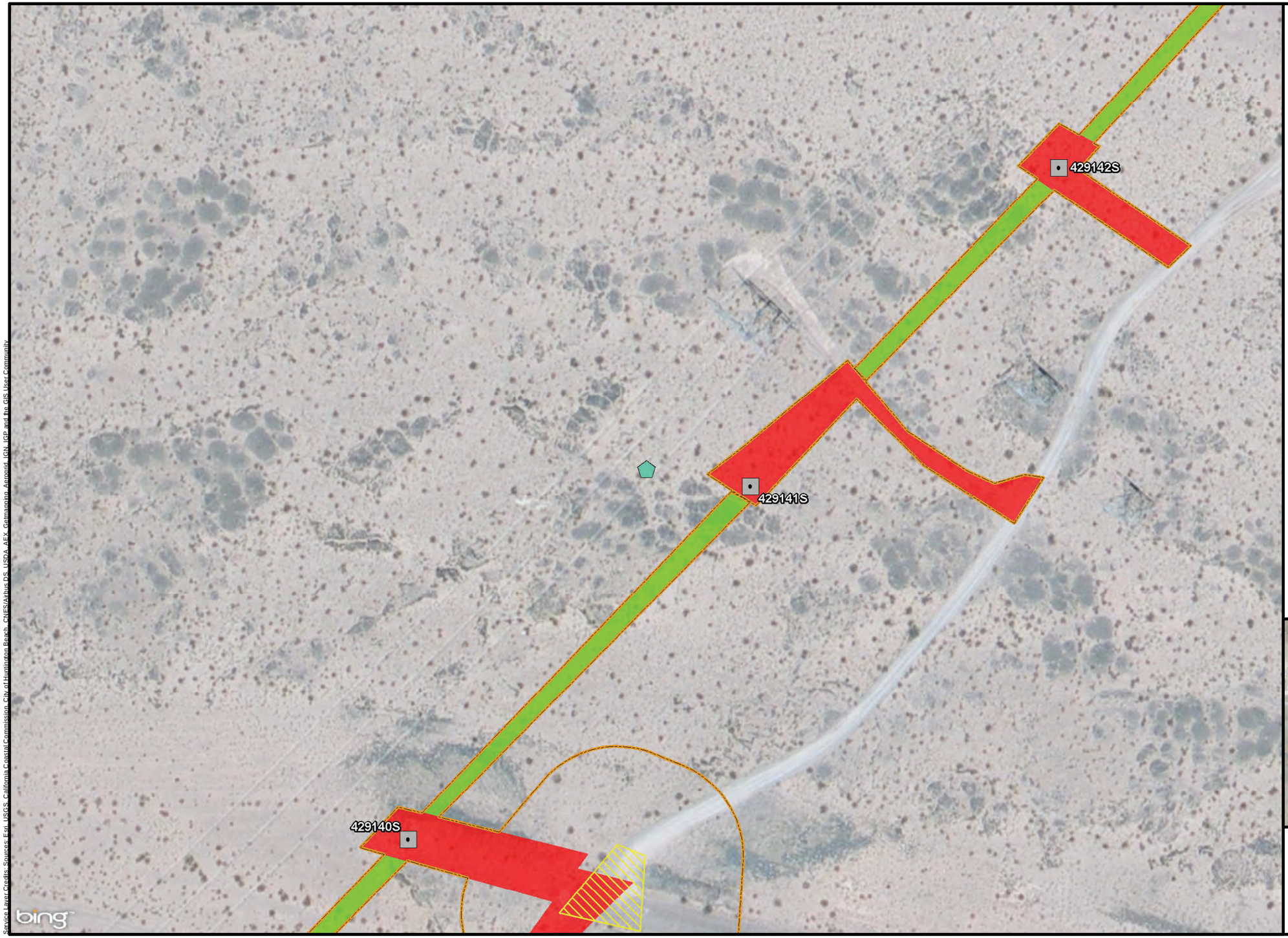
1:1,200 1 in = 100 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNEIS/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_6_Results_Map_E\04_20170626.mxd

Exhibit 6. Rare Plant Survey Results Page 1 of 2

Gale To Pisgah Project | San Bernardino County, CA



Legend

Rare Plant Survey Area

Rare Plants

Utah vine milkweed

Project Components

Helicopter Landing Zone

Pole Work Areas

Pedestrian Access Structure Work Area

Distribution Poles

N
W
E
S

0 50 100 Feet

1:1,200 1 in = 100 feet

Exhibit 6. Rare Plant Survey Results Page 2 of 2

Gale To Pisgah Project | San Bernardino County, CA

APPENDIX A:

SPECIAL-STATUS PLANTS OCCURRING OR POTENTIALLY OCCURRING ON OR IN THE VICINITY (WITHIN 3 MILES) OF THE GALE TO PISGAH PROJECT

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
SENSITIVE VEGETATION COMMUNITIES / LAND COVER					
Alkali Playa Community	-	S3	-	Alkali playa is a rare vegetation community type usually composed of low, grayish, microphyllous and succulent shrubs that reach a height of one meter (Holland 1986). Total cover is typically low and the understory is minimal. Characteristic plant species may include sea-blite/bush seepweed, pickleweed (*Sarcocornia pacifica*), alkali heath (*Frankenia salina*), and salt grass (*Distichlis spicata*). **Occurs.** Present in the dry lake bed near the middle portion of the Project alignment.	-
Atriplex polycarpa (Allscale scrub) Shrubland Alliance – Desert Saltbush Scrub	-	S2	-	*Atriplex polycarpa* is dominant in the shrub canopy with *Ambrosia dumosa*, *Ambrosia salsola*, *Atriplex canescens*, *Bromus rubens*, *Chamaesyce polycarpa*, *Cleome isomeris*, *Isocoma acradenia* and *Larrea tr identata*. Emergent trees may be present at low cover, including *Prosopis glandulosa*. *Atriplex polycarpa* > 2% absolute cover in the shrub canopy; > 50% relative cover in the shrub canopy. Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. **Occurs.** Present in the middle portion of the Project alignment.	Jul-Aug

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Prosopis glandulos (Mesquite thicket) Woodland alliance	–	S3	–	*Prosopis glandulosa* is dominant or co-dominant in the small tree canopy with *Salix exigua, Salix lasiolepis* and *Sambucus nigra*. Shrubs may include *Allenrolfea occidentalis, Ambrosia dumosa, Atriplex canescens, Atriplex polycarpa, Bebbia juncea, Petalonyx thurberi, Pluchea sericea, Rhus ovata* or *Suaeda moquinii*. Trees <10 m; canopy is open or continuous. Shrub and herbaceous layers are open to intermittent. Habitats include fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, sand dunes. Elevation ranges from 75-1,100m. **Occurs**. Scattered across desert riparian areas within the Project survey area.	May-Jun
Suaeda moquinii (Bush seepweed scrub) Shrubland Alliance	–	S3	–	*Suaeda moquinii* is dominant or co-dominant in the shrub and herbaceous layers with *Allenrolfea occidentalis, Atriplex canescens, Atriplex polycarpa, Frankenia salina, Kochia californica, Sarcobatus vermiculatus* and *Sporobolus airoides.* Shrubs < 1.5 m; canopy is open to continuous. Herbaceous layer is sparse to intermittent. Habitats include flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas. Soils are deep; saline or alkaline. Elevation ranges from sea level-1,300m. **Occurs**. Present along the eastern portion of the alignment near alkali playas.	Jun-Dec

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
PLANTS					
Amaranthus watsonii Watson's amaranth	-	-	4.3	An annual herb that occurs in creosote bush scrub and wetland-riparian communities. Sea level – 960 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1958) 2.5 miles west of Project alignment. Unlikely to occur due to age and distance of records.	Apr-Sep
Androstephium breviflorum Small-flowered androstephium	-	-	2B.2	A perennial herb that occurs in creosote bush scrub. 150 – 840 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (2010) within 500 feet of Project alignment. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	Mar-Apr
Castela emoryi Crucifixion thorn	-	-	2B.2	A shrub that occurs in creosote bush scrub. 90 – 760 meters. **Occurs.** Species preferred habitat is found on-site within creosote bush communities. Species observed during 2017 botanical surveys in Halloran sandy loam soil 100 feet outside Project survey area and associated with creosote bush.	Jun-Jul

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Cryptantha clokeyi Clokey's cryptantha	-	-	1B.2	An annual herb that occurs in creosote bush scrub. 890 – 1560 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	April
Cryptantha holoptera Winged cryptantha	-	-	4.3	An annual herb that occurs in creosote bush scrub and Joshua tree woodland. 19 – 1900 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1995) 3 miles east of Project alignment. Unlikely to occur due to distance of historic records.	Mar-Apr
Cymopterus multinervatus Purplenerve cymopterus	-	-	2B.2	A perennial herb that occurs in Joshua tree woodland and pinyon-juniper woodland communities. 670 – 1420 meters. **Does not occur.** Species preferred habitat is not found on-site. Species recorded in CNDDB 1.9 miles south of Project alignment. Does not occur based on unknown date and inaccurate location of historic record.	Mar-Apr
Funastrum utahense Utah vine milkweed	-	-	4.2	A perennial herb that occurs in creosote bush scrub. 150 – 1330 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Plant observed on desert sand-dune soil 50 feet outside Project survey area, but absent within survey area. Associated with creosote bush, white bursage, and non-native Saharan mustard.	Apr-Jun

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Mentzelia tridentata Creamy blazing star	-	-	1B.3	An annual herb that occurs in creosote bush scrub along rocky and sandy slopes. 580 – 1300 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (2010) 1.5 miles west of Project alignment. One CNDDB occurrence < 500 feet west of Project, but record indicates the location and date are inaccurate.	Mar-May
Mimulus mohavensis Mojave monkeyflower	-	-	1B.2	An annual herb that occurs in creosote bush scrub and Joshua tree woodland communities. 620 – 1750 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (1998 and 2010) 1.3 and 2.0 miles south of Project alignment. Unlikely to occur due to distance of historic records.	Apr-Jun
Menodora spinescens var. *mohavensis* Mojave menodora	-	-	1B.2	A perennial shrub that occurs in Mojavean desert scrub on Andesite gravel, rocky hillsides, and canyons. 760 – 1420 meters. **Absent.** Species preferred habitat is found on-site within shadscale scrub communities. Species recorded in CCH (2011) 5.8 miles south of Project alignment. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	Apr-May

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Pediomelum castoreum Beaver indian breadroot	-	-	1B.2	A perennial herb that occurs in creosote bush scrub and Joshua tree woodland communities. 600 – 950 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (1943) and may have occurred within Project alignment, but location is inaccurate. Unlikely to occur based on age and inaccuracy of historic records.	Apr-May
Penstemon albomarginatus White-margined beardtongue	-	-	1B.1	A perennial herb that occurs in creosote bush scrub and dune habitat. 630 – 760 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (2008 and 2010) 2000 feet north of Project alignment. However, the species was not detected during reference site visit. Unlikely to occur due to distance of historic records.	Mar-May
Phacelia parishii Parish's phacelia	-	-	1B.1	An annual herb that occurs in creosote bush scrub, alkali sink, and playas. 560 – 1070 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1992) 2 miles north of Project material laydown yard. Unlikely to occur due to distance of historic records.	Apr-May

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Plagiobothrys parishii Parish's popcornflower	-	-	1B.1	An annual herb that occurs in Joshua tree woodland and wetland-riparian communities. **Does not occur.** Species preferred habitat is not found on-site. Species recorded in CCH (2011) 4 miles south of Project alignment. Does not occur due to distance of historic record and species' preferred habitat is not found on-site.	Mar-Jun

Species Name	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.

APPENDIX B:

FLORAL COMPENDIUM

SCIENTIFIC NAME (* introduced/non-native species)	**COMMON NAME**
AGAVACEAE – AGAVE FAMILY	
Hesperocallis undulata	Desert lily
AIZOACEAE – ICE PLANT FAMILY	
**Mesembryanthemum sp.*	*Iceplant
APOCYNACEAE – DOGBANE FAMILY	
Asclepias erosa	Desert milkweed
Funastrum sp.	Milkweed
Funastrum utahense	**Utah vine milkweed (CNPS 4.2)**
ASTERACEAE – SUNFLOWER FAMILY	
Ambrosia dumosa	White bursage
Ambrosia salsola	Burrobush
Bebbia juncea	Sweetbush
Chaenactis carphoclinia	Pebble pincushion
Chaenactis fremontii	Fremont pincushion
Encelia frutescens	Button brittlebush
Encelia sp.	Common brittlebush
Geraeae canescens	Desert sunflower
Isocoma acradenia	Alkali goldenbush
Malacothrix californica	California dandelion
Malacothrix coulteri	Snake's head
Monoptilon bellidiforme	Small desert star
Perityle emoryi	Emory's rockdaisy
Porophyllum gracile	Slender poreleaf
Rafinesquia neomexicana	Desert chicory
Stephanomeria exigua	Small wirelettuce
Stephanomeria pauciflora	Desert straw
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata	Devil's lettuce
Cryptantha angustifolia	Narrow leaved forget-me-not
Cryptantha decipiens	Gravel cryptantha
Cryptantha micrantha	Purple root cryptantha
Nama demissum	Purplemat
Pectocarya platycarpa	Broadfruit combseed
Pectocarya recurvata	Curvenut combseed
Phacelia crenulata	Heliotrope phacelia
Phacelia sp.	Common phacelia
Tiquilia plicata	Fanleaf crinklemat
BRASSICACEAE – MUSTARD FAMILY	
**Brassica tournefortii*	*Saharan mustard
Descurainia spp.	Tansy mustard
Lepidium densiflorum	Common pepperweed
**Sisymbrium irio*	*London rocket

CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	Wiggins' cholla
Cylindropuntia ramosissima	Branched pencil cholla
CARYOPHYLLACEAE – CARNATION FAMILY	
Achyronychia cooperi	Frost mat
CHENOPODIACEAE – GOOSEFOOT FAMILY	
Atriplex canescens var. *canescens*	Fourwing saltbush
Atriplex elegans	Wheelscale
Atriplex elegans var. *fasciculate*	Wheelscale saltbush
Atriplex hymenelytra	Desert holly
Atriplex polycarpa	Allscale saltbush
Atriplex spinifera	Mojave saltbush
**Salsola tragus*	*Russian thistle
Stutzia covillei	Coville's orach
Suaeda nigra	Bush seepweed
CLEOMACEAE – BEEPLANT FAMILY	
Cleomella obtusifolia	Bluntleaf stinkweed
EPHEDRACEAE – JOINTFIR FAMILY	
Ephedra funerea	Death valley ephedra
EUPHORBIACEAE – SPURGE FAMILY	
Euphorbia albomarginata	Rattlesnake sandmat
FABACEAE – PEA FAMILY	
Dalea mollissima	Soft prairie clover
Prosopis glandulosa var. *torreyana*	Western honey mesquite
Prosopis pubescens	Screwbean mequite
Senegalia greggii	Devil's claw
Senna armata	Desert senna
GERANIACEAE – GERANIUM FAMILY	
**Erodium cicutarium*	Red-stemmed filaree
KRAMERIACEAE – RHATANY FAMILY	
Krameria erecta	Littleleaf ratany
LAMIACEAE – MINT FAMILY	
Salvia columbariae	Chia sage
Scutellaria mexicana	Mexican bladdersage
LOASACEAE – LOASA FAMILY	
Mentzelia albicaulis	White-stemmed blazingstar
Petalonyx thurberi ssp. *thurberi*	Thurer's sandpaper plant
MALVACEAE – MALLOW FAMILY	
Eremalche exilis	White mallow
Eremalche rotundifolia	Desert fivespot

Sphaeralcea ambigua	Desert mallow
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Abronia villosa var. *villosa*	Desert sand verbena
Mirabilis laevis var. *retrorsa*	Wishbone bush
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Chylismia claviformis	Clavate fruited primrose
Chylismia claviformis ssp. *claviformis*	Browneyes
Eremothera boothii	Booth's suncup
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia glyptosperma	Desert golden poppy
Eschscholzia minutiflora	Pygmy poppy
PLANTAGINACEAE – PLANTAGO FAMILY	
Plantago erecta	California plantain
Plantago ovata	Desert plantain
POACEAE – GRASS FAMILY	
**Bromus madritensis*	*Foxtail brome
**Bromus madritensis* ssp. *rubens*	*Red brome
**Cynodon dactylon*	*Bermuda grass
Hilaria rigida	Big galleta
**Schismus barbatus*	*Common mediterranean grass
Sporobolus airoides	Alkali sacaton
Stipa hymenoides	Indian rice grass
POLEMONIACEAE – PHLOX FAMILY	
Langloisia setosissima	Lilac sunbonnet
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. brevicornu	Brittle spineflower
Chorizanthe rigida	Devil's spineflower
Eriogonum deflexum var. *deflexum*	Flat topped buckwheat
Eriogonum inflatum	Desert trumpet
Eriogonum reniforme	Kidney leaf buckwheat
Eriogonum thomasii	Thomas' buckwheat
RESEDACEAE – MIGNONETTE FAMILY	
Oligomeris linifolia	Leaved cambess
SIMAROUBACEAE – QUASSIA FAMILY	
Castela emoryi	**Crucifixion thorn (CNPS 2B.2)**
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Water jacket
TAMARICACEAE – TAMARISK FAMILY	
**Tamarix aphylla*	*Athel tamarisk
**Tamarix ramosissima*	*****Saltcedar

ZYGOPHYLLACEAE – CALTROP FAMILY

Larrea tridentata South American creosote bush

LEGEND:

Federal (USFWS)	**State (CDFW)**
FE Endangered	SE Endangered
FT Threatened	ST Threatened
FC Candidate	SR Rare
	SC Candidate

California Native Plant Society (CNPS) List Categories

List 1A	Plants Presumed Extinct in California
List 1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2	Plants Rare, Threatened, or Endangered in California but More Common Elsewhere
List 3	Plants about Which We Need More Information — A Review List
List 4	Plants of Limited Distribution − A Watch List

California Native Plant Society (CNPS) Threat Rank Extensions

.1	Seriously threatened in California (high degree/immediacy of threat)
.2	Fairly threatened in California (moderate degree/immediacy of threat)
.3	Not very threatened in California (low degree/immediacy of threat or no current threats known

APPENDIX C:

SITE PHOTOGRAPHS

Photo 1:
Photo of Project alignment within survey area.

Photo 2:
Photo of Creosote Bush (*Larrea tridentata*) Alliance within Project survey area.

Photo 3:
Photo of general material laydown yard site conditions. Looking south near northwest survey area boundary.

Photo 4:
Close-up photo of Utah Vine Milkweed (*Funastrum utahense*). Photo taken on April 26, 2017.

Photo 5:
Photo of Creosote Bush and Volcanic Scree within Project survey area.

Photo 6:
Photo of *Atriplex sp.* within Project survey area.

Photo 7:
Photo of material laydown yard border.

APPENDIX D:

DATA SHEETS

RARE PLANT SURVEY FORM

Date: April 26 Site Name: Pisgah Substation UID:
Lead Botanist: Ron Clark Supporting Botanist(s): Ben Madden
Target Species: Eunastrum utahense
Reference Population Name: none Target observed at reference? ☐ Yes ☐ No ☐ Unsure
Target species present on Site? X Yes ☐ No Area Covered: 50 Units: Acres ft² (m²)

GPS Make and Model: Garmin GPS Accuracy: _____ Units: Feet or Meters
Coordinate System: Lat/Long (UTM) Other: _____ Datum: NAD27 NAD83 WGS84
Y Coordinate (Latitude): 11N 555987 X Coordinate (Longitude): 3848808

Plant Data

Count unit: stem (clump) rosette Size determined by: Census Sample Visual Estimate
Plant count: 25 Estimated area: _____ Units: Acres ft² m²
OR Estimate: 251-500 501-1000 >1000 OR % Cover: 0 1-5 6-25 26-50 51-100
% Vegetative: 0 1-5 6-25 26-50 (51-100) % Flowering: 0 (1-5) 6-25 26-50 51-100
% Fruiting: (0) 1-5 6-25 26-50 51-100 % Senescent: (0) 1-5 6-25 26-50 51-100
Seedlings or Immature present? (Yes) No Unsure Count time: 10 minutes
What is the condition of this rare plant occurrence? Excellent (Average) Poor Unsure
Please note the characteristic(s) considered: _____

Conditions which might have prevented surveyors from locating target species? Mature Plant growing inside krameria
Voucher specimen obtained? ☐ Yes X No Stored where? _____
Permit Number(s): _____

Habitat

Slope/topographical position: 0°
Elevation range: 2000 Ft.
Aspect: none/flat
Hydrology: desert sand dune
Soils: sand
Vegetation Alliance: creosote scrub
Associated species: Larrea tridentata, Ambrosia dumosa

Invasive Species

Brassica tournefortii

Rare	Uncommon	(Common)	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant

Abundant: >100 observations Common: 50-100 observations Uncommon: 10-50 observations Rare: <10 observations

1590 South Coast Highway Suite #17, Laguna Beach, California. 92651 • Phone: 949.497.0931 •

Name Ron/Ben Date 4/26/17 UID

Disturbance

Development:	None	Trace	(Some)	Most	Trampling:	(None)	Trace	Some	Most
Browsing:	(None)	Trace	Some	Most	Drought:	(None)	Trace	Some	Most
Insect damage or disease:	None	(Trace)	Some	Most	Fire:	(None)	Trace	Some	Most
Competition / succession:	(None)	Trace	Some	Most	Drought/Hydro:	(None)	Trace	Some	Most
Adjacent land management:	None	Trace	(Some)	Most					

Other disturbance (please describe) and specific comments: adjacent to utility lines & substation

Management Recommendations:

Photo Log

Photo Number	File Name	Feature Photographed (e.g., flower, juvenile, unknown, insect)	Location and Direction of Photo (e.g., center of colony looking North)
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			

Notes

1 mature plant growing inside a krameria difficult to spot. lots of seedlings around

OFFICE USE ONLY

Purpose	Date	Initials
Entered into Spreadsheet		
100% Check		
10% Check		
Validation		

Appendix D-4

Segment 2 Botanical Resources Survey Report

Environmental Intelligence, LLC

BOTANICAL SURVEY REPORT

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

BERNARDINO COUNTY, CALIFORNIA

Prepared For: Biological Resources Group
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Date: July 12, 2017

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EXHIBITS

APPENDICES

1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct surveys for special-status plant species on the Lugo-Victorville 500-Kv Transmission Line Remedial Action Scheme Project (Proposed Project). The Proposed Project would require installation of a new 84-mile telecommunication path consisting of Optical Ground Wire (OPGW) between Nipton Road in Clark County, Nevada and Interstate 40 near Ludlow, California. The Proposed Project survey area totals 431 acres at 12 guard pole locations, 72 helicopter landing zones, 27 pull sites, and two material laydown yards. The new telecommunication line will follow an existing SCE right-of-way (ROW) for approximately 84 miles along Powerline Road.

The purpose of these rare plant focused surveys is to support project planning and the Mojave National Preserve's review of SCE's Special Use Permit application. This report presents the findings of focused surveys for rare plants in suitable habitat within the Proposed Project area. Suitable habitat occurs along the proposed alignment, in San Bernardino County, California and Clark County, Nevada (Exhibit 1: *Project Location*).

1.1 Project Location and Description

The Proposed Project is located within San Bernardino County, California, and Clark County, Nevada, and extends from Pisgah Substation near Interstate 40 to the California-Nevada border near Nipton Road (Exhibit 1). The Proposed Project is located within United States Geological Survey (USGS) 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 7.5-minute quadrangles; material laydown yards are located in Dunn and Baker 7.5-minute quadrangles.

The Proposed Project would involve installation of an 84-mile telecommunication path that extends from the California/Nevada border to Pisgah Substation and would follow an existing SCE distribution line ROW. The Project is required to reliably interconnect and integrate multiple renewable generation projects in the Southern Nevada / Eastern California area onto the electric grid. All work would occur within the existing SCE ROW and would involve bucket truck work at approximately 408 disturbed 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 mobilization activities at two material laydown yards (Exhibit 2: *Project Description*).

Land use along the Proposed Project alignment is primarily undisturbed desert scrub habitat. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes within the Proposed Project boundaries with elevations ranging from approximately 1,100 to 4,600 feet above mean sea level (amsl). The Project alignment crosses lands owned by BLM, private landowners, the State, and the National Park Service (Exhibit 3: *Land Use*).

2.0 METHODS

2.1 Literature Review

Prior to the initiation of the field surveys described in this report, several sources of available data were used to identify known and potential biological resources within the Proposed Project area and surrounding region, including published literature, field guides, previous site surveys, and public data sets. The information presented in this analysis was obtained from the following sources:

- Environmental Intelligence, LLC, 2016. Habitat and Resource Assessment: Lugo-Victorville 500-Kv Transmission Line Remedial Action Scheme Project (EI 2016).
- The California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Wildlife (CDFW), quad-level species occurrence information (CDFW 2017);
- The California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2017);

- Consortium of California Herbaria (CCH 2017);
- U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) data (Natural Resources Conservation Service [NRCS] 2017);
- U.S. Fish and Wildlife Service (USFWS 2017) county-level species occurrence information;
- USGS topographic maps; and
- USFWS Critical Habitat designations.

All plant species, as described by the CNDDB, within 3 miles and centered on the Proposed Project location (i.e., Hector, Sleeping Beauty, Broadwell Lake, West of Broadwell Mesa, Boradwell Mesa, Soda Lake South, Cowhole Mountain, Old Dad Mountain, Indian Spring, Marl Mountains, Cima, Cima Dome, Joshua, Ivanpah, Nipton, Crescent Peak, Dunn, and Baker Quadrangles) were selected as potential focal survey species (Exhibit 4: *Literature Review*). A list of the special-status plant species identified by the literature search is provided as Appendix A. Special-status plants include those with federal, state, or local designations or California Rare Plant Rank (CRPR). The botanical surveys were comprehensive and floristic in nature and were not restricted to, or focused only on this list.

2.2 Regulated Species

The database search and literature review identified 7 special-status plant species occurring or having the potential to occur in the vicinity of the Proposed Project (Appendix A). Of these, none were Federal and/or State regulated species (i.e. Endangered or Threatened). Rare plant species likely to occur are highlighted below:

TABLE 1. CALIFORNIA RARE PLANT RANK SPECIES

Species	Status	Blooming Period	Habitat
Small-flowered androstephium (*Androstephium breviflorum*)	CRPR 2B.2	March – April	Desert dunes and creosote bush scrub with sandy to rocky soil. 100 – 1,600 meters.
Emory's crucifixion-thorn (*Castela emoryi*)	CRPR 2B.2	June – July	Dry, gravelly washes, low-grade alluvial slopes, and playas in Mojavean and Sonoran creosote bush scrub. 30 – 1,350 meters.
Purple-nerve cymopterus (*Cymopterus multinervatus*)	CRPR 2B.2	March – April	Mountain ranges of Eastern Mojave Desert, and on the desert slope of the San Bernardino Mountains. Gravelly and sandy slopes in Joshua tree and pinyon-juniper woodland. 630 – 1,800 meters.
Utah vine milkweed (*Cynachum utahense*)	CRPR 4.2	March – October	Sandy or gravelly habitats of Mojavean desert scrub and Sonoran desert scrub. 100 – 1,435 meters.
Matted cholla (*Grusonia parishii*)	CRPR 2B.2	May – June	Sandy, gravelly flats, generally in creosote bush/bur scrub and Joshua tree woodlands. 300 – 1,200 meters.
White-margined beartongue (*Penstemon albomarginatus*)	CRPR 1B.1	March – May	Loose desert sand, generally on stabilized dunes with creosote bush scrub. 700 – 900 meters.
Rusby's desert mallow (*Sphaeralcea rusbyi* var. *eremicola*)	CRPR 1B.2	March – June	Creosote bush scrub and Joshua tree woodlands. 1,000 – 1,500 meters.

2.3 Taxonomy and Vegetation Classification

Plant taxonomy follows The Jepson Manual (Baldwin et al. 2012). Common plant names, where not available from Baldwin et al. 2012, are taken from Abrams (1923 and 1944), Abrams and Ferris (1951 and 1960), Beauchamp (1986), Munz (1974), CNPS (2017), or Simpson and Hasenstab (2009). Vegetation

classification follows the system described in a Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). Scientific names are mentioned once in the text and common names are used thereafter.

This vegetation classification system is the preferred system of the California Native Plant Society and the California Department of Fish and Wildlife's Vegetation Classification and Mapping Program and allows for direct comparisons with other classification systems (e.g. Holland 1986). For species unidentifiable in the field, biologists took reference specimens for later identification.

2.4 Existing Vegetation

Seventeen (17) vegetation communities/land cover types, including 4 sensitive vegetation communities and 13 non-sensitive vegetation communities/land cover types were previously documented and mapped during habitat assessment studies (EI 2016) (Exhibit 2). Descriptions of the communities can be found in the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). A description of the land cover types found within the rare plant survey areas is provided below in Table 1.

TABLE 2. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type
Vegetation Communities
Chilopsis linearis (Desert willow woodland) Woodland Alliance (61.550.00) G4 / S3.2
Pleuraphis rigida (Big galleta shrub-steppe) Alliance (41.0303.00) G3 / S2.2
Psorothamnus spinosus (Smoke tree woodland) Woodland Alliance (61.570.00) G4 / S3.3
Yucca brevifolia (Joshua tree woodland) Woodland Alliance (33.170.00) G4 / S3.2
Non-sensitive Vegetation Communities
Acacia greggii (Catclaw acacia thorn scrub) Shrubland Alliance (33.040.00) G5 / S4
Ambrosia dumosa (White bursage scrub) Shrubland Alliance (33.060.00) G5 / S4
Ambrosia salsola (Cheesebush scrub) Shrubland Alliance (33.200.00) G5 / S4
Atriplex polycarpa (Allscale scrub) Shrubland Alliance (36.340.00) G5 / S4
Bromus (*diandrus, hordeaceus*) – *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands (42.026.00) Non-Native / Invasive
Bromus rubens – Schismus (*arabicus, barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands (42.024.00) Non-Native / Invasive
Encelia farinosa (Brittle bush scrub) Shrubland Alliance (33.030.00) G5 / S4
Larrea tridentata (Creosote bush scrub) Shrubland Alliance (33.010.00) G5 / S5
Larrea tridentata – Ambrosia dumosa (Creosote bush – white burr sage scrub) Shrubland Alliance (33.140.00) G5 / S5
Salazaria Mexicana (Bladder sage scrub) Shrubland Alliance (33.310.00) G4 / S4
Yucca schidigera (Mojave yucca scrub) Alliance (33.070.00) G4 / S4
Land Cover Types
Barren – Not Developed
Developed

Barren – Not Developed

Barren land is of limited ability to support life and in which less than one-third of the area has vegetation or other cover. Barren lands are characterized by bare rock, gravel, sand, silt, clay, or other earthen material. Such areas include dry salt flats, beaches, sandy areas, bare exposed rock, strip mines, quarries, gravel pits, and transitional areas.

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.

2.5 Special-Status Plant Surveys

Timing of the surveys took into consideration documented phenology for the target species, reference populations, and weather data. The closest weather data center (Station #042257) was located approximately 25 miles west of the Proposed Project area at Daggett Airport, California. Weather data were obtained from the Western Regional Climate Center (WRCC) and the National Oceanic and Atmospheric Administration's (NOAA) National Climate Data Center (NCDC). Thirty-Year Climate Normals for Daggett Airport averaged 3.13 inches during October through June (WRCC 1981-2010). For the 2016-2017 hydrological year, total precipitation was 10 percent above average (3.44 inches) in Mojave Valley from October through June (NCDC 2017).

During onsite surveys, botanists visited reference populations for target special-status species to ensure that these species: i) emerged (if annuals), ii) showed phenological traits (e.g., fruits, flowers, etc.) necessary for identification, and/or iii) were readily identifiable with all botanists who may have less familiarity with a given species. A list of all reference population locations and results is provided below in Table 2.

TABLE 3: REFERENCE POPULATIONS SUMMARY TABLE

Species	General Location	Date Visited	Status
Small-flowered androstephium (*Androstephium breviflorum*)	Ivanpah Dry Lake Playa, 2 miles SW Primm, NV	4/17/2017	Blooming, readily identifiable
Utah vine milkweed (*Cynachum utahense*)	Railroad N side of I-40, Pisgah, CA	4/17/2017	Blooming, readily identifiable
Clokey's cryptantha (*Cryptantha clokeyi*)	Powerline Road, Lucerne Valley, CA	4/26/2017	Blooming, fruiting, readily identifiable
Mojave menodora (*Menodora spinescens* var. *mohavensis*)	North of Ord Mt. along Camp Rock Rd.	4/26/2017	Blooming, readily identifiable
Mojave monkeyflower (*Mimulus mohavensis*)	Ord Mountain Road/Daggett Wash, Barstow, CA	4/26/2017	None identified
White margined beardtongue (*Penstemon albomarginatus*)	Needles Fwy, Pisgah, CA	4/26/2017	None identified
Rusby's desert-mallow (*Sphaeralcea rusbyi* var. *eremicola*)	Rainbow Spring, Mojave National Preserve, CA	4/17/2017	Blooming, readily identifiable

Following verification at these reference populations, pedestrian surveys for special status plant species were conducted on April 17 – 22 and June 12 – June 16, 2017 by qualified botanists Doug Gordon-Blackwood, Ron Clark, Kevin Thomas, Mitchell Provance, Scott Duff, Nicole Nesball and Luis Aguilar. This botanical survey was conducted following the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009) and the CNPS Botanical Survey Guidelines (CNPS 2001). The survey area was defined by a 100-foot buffer around each of the Proposed Project disturbance areas (Exhibit 2). Surveys were conducted by walking transects over

the survey areas to ensure thorough coverage, noting all observed plant taxa. Focused attention, including the use of denser transect lines, was given to areas with higher potential habitat for special-status plant species. Care was taken to thoroughly search all unique features, soils, and habitats encountered that could have a higher probability for occurrence of sensitive species. Within private property along the survey area where no access was available, surveyors used binoculars to visually assess the area for rare plants. Plants were counted individually whenever possible. When the population size, density, or other factors rendered a census impractical, counting plants in one or more representative square meter areas, and multiplying by the estimated area of the population was used to estimate the number of individuals. Photographs of special status taxa and habitat conditions are included in Appendix C: Site Photographs. The locations of all special-status species were mapped in the field using a Garmin recreational Global Positioning System (GPS) hand-held unit and on aerial photograph field maps.

3.0 RESULTS

Early and late growing season botanical surveys were conducted within the Proposed Project survey area on multiple days. Performing multiple surveys over the course of the growing season is critical for the detection of special-status plants. New occurrences were documented for special-status plant species during each survey visit. Survey dates and times are summarized below in Table 3.

TABLE 4: SURVEY DATES AND TIME

Date (2017)	Survey (Survey Type)	Survey Hours	Biologist*
April 17	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
April 18	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
April 19	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
April 20	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
April 21	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
April 22	Early Growing Season	07:00-17:00	KT, NN
June 12	Late Growing Season	07:00-17:00	DGB, SD, MP, LA
June 13	Late Growing Season	07:00-17:00	DGB, SD, MP, LA
June 14	Late Growing Season	07:00-17:00	DGB, SD, MP, LA
June 15	Late Growing Season	07:00-17:00	DGB, SD, MP, LA
June 16	Late Growing Season	07:00-17:00	DGB, SD, MP, LA

* DGB – Doug Gordon Blackwood, RC – Ron Clark, KT – Kevin Thomas, NN - Nicole Nesball, SD – Scott Duff, LA – Luis Aguilar, MP – Mitch Provance

The botanical survey resulted in the detection of 254 plant species, of which 17 are non-native (Appendix B). Three (3) special status plant species, Crucifixion thorn (*Castela emoryi*, CRPR 2B.2), Matted cholla (*Grusonia parishii* CRPR 2B.2) and Purplenerve springparsley (*Cymopterus multinervatus* CRPR 2B.2), were observed within the survey area. Also, while not identified with a CRPR ranking, Mojave yucca (*Yucca schidigera*) clonal colonies which are protected by the DRECP were also documented within the survey area. Descriptions of the observed special-status plant species are provided below and their location within the alignment is provided in Exhibit 5: *Results*.

3.1 Small-Flowered Androstephium (Androstephium breviflorum, CRPR 2B.2)

Small-flowered androstephium is a perennial herb that typically blooms between March and April. This species is typically associated with desert dunes and creosote bush scrub with sandy to rocky soil at elevations between 325 – 5200 feet. A CCH record for this species (2005) occurs 100 feet south of the survey area. The species was detected during the reference site visit at record location. Surveys were conducted during the appropriate blooming season and reference populations were observed; the lack of observations within the Project survey area suggest that the species is absent from the Project site.

3.2 Crucifixion Thorn (*Castela emoryi,* CRPR 2B.2)

Crucifixion thorn is a shrub that typically blooms between June and July. This species is typically associated with creosote bush scrub at elevations between 295 to 2495 feet. Five (5) individuals were documented on gravely-wash soil within the Proposed Project survey area near Tower M88-T2, and seven (7) individuals were documented outside the survey area at 4 discrete locations (Exhibit 5, Pages 1-4) (Appendix C, Photo 5). Associated plant species included creosote (*Larrea tridentata*), *cheesebush* (*Ambrosia salsola), rayless enciela* (*Encelia frutescens*), and sweetbush (*Bebbia juncea).*

3.3 Purplenerve Springparsley (*Cymopterus multinervatus,* CRPR 2B.2)

Purplenerve springparsley is a perennial herb that typically blooms between March and April. This species is typically associated with Joshua tree woodland and pinyon-juniper woodland at elevations between 2200 to 4660 feet. Ten (10) individuals were documented on sandy-decomposed limestone soil within the Proposed Project survey area near Tower M124-T3 (Exhibit 5, Page 6) (Appendix C, Photos 7-8). Associated plant species included Joshua tree (*Yucca brevifolia),* big galleta *(Hilaria rigida),* cholla (*Cylindropuntia sp.),* creosote, non-native brome grasses (*Bromus spp.),* and Mormon tea (*Ephedra sp).*

3.4 Utah Vine Milkweed (*Cynanchum utahense,* CRPR 4.2)

Utah vine milkweed is a perennial herb that typically blooms between March and October. This species is typically associated with Mojavean and Sonoran desert scrub at elevations between 320 – 4,700 feet. CCH records for this species (2005-2009) occur within 300-600 feet of the southern Project survey area near Pisgah Substation. The species was detected during the reference site visit at record locations. Surveys were conducted during the appropriate blooming season and reference populations were observed; the lack of observations within the Project survey area suggest that the species is absent from the Project site

3.5 Matted Cholla (*Grusonia parishii,* CRPR 2B.2)

Matted cholla is a shrub that typically blooms between May and June. This species is typically associated with creosote bush scrub and Joshua tree woodland at elevations between 2920 to 4985 feet. One (1) individual was documented on coarse sand within the Proposed Project survey area near Tower M127-T6 (Exhibit 5, Page 7). Associated plant species included Joshua tree, pencil cholla (*Opuntia ramosissima*), desert olive *(Menodora spinescens var. spinescens), California buckwheat* (*Eriogonum fasciculatum*), and Cooper's goldenbush (*Ericameria cooperi*).

3.6 White-Margined Beardtongue (*Penstemon albomarginatus,* CRPR 1B.1)

White-margined beardtongue is a perennial herb that typically blooms between March and May. This species is typically associated with desert sand, generally on stabilized dunes with creosote bush scrub at elevations between 2300 – 3000 feet. CNDDB records for this species (2005-2010) occur within 500 feet of the southern Project survey area near I-40 and Pisgah. The species was not detected during the reference site visit at record locations. While surveys were conducted during the appropriate blooming season, the lack of observations at the reference population suggests that there is a possibility that the species may be present but not detectable at the time of survey.

3.7 Rusby's Desert Mallow (*Sphaeralcea rusbyi* var. *eremicola,* 1B.2)

Rusby's deseret mallow is a perennial herb that typically blooms between March and June. This species is typically associated with creosote bush scrub and Joshua tree woodlands in disturbed areas at elevations

between 3280 – 4921 feet. CNDDB records for this species (1998) occur within the Project survey area along Powerline Road access route. The species was detected during the reference site visit at record location. Surveys were conducted during the appropriate blooming season and reference populations were observed; the lack of observations within the Project survey area suggest that the species is absent from the Project site

3.8 Mohave Yucca Rings (*Yucca schidigera*)

Mohave yucca is a tree that typically blooms between April and May. This species is typically associated with chaparral and creosote bush scrub at elevations between 50 to 7450 feet. The Mojave yucca can produce clonal colonies that originate from a single ancestor. Clonal colonies are rare and can be several thousand years old (Vasek 1980). Clones were documented on dry rocky slopes within the Proposed Project survey area near Towers M108-T2 and M131-T1 (Exhibit 5, Page 5 and 8) (Appendix C, Photo 4). Each of these yucca rings had a diameter greater than 3-meters.

4.0 SUMMARY

EI conducted systematic searches for special status plant species within the survey area. Three special status plant species (Crucifixion Thorn, Purplenerve Springparsley, and Matted Cholla) and a unique vegetation stand (Mojave yucca rings) were documented in the survey area. Additionally, one rare plant species (White-Margined Beardtongue) was absent from reference population locations and may not have been visible during surveys. Nevertheless, based on the phenological characteristics of other species with similar blooming periods and observed during surveys and the identification of new and expanded special-status plant populations, the targeted plant species were expected to be evident and observable during this year's survey periods.

ENVIRONMENTAL INTELLIGENCE

Travis Kegel – Project Manager

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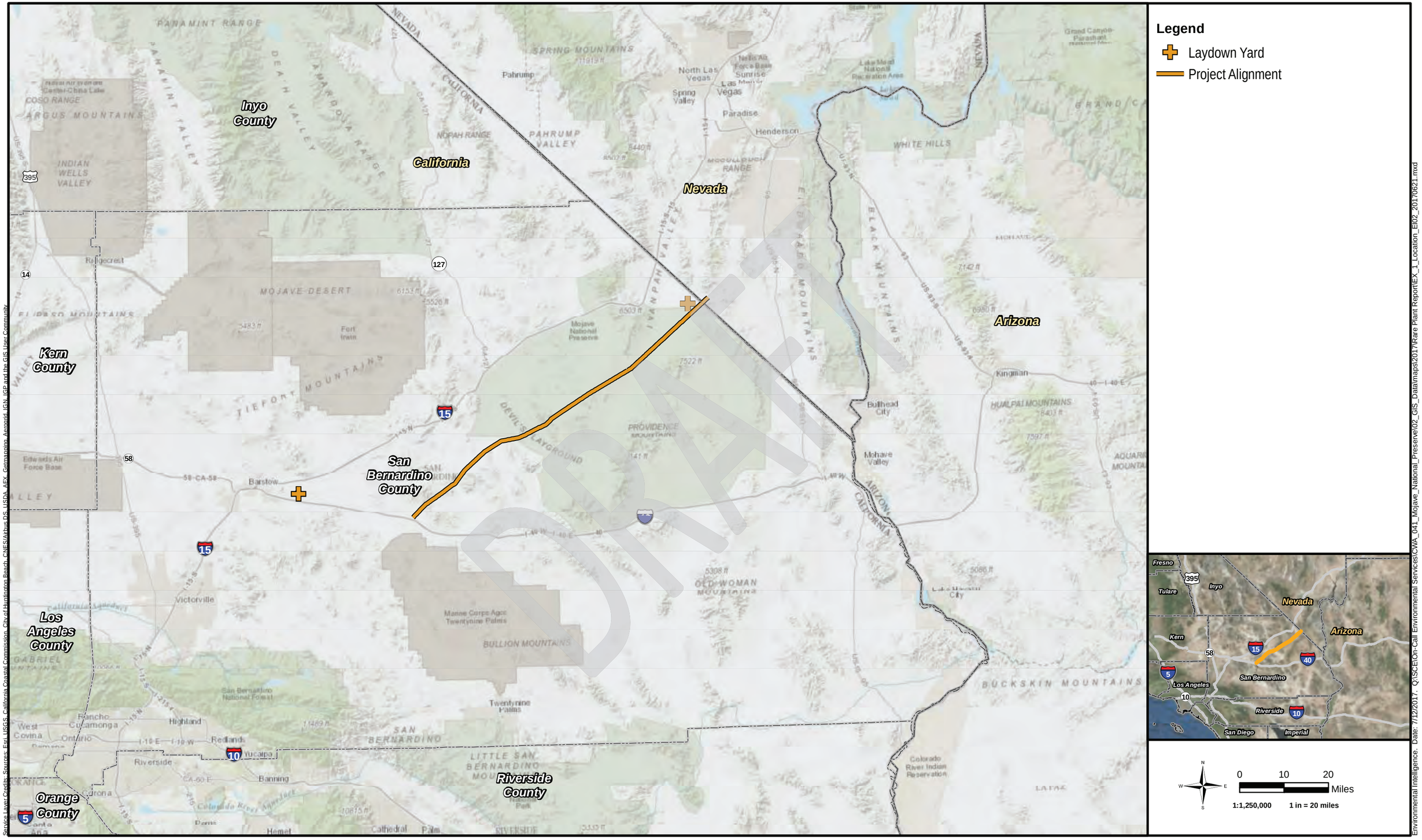

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Exhibit 1. Project Vicinity

LVRAS Project | San Bernardino County, CA and Clark County, NV

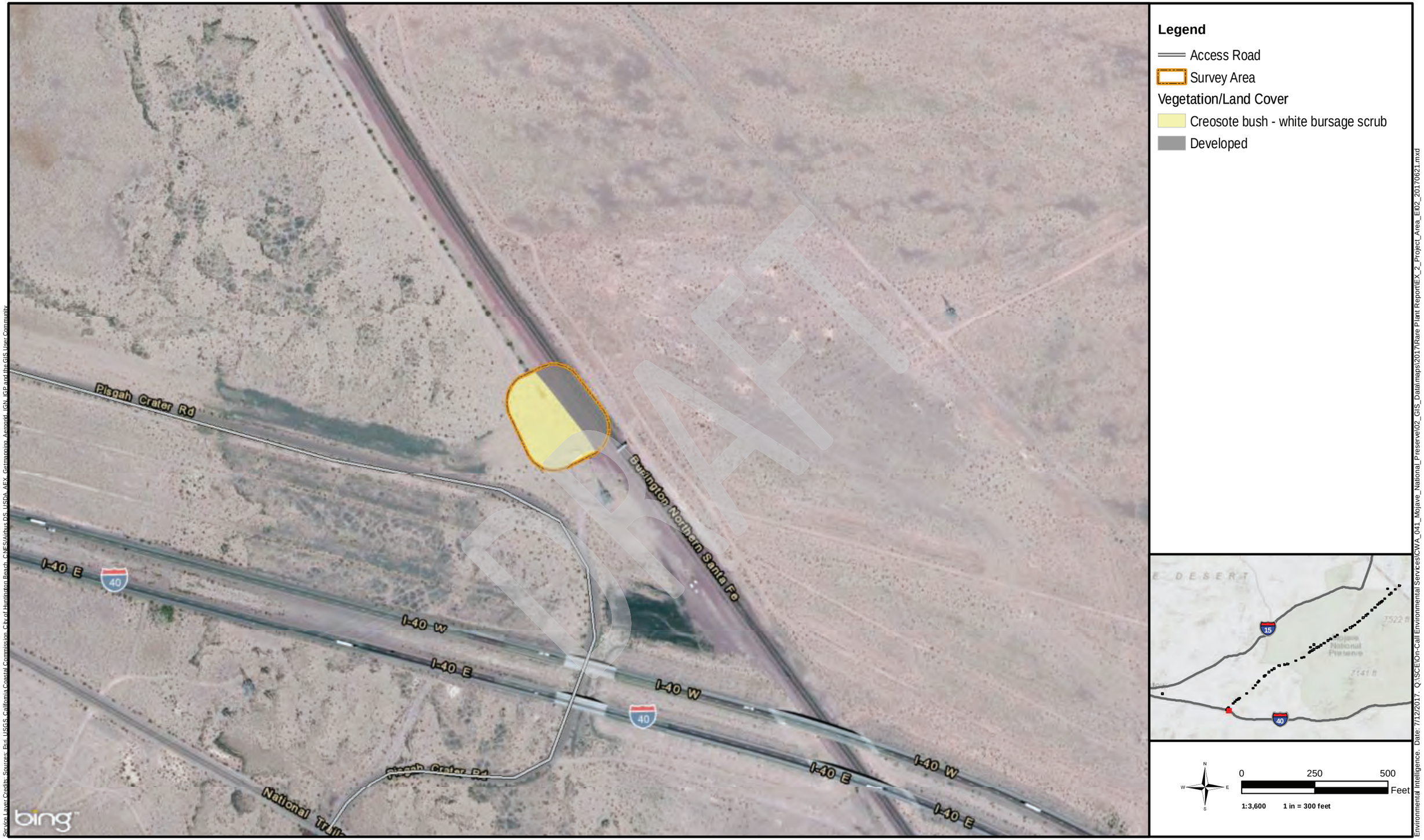

Exhibit 2. Project Area (Page 1 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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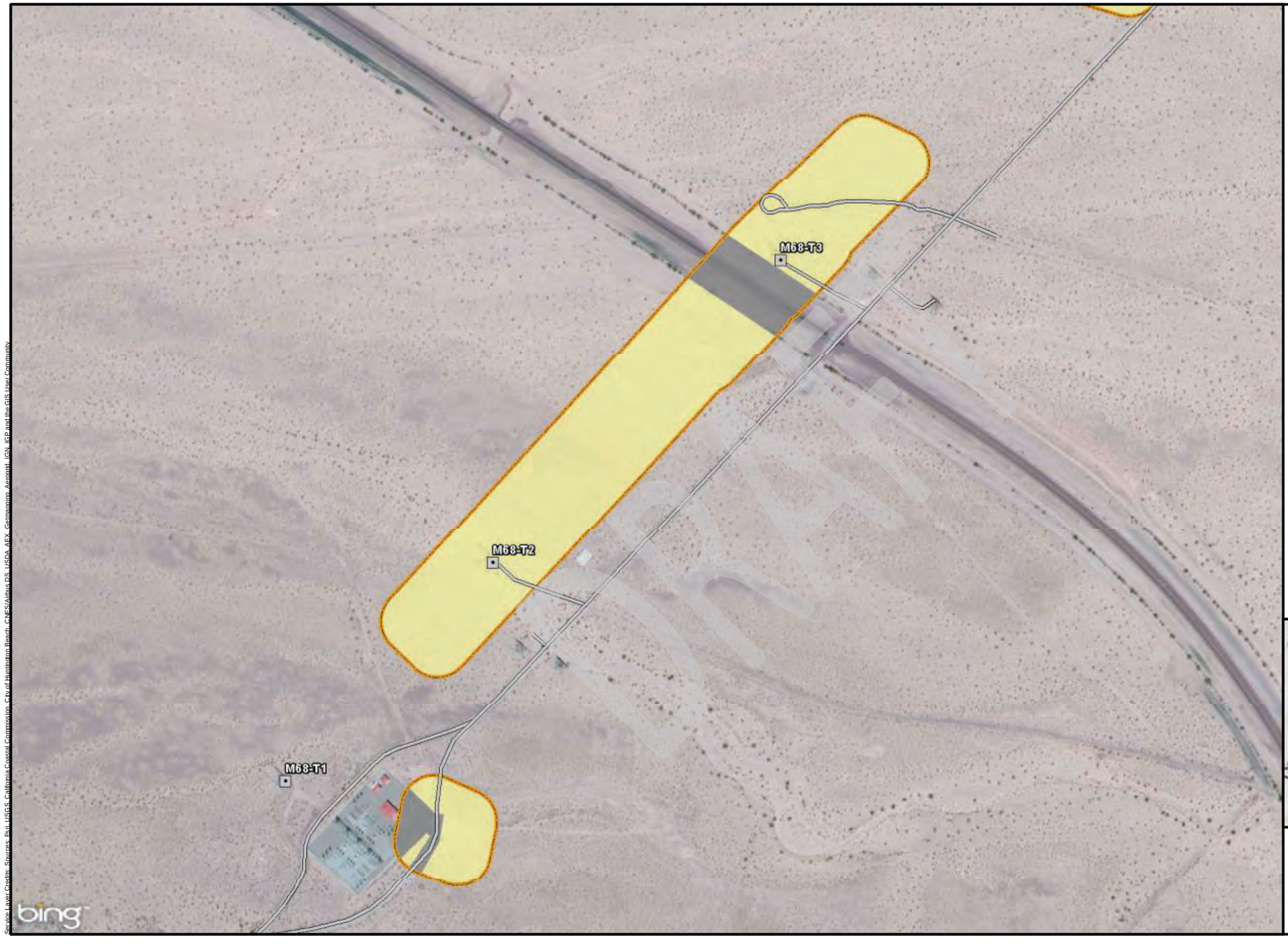
Exhibit 2. Project Area (Page 2 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Creosote bush - white bursage scrub
- Developed

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Source: Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Exhibit 2. Project Area (Page 3 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 4 of 62)
LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 5 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

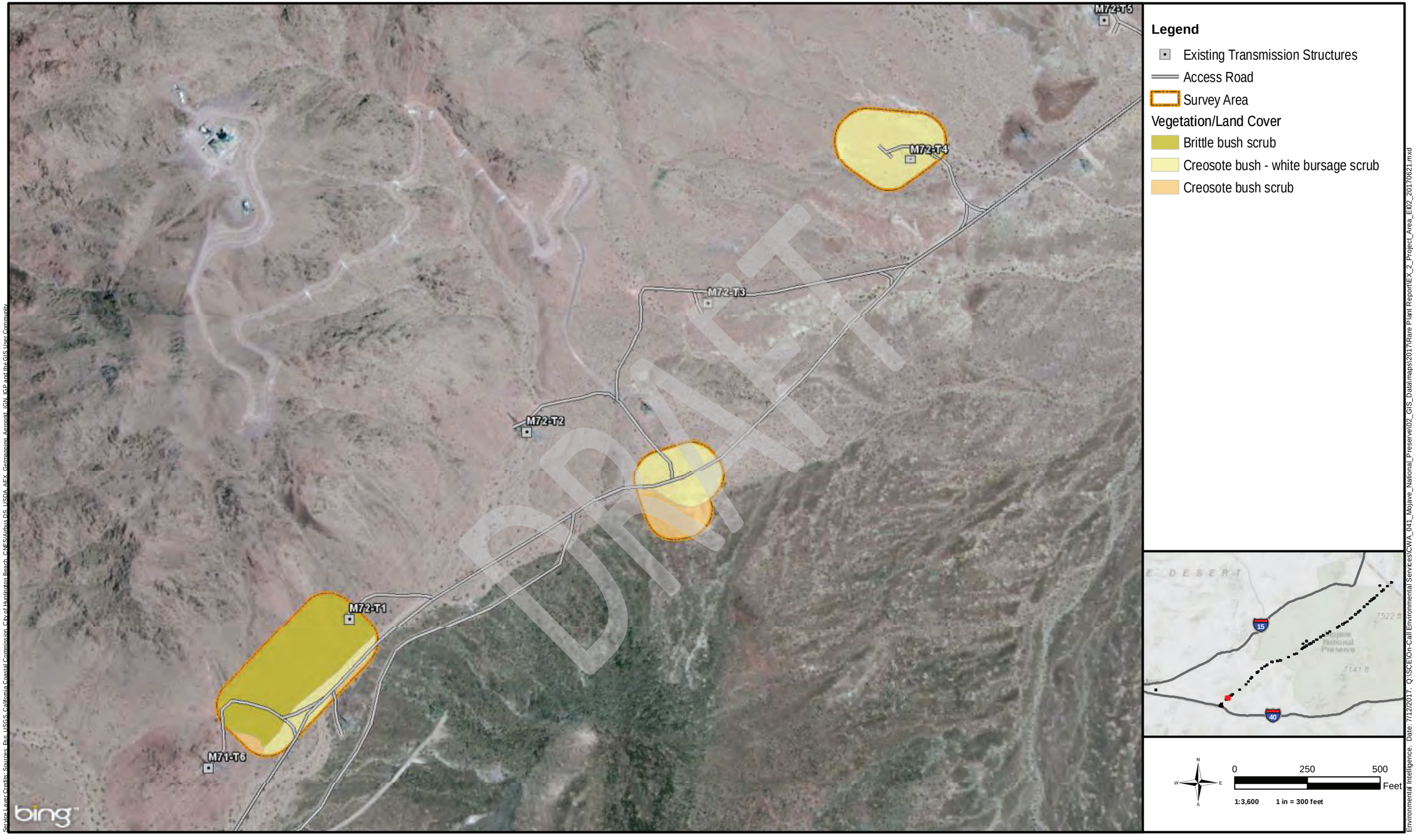


Exhibit 2. Project Area (Page 6 of 62)

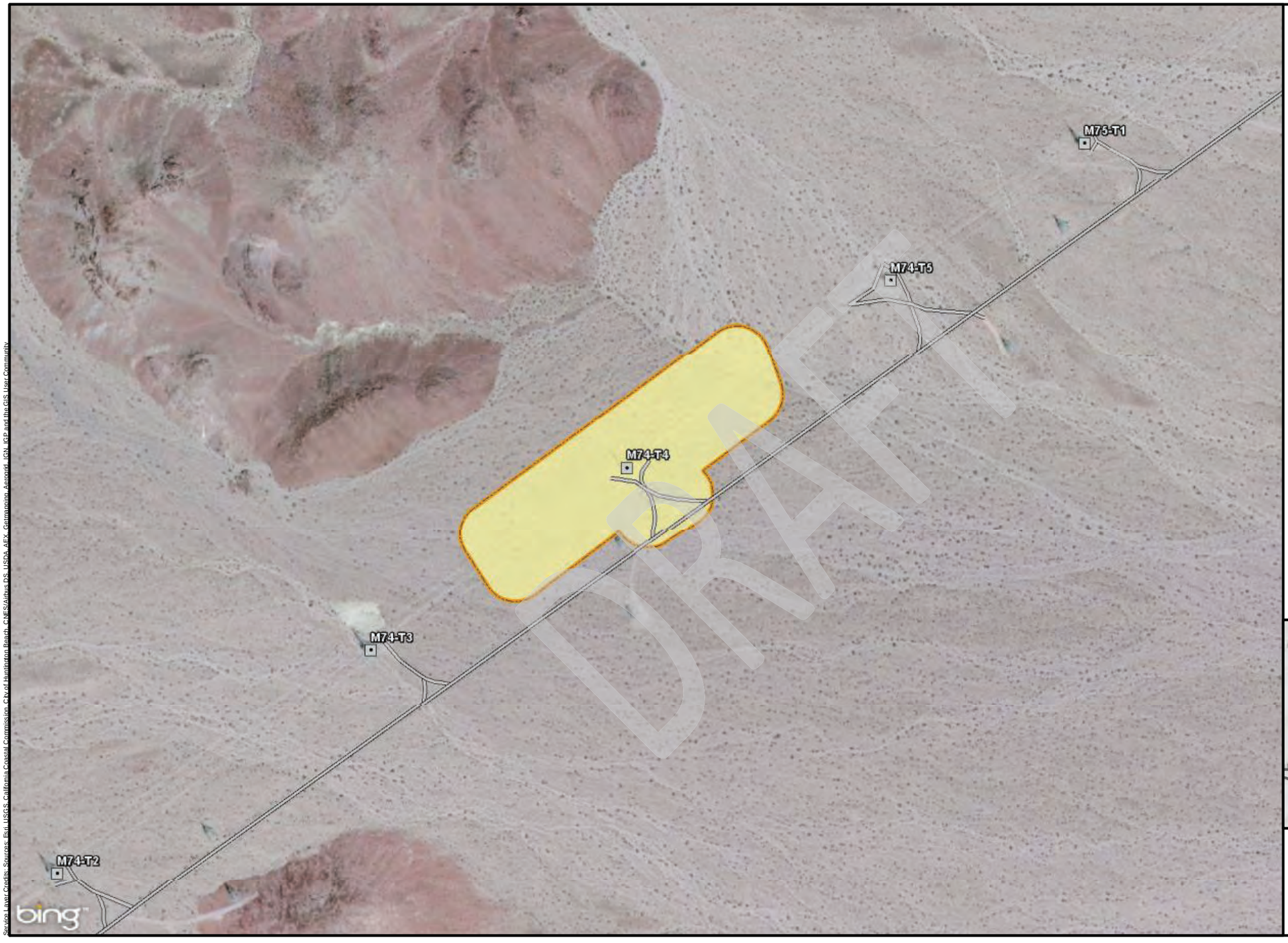
LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 7 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 8 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Creosote bush - white bursage scrub

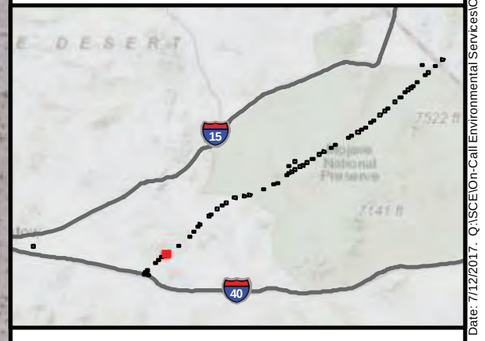


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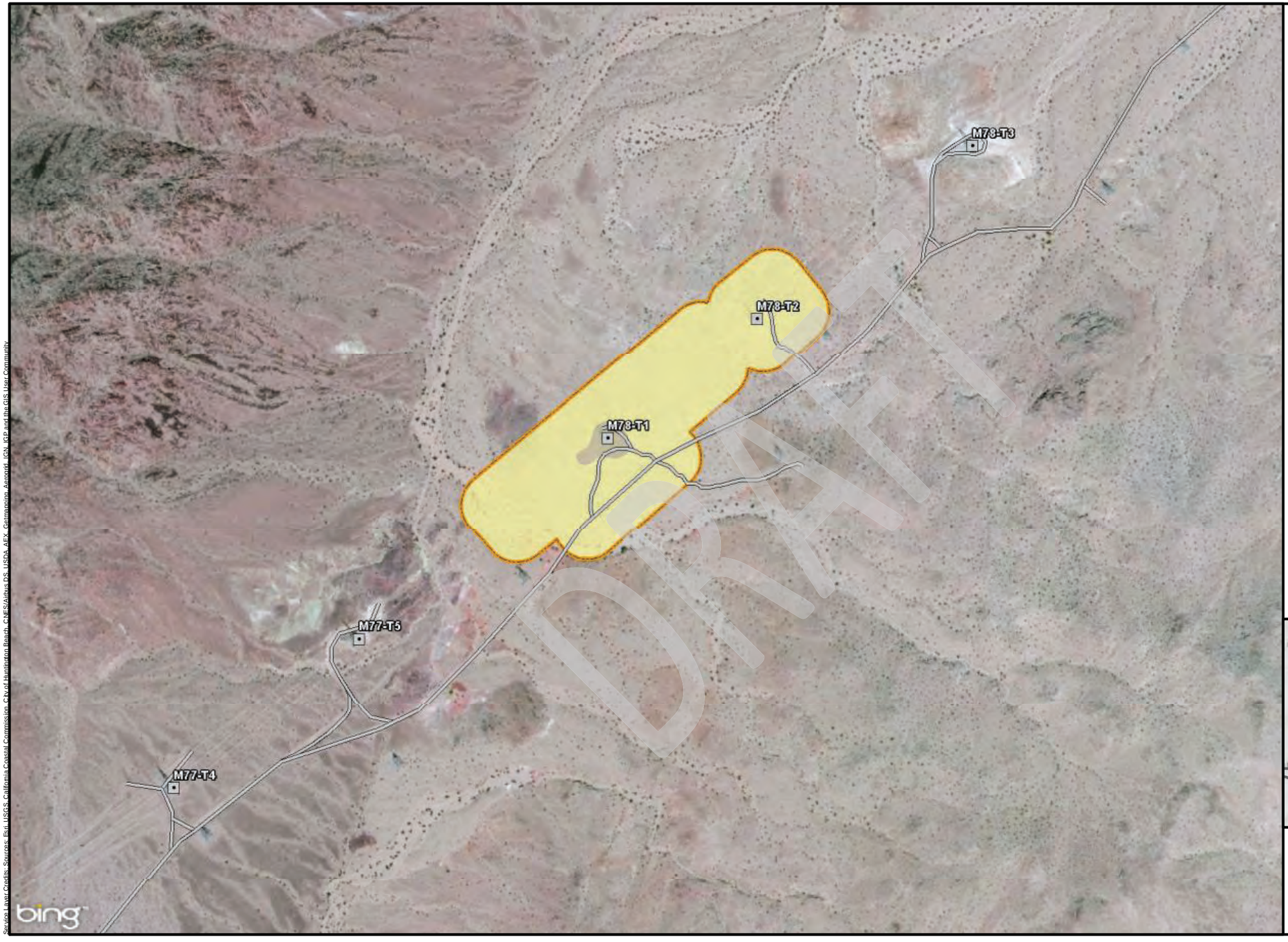
Exhibit 2. Project Area (Page 9 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
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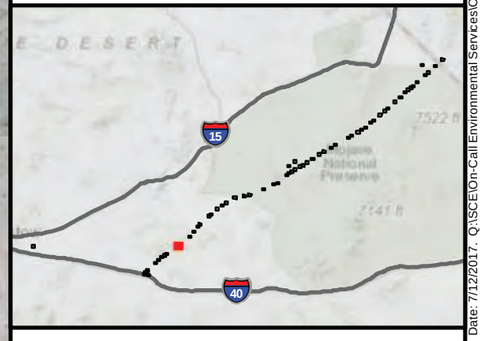
Vegetation/Land Cover

- Creosote bush - white bursage scrub
- White bursage scrub



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Source Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Exhibit 2. Project Area (Page 10 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

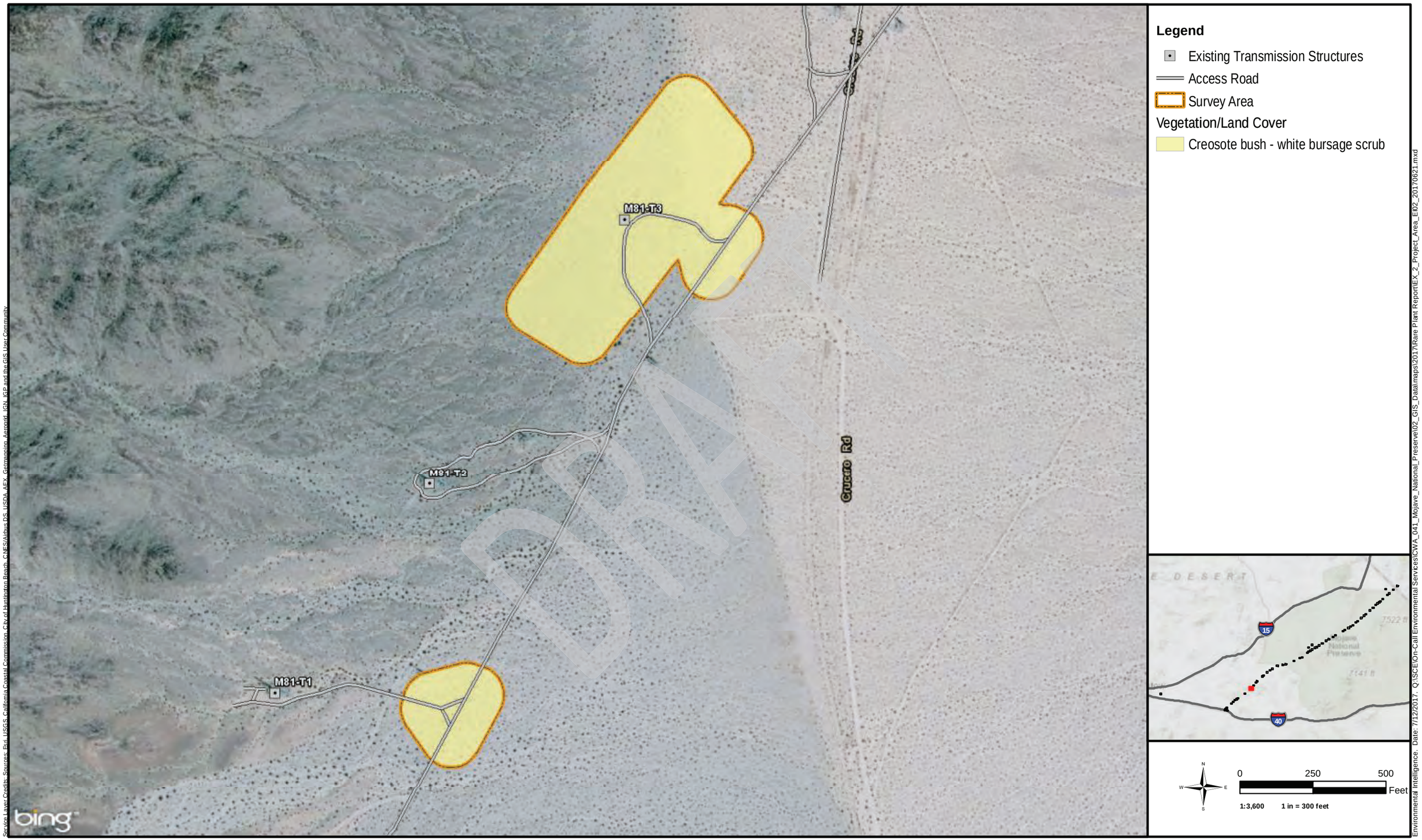

Exhibit 2. Project Area (Page 11 of 62)

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Exhibit 2. Project Area (Page 12 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

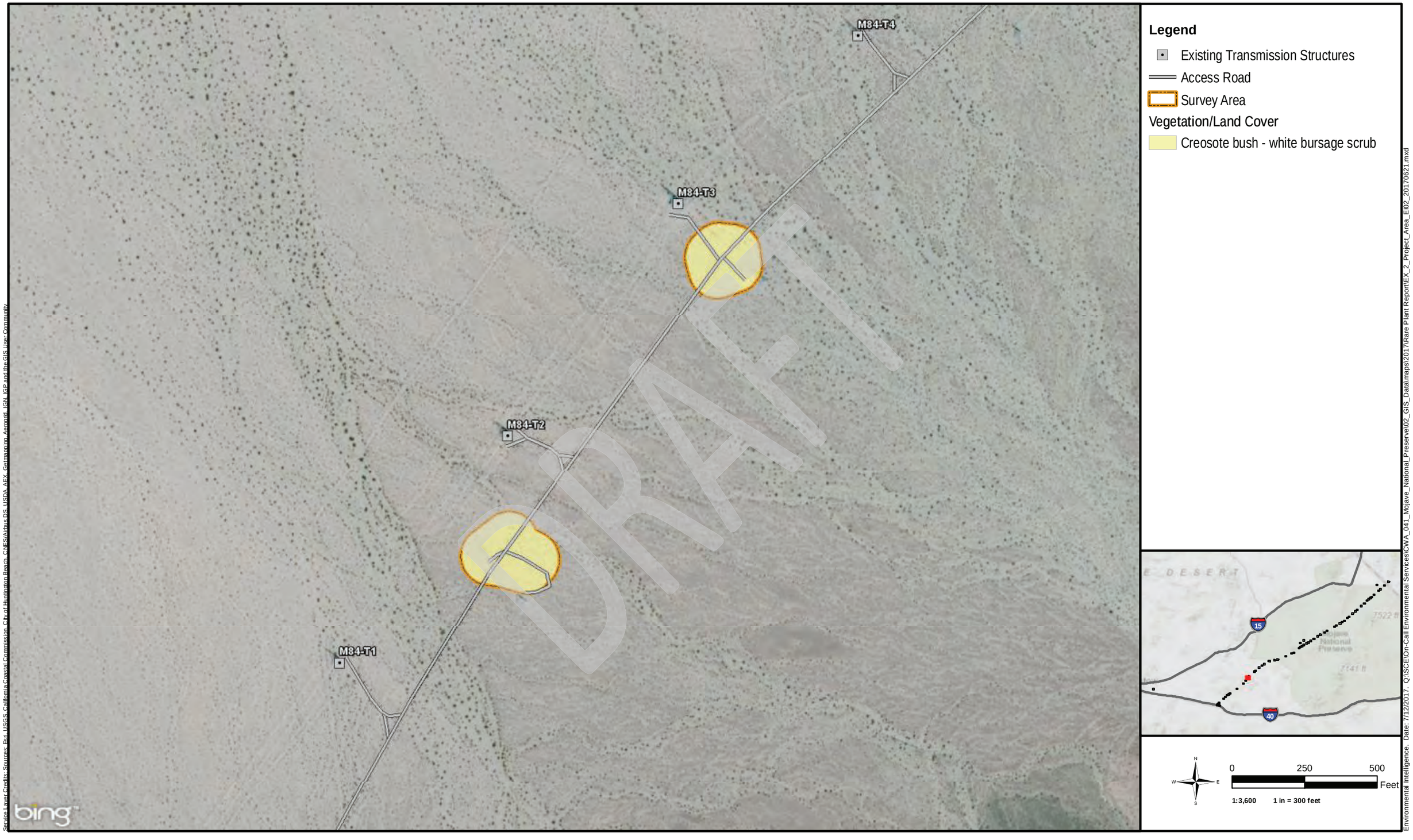

Exhibit 2. Project Area (Page 13 of 62)

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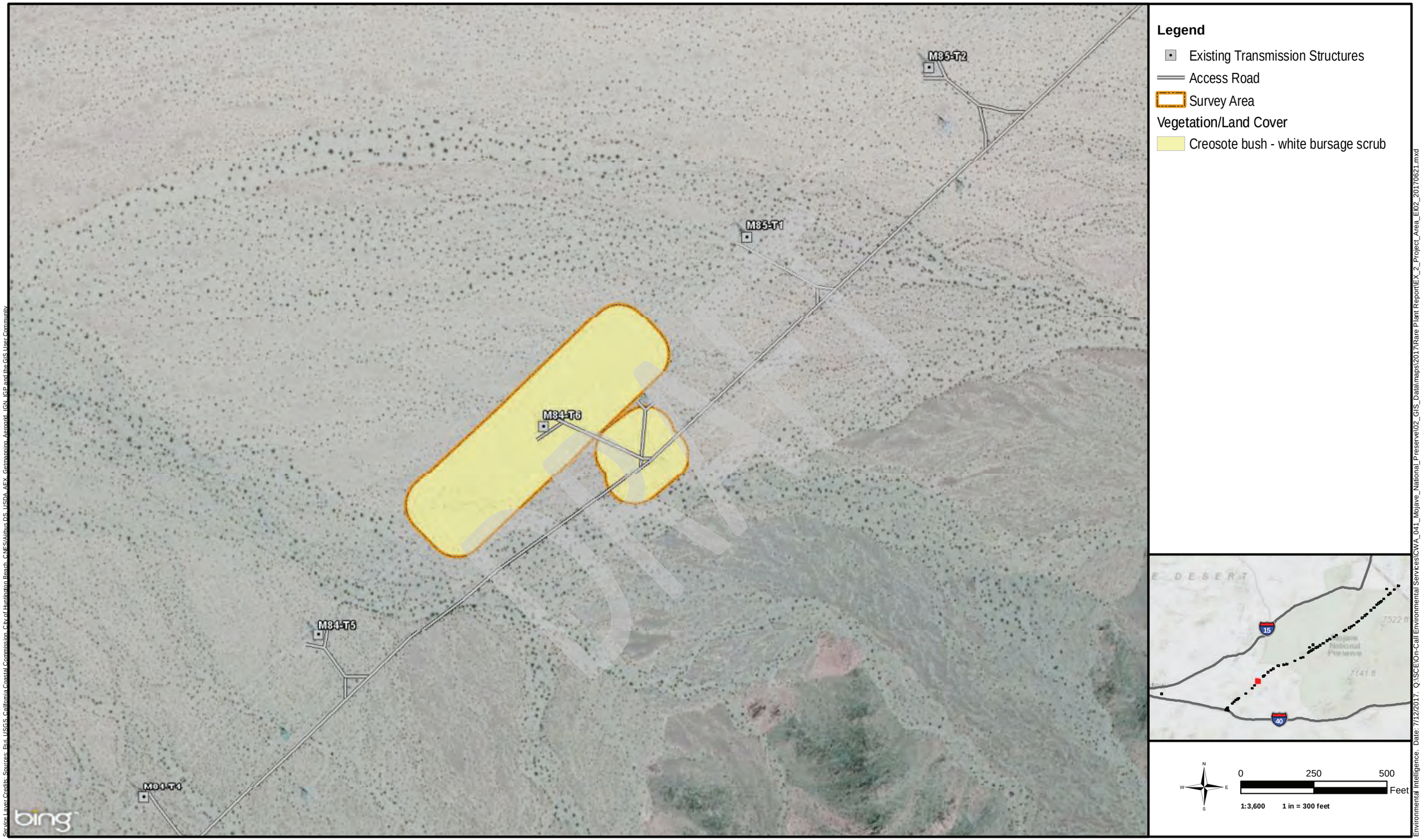

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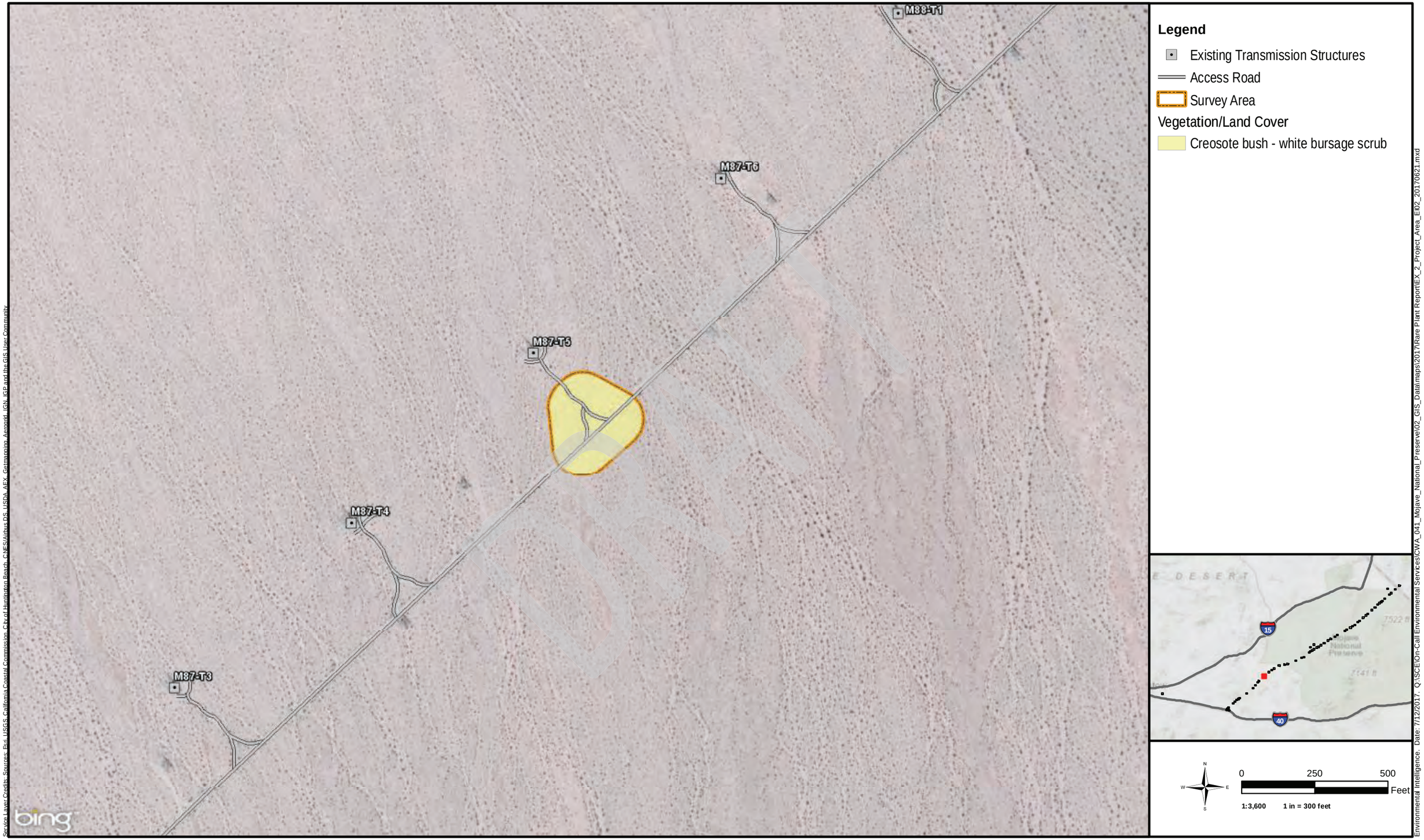
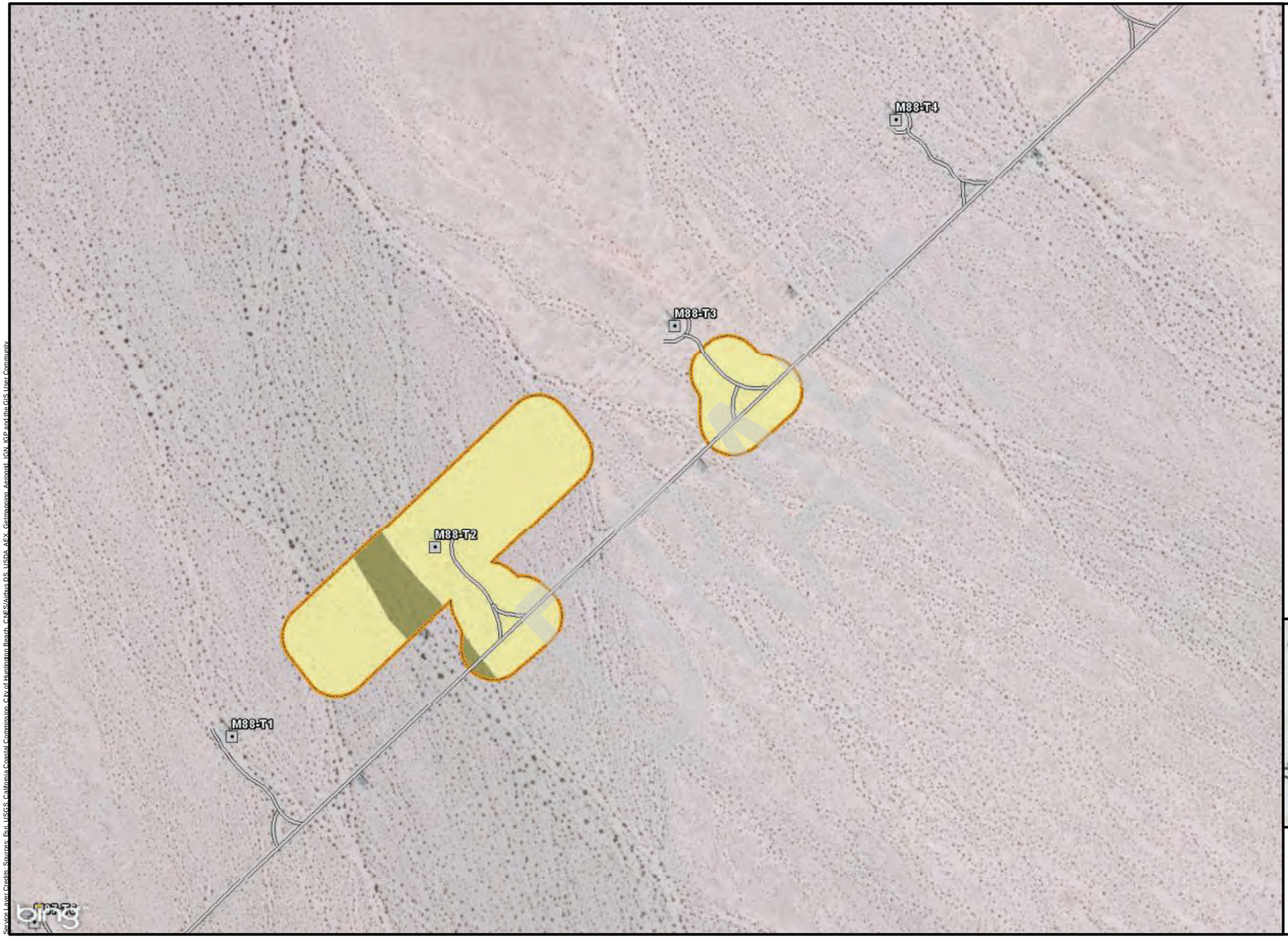


Exhibit 2. Project Area (Page 15 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Creosote bush - white bursage scrub
- Smoke tree woodland

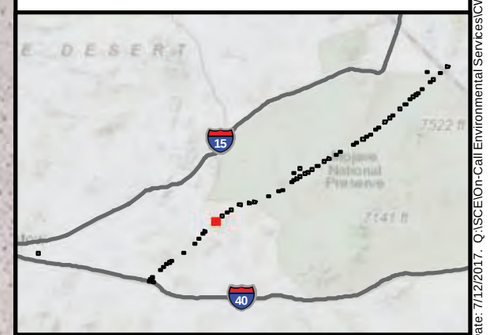


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Exhibit 2. Project Area (Page 16 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 17 of 62)
LVRAS Project | San Bernardino County, CA and Clark County, NV

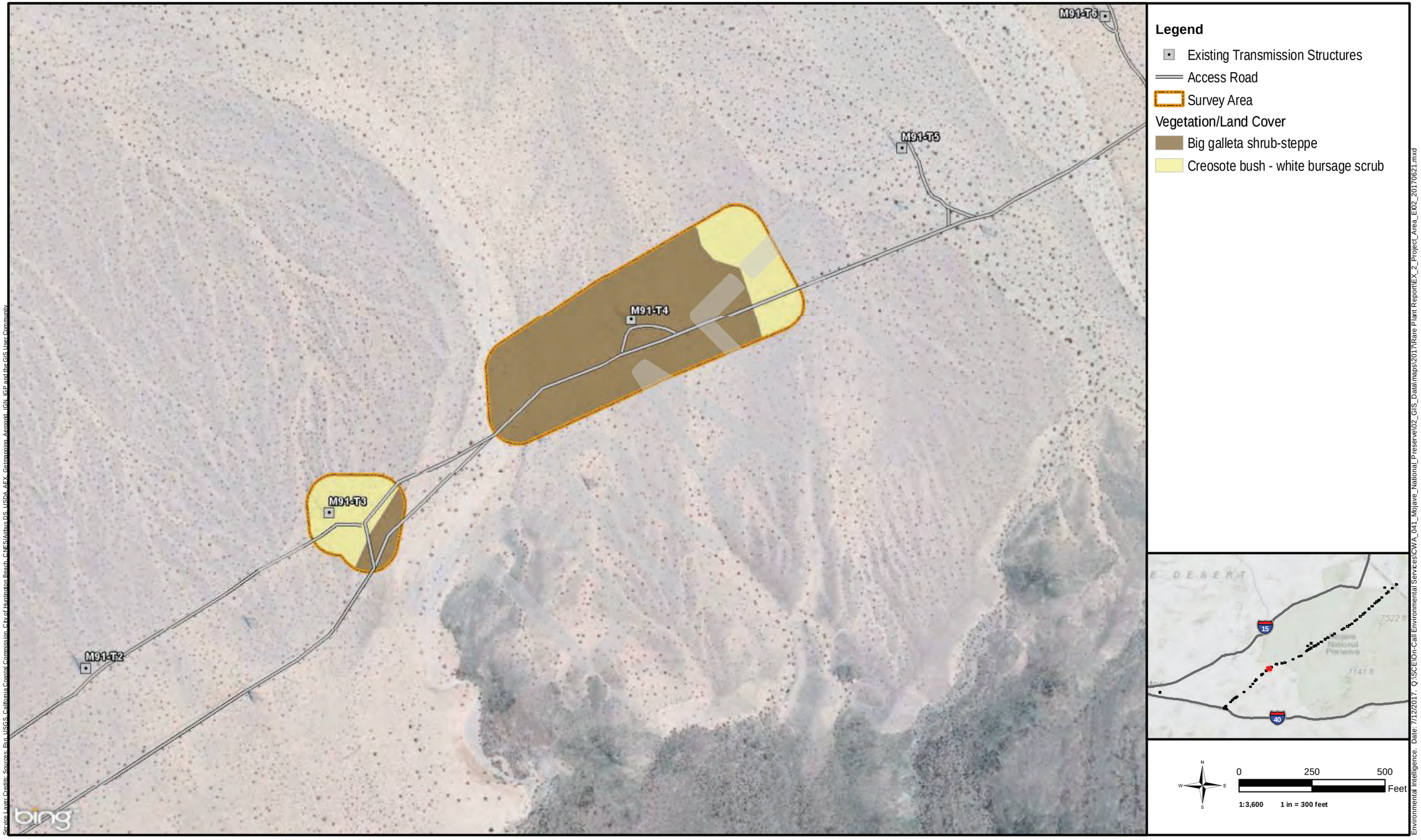
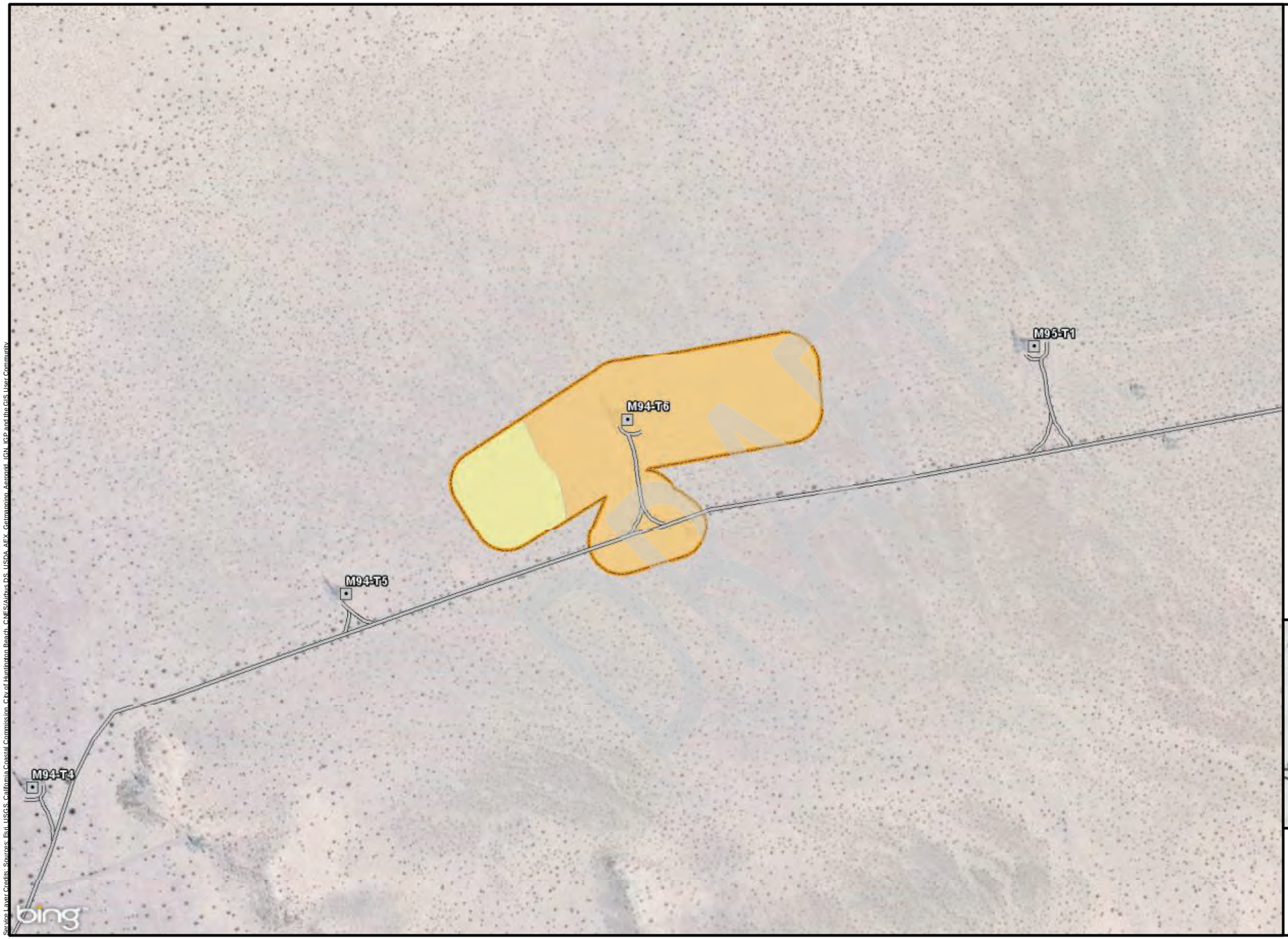


Exhibit 2. Project Area (Page 18 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

Exhibit 2. Project Area (Page 19 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Creosote bush - white bursage scrub
- Creosote bush scrub

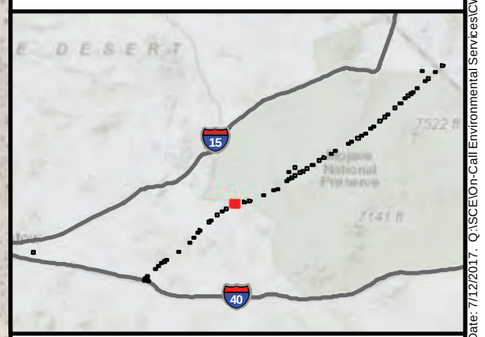


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Exhibit 2. Project Area (Page 21 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

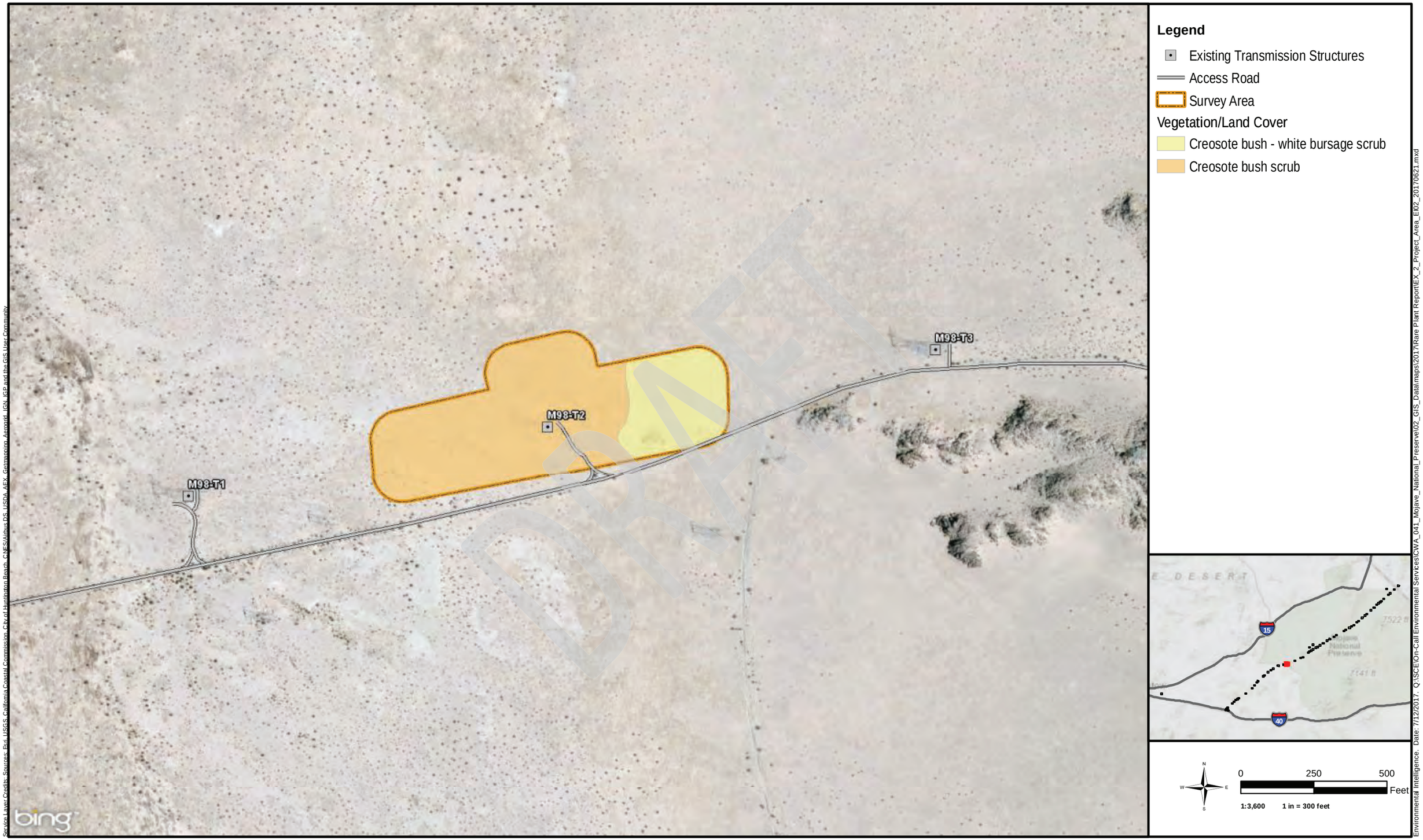


Exhibit 2. Project Area (Page 22 of 62)
LVRAS Project | San Bernardino County, CA and Clark County, NV

Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Annual brome grasslands
- Big galleta shrub-steppe

N
W
E
S

0 250 500 Feet

1:3,600 1 in = 300 feet

Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 7/12/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2017\Rare Plant Report\EX_2_Project_Area_E\02_20170621.mxd

Exhibit 2. Project Area (Page 23 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

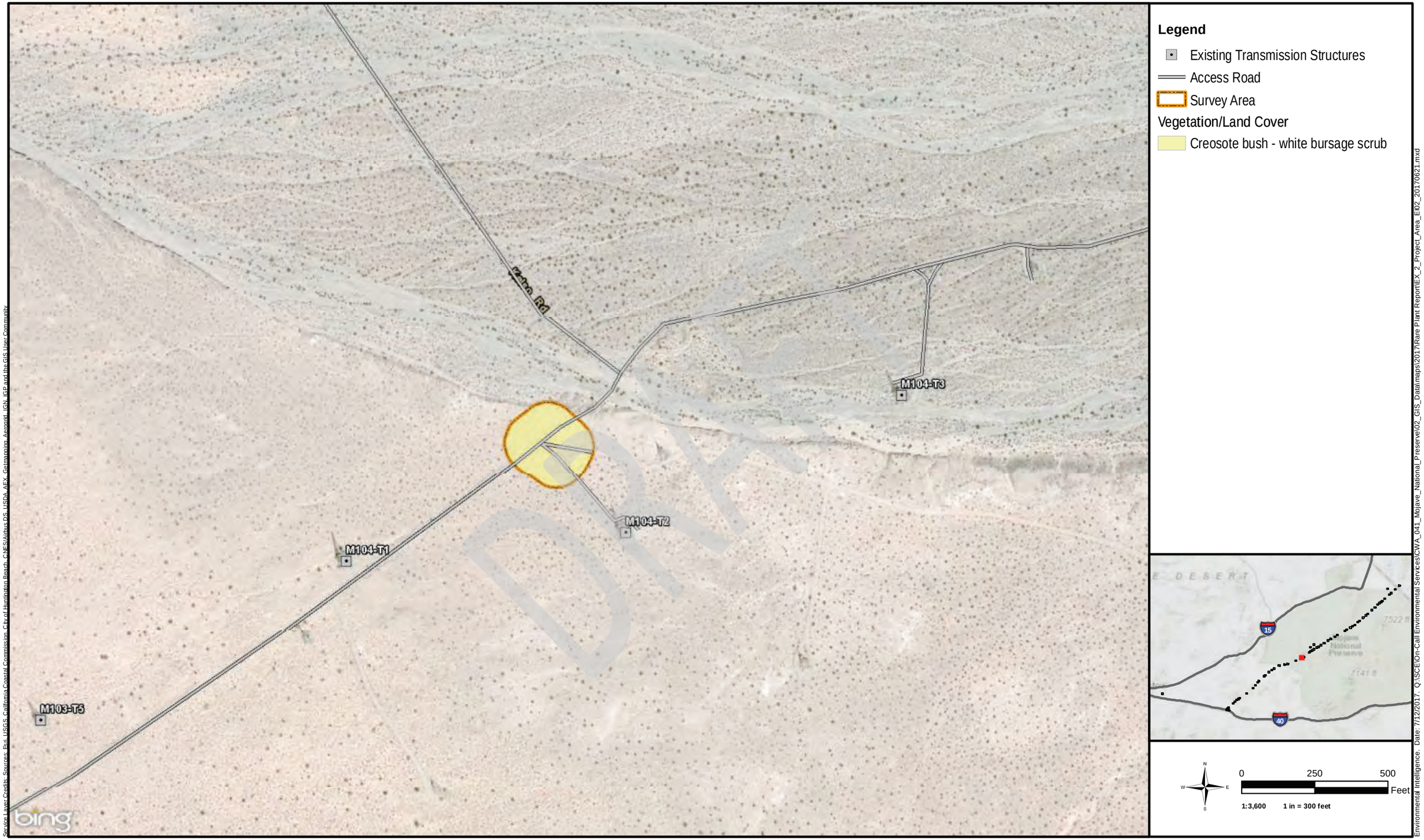
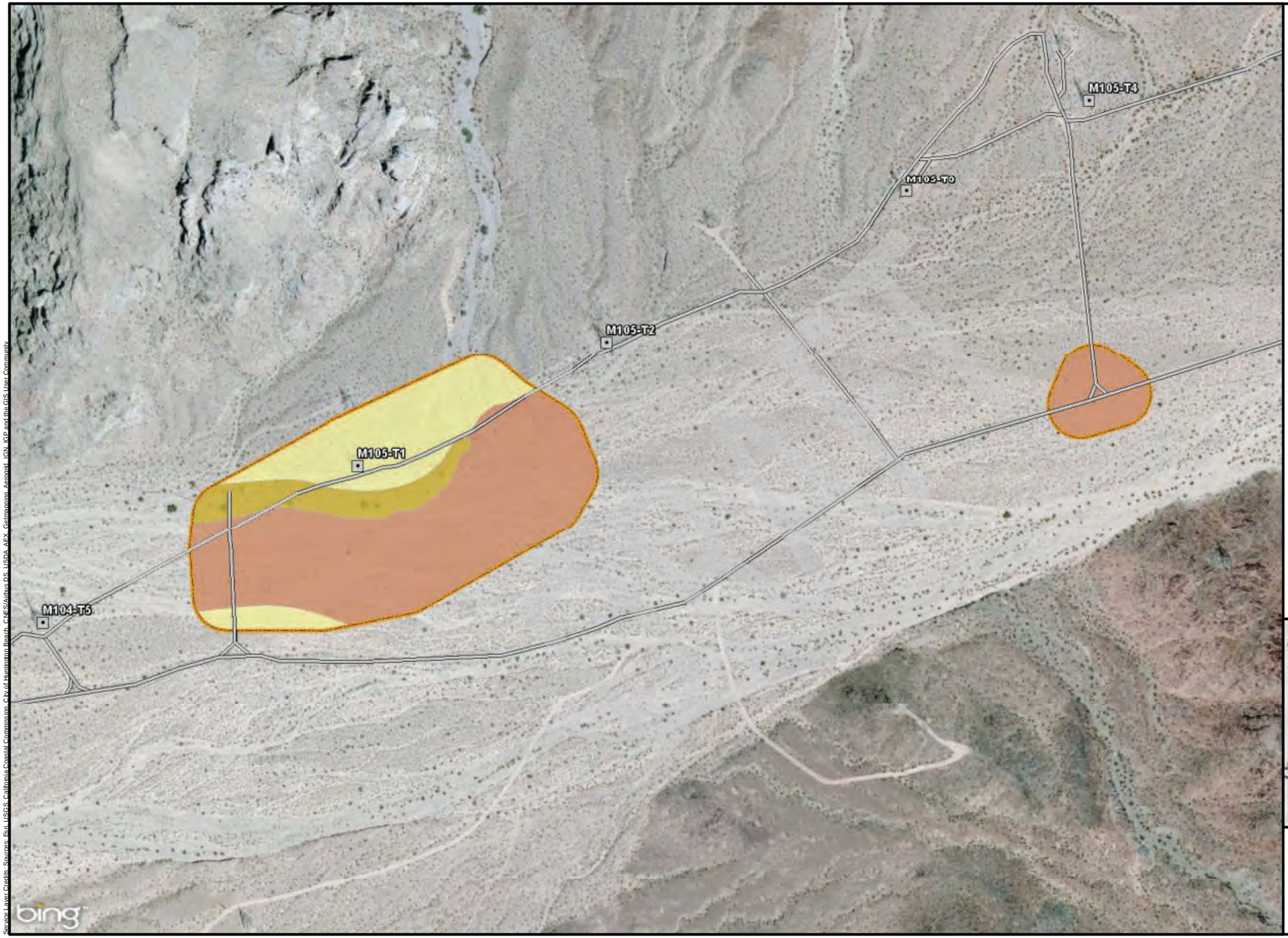


Exhibit 2. Project Area (Page 24 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

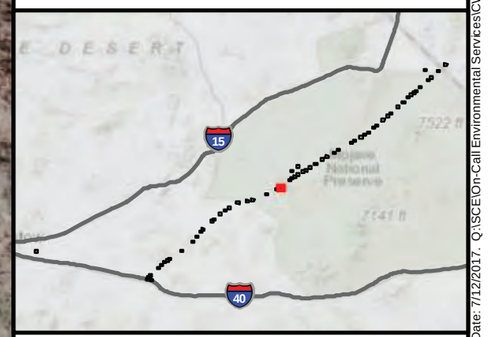


Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Cheesebush scrub
- Creosote bush - white bursage scrub
- Desert willow woodland



N
W E
S

0 250 500 Feet

1:3,600 1 in = 300 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping Aerogrid, IGN, IGP and the GIS User Community

Environmental Intelligence. Date: 7/12/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2017\Rare Plant Report\EX_2_Project_Area_E02_20170621.mxd

Exhibit 2. Project Area (Page 25 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV

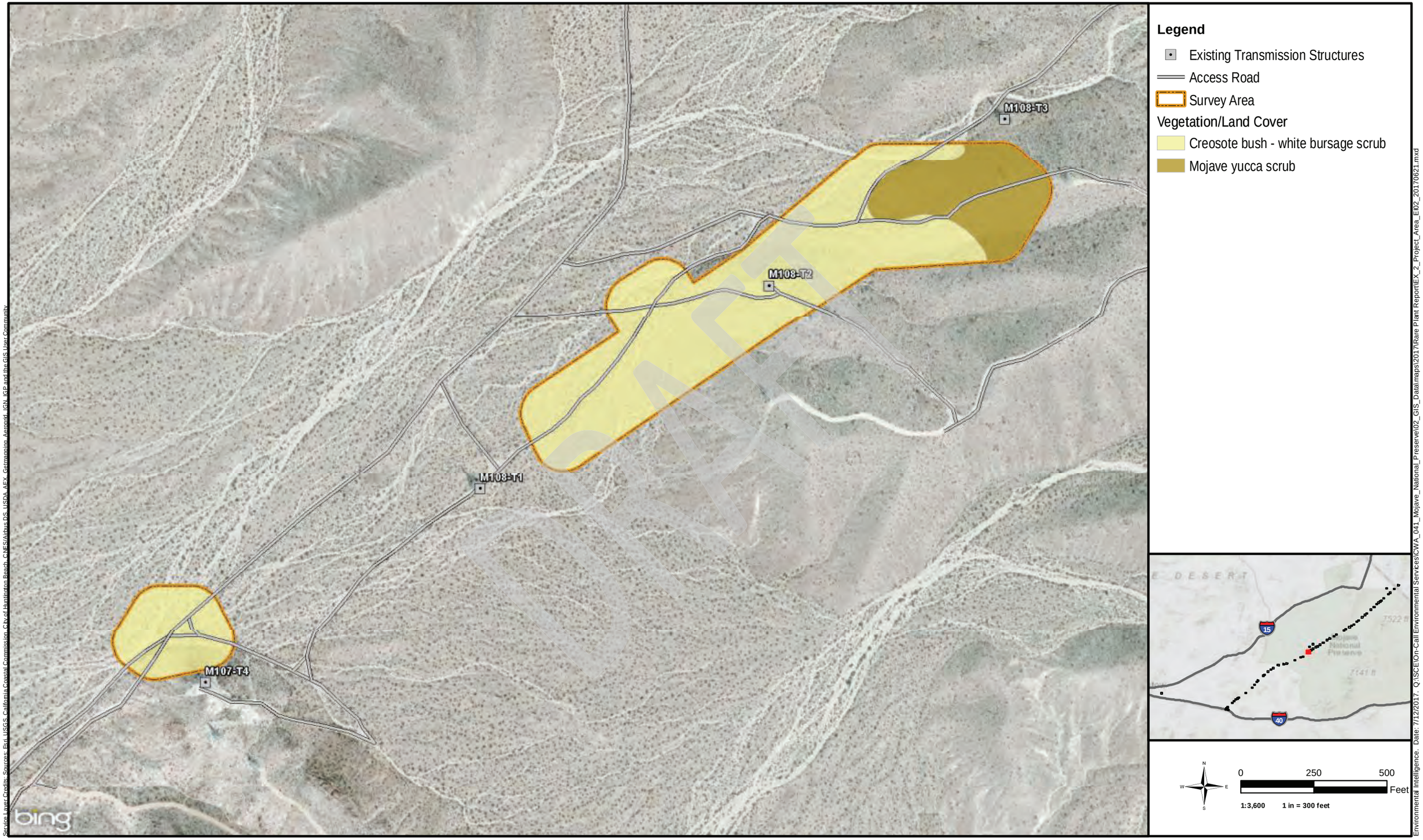


Exhibit 2. Project Area (Page 26 of 62)
LVRAS Project | San Bernardino County, CA and Clark County, NV

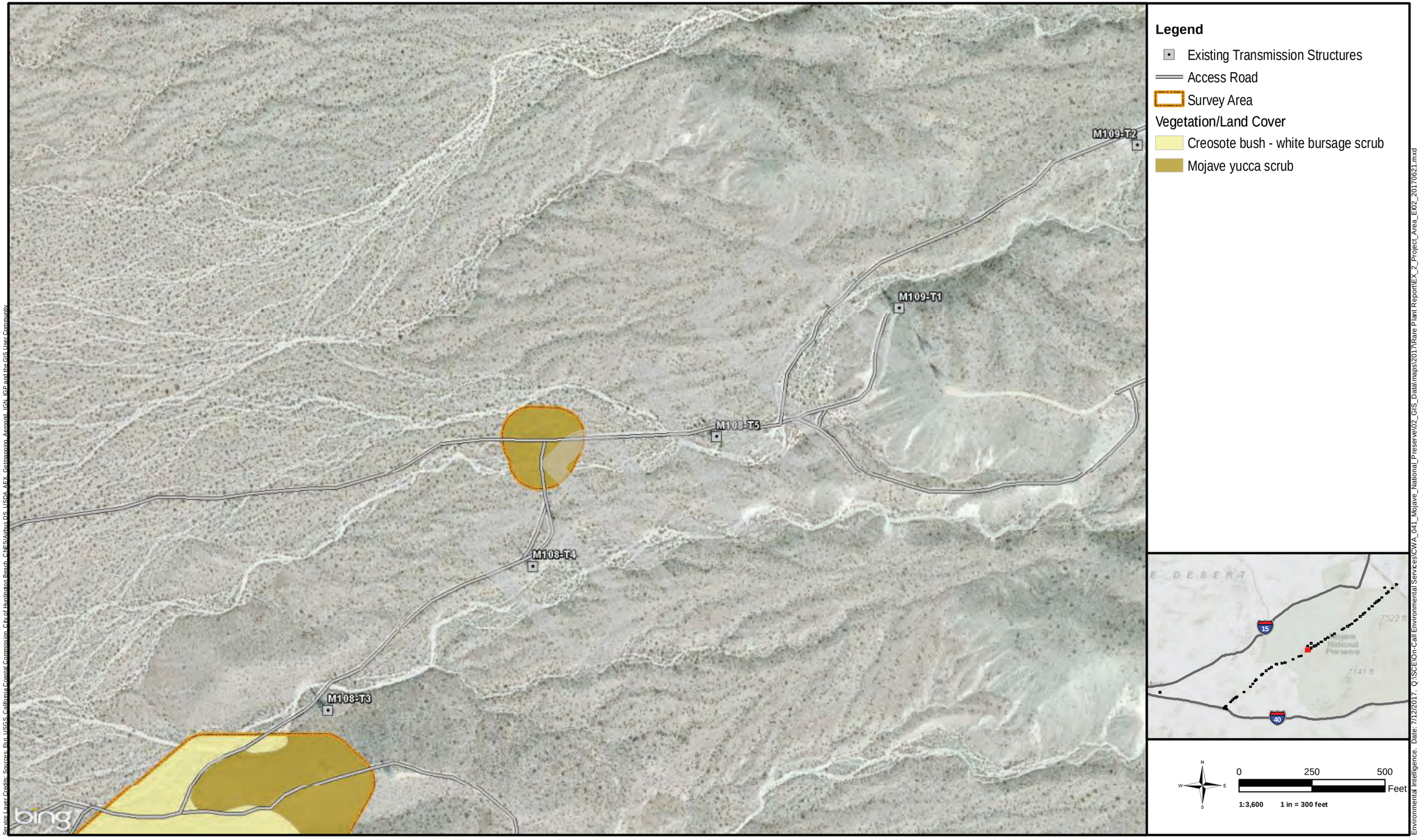
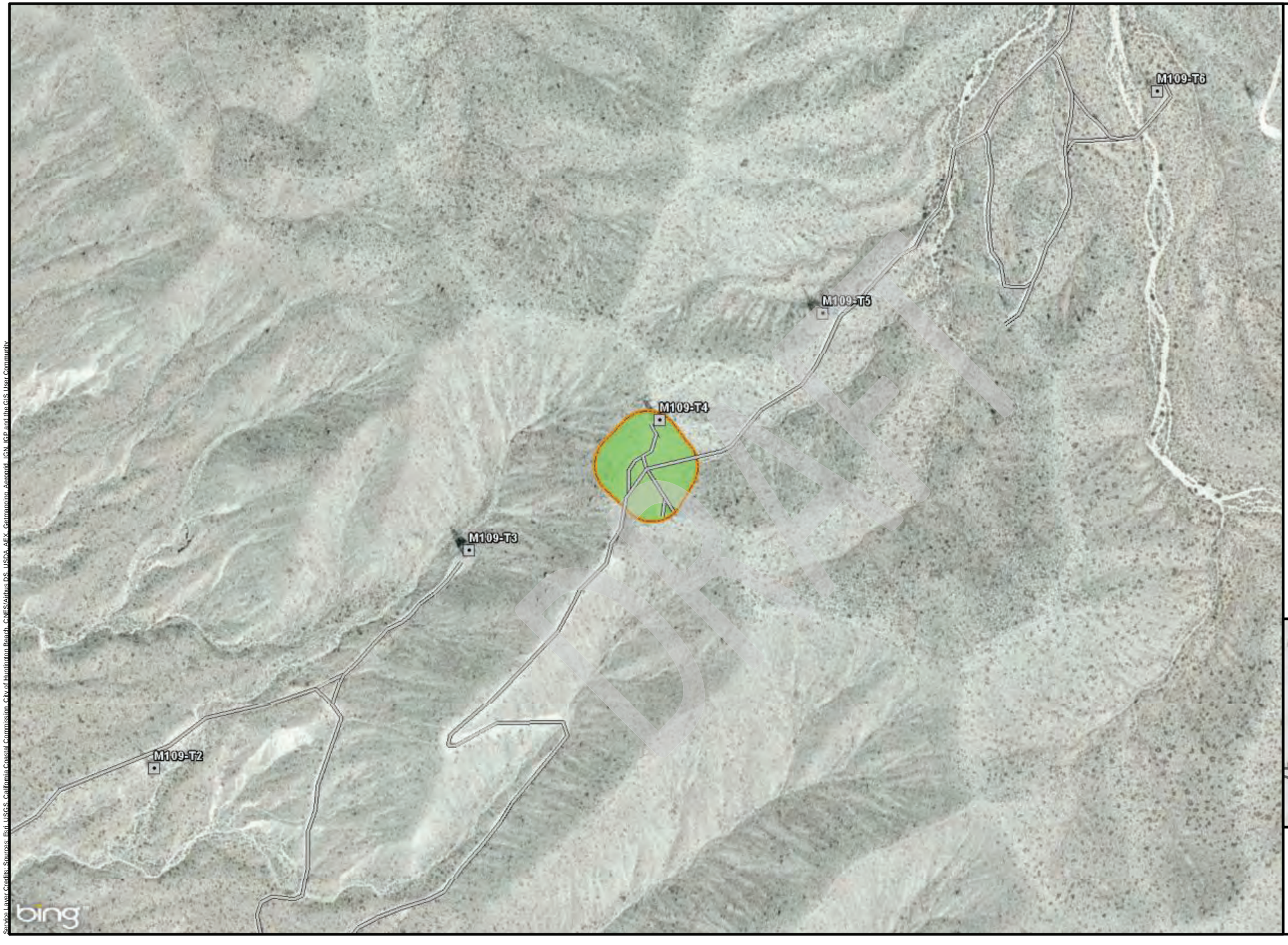


Exhibit 2. Project Area (Page 27 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV



Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Joshua tree woodland

N
W
E
S

0 250 500 Feet

1:3,600 1 in = 300 feet

Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 7/12/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2017\Rare Plant Report\EX_2_Project_Area_E\02_20170621.mxd

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Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP and the GIS User Community

Environmental Intelligence. Date: 7/12/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2017\Rare Plant Report\EX_2_Project_Area_E02_20170621.mxd

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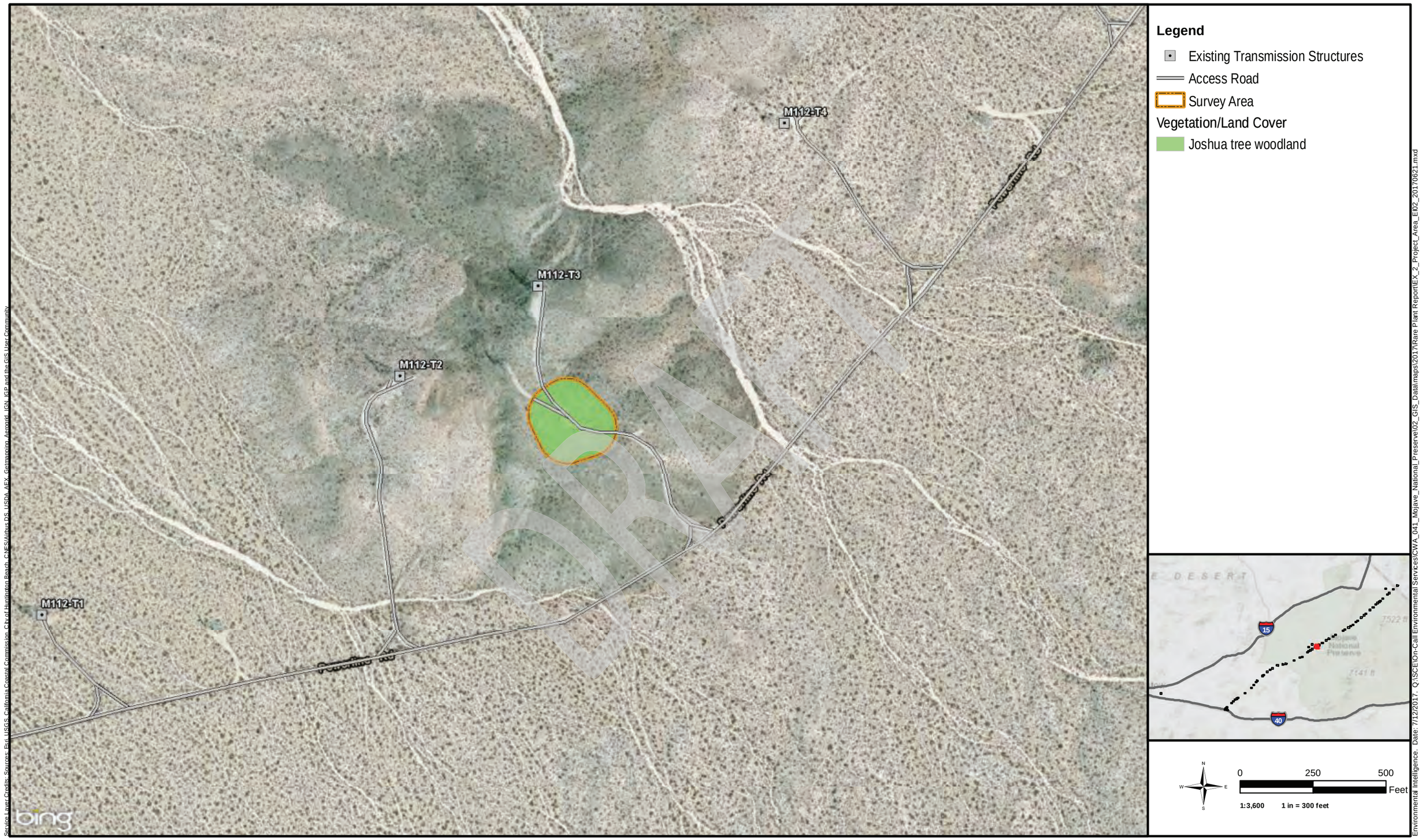


Exhibit 2. Project Area (Page 33 of 62)

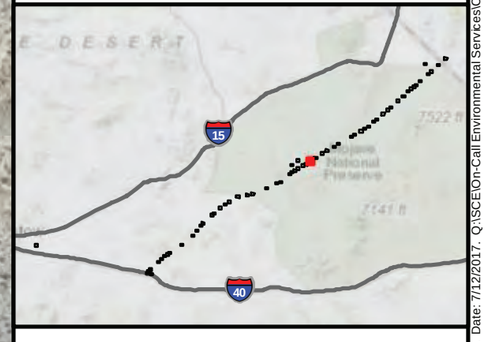
LVRAS Project | San Bernardino County, CA and Clark County, NV

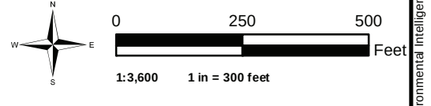
Legend

- Existing Transmission Structures
- Access Road
- Survey Area

Vegetation/Land Cover

- Developed
- Joshua tree woodland





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Environmental Intelligence. Date: 7/12/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2017\Rare Plant Report\EX_2_Project_Area_E02_20170621.mxd

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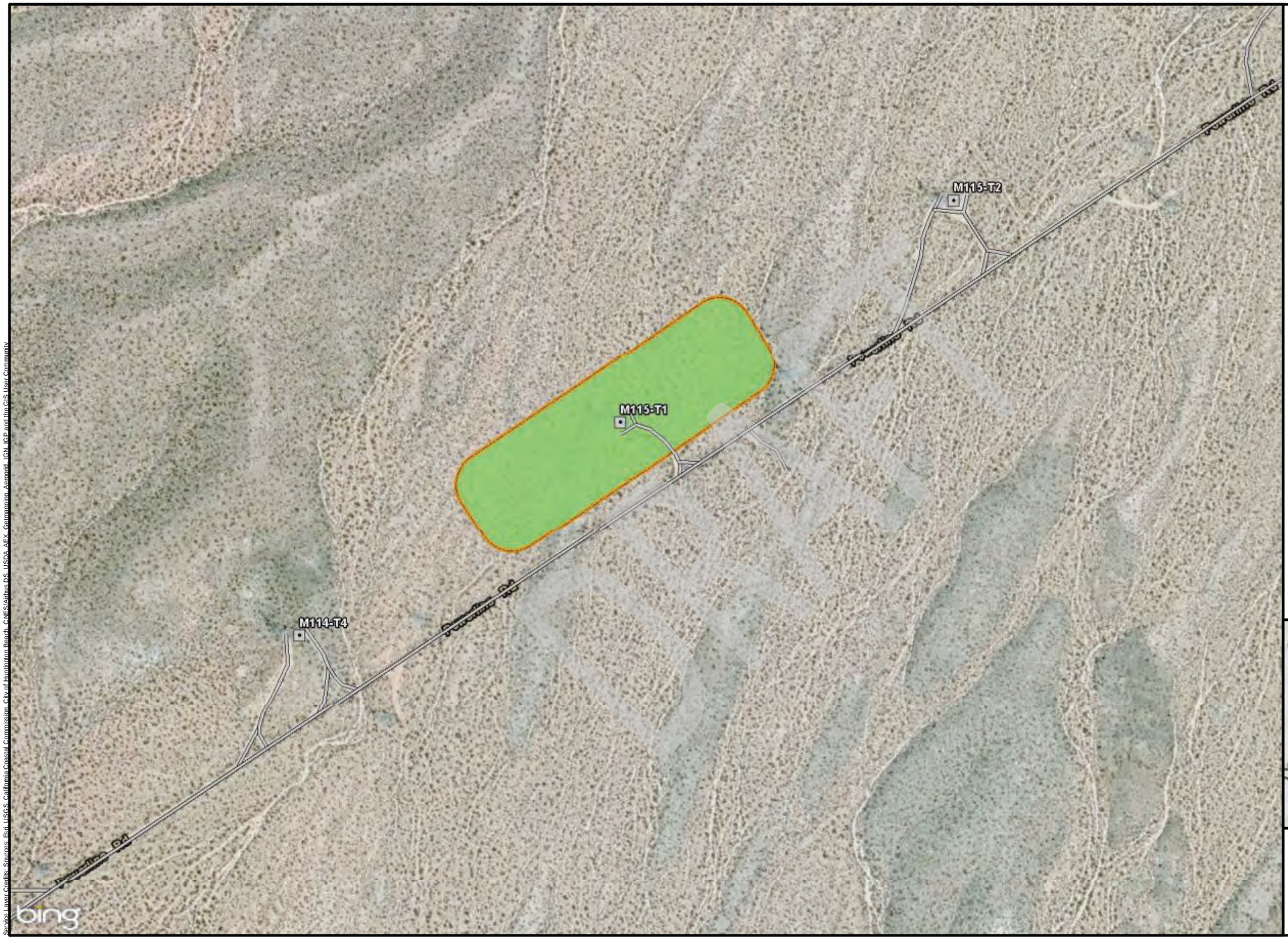

Exhibit 2. Project Area (Page 35 of 62)

LVRAS Project | San Bernardino County, CA and Clark County, NV